Encyclopaedia Britannica, 11th Edition, Volume 9, Slice 1 "Edwardes" to "Ehrenbreitstein"

Various

Transcriber's note: A few typographical errors have been corrected. They appear in the text like this, and the explanation will appear when the mouse pointer is moved over the marked passage. Sections in Greek will yield a transliteration when the pointer is moved over them, and words using diacritic characters in the Latin Extended Additional block, which may not display in some fonts or browsers, will display an unaccented version.

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THE ENCYCLOPÆDIA BRITANNICA

A DICTIONARY OF ARTS, SCIENCES, LITERATURE AND GENERAL INFORMATION

ELEVENTH EDITION

VOLUME IX SLICE I

Edwardes to Ehrenbreitstein

Articles in This Slice

EDWARDES, SIR HERBERT BENJAMIN (1819-1868), English soldier-statesman in India, was born at Frodesley in Shropshire on the 12th of November 1819. His father was Benjamin Edwardes, rector of Frodesley, and his grandfather Sir John Edwardes, baronet, eighth holder of a title conferred on one of his ancestors by Charles I. in 1644. He was educated at a private school and at King's College, London. Through the influence of his uncle, Sir Henry Edwardes, he was nominated in 1840 to a cadetship in the East India Company; and on his arrival in India, at the beginning of 1841, he was posted as ensign in the 1st Bengal Fusiliers. He remained with this regiment about five years, during which time he mastered the lessons of his profession, obtained a good knowledge of Hindustani, Hindi and Persian, and attracted attention by the political and literary ability displayed in a series of letters which appeared in the *Delhi Gazette*.

In November 1845, on the breaking out of the first Sikh War, Edwardes was appointed aide-de-camp to Sir Hugh (afterwards Viscount) Gough, then commander-in-chief in India. On the 18th of December he was severely wounded at

the battle of Mudki. He soon recovered, however, and fought by the side of his chief at the decisive battle of Sobraon (February 10, 1846). He was soon afterwards appointed third assistant to the commissioners of the trans-Sutlej territory; and in January 1847 was named first assistant to Sir Henry Lawrence, the resident at Lahore. Lawrence became his great exemplar and in later years he was accustomed to attribute to the influence of this "father of his public life" whatever of great or good he had himself achieved. He took part with Lawrence in the suppression of a religious disturbance at Lahore in the spring of 1846, and soon afterwards assisted him in reducing, by a rapid movement to Jammu, the conspirator Imam-ud-din. In the following year a more difficult task was assigned him—the conduct of an expedition to Bannu, a district on the Waziri frontier, in which the people would not tolerate the presence of a collector, and the revenue had consequently fallen into arrear. By his rare tact and fertility of resource, Edwardes succeeded in completely conquering the wild tribes of the valley without firing a shot, a victory which he afterwards looked back upon with more satisfaction than upon others which brought him more renown. His fiscal arrangements were such as to obviate all difficulty of collection for the future. In the spring of 1848, in consequence of the murder of Mr vans Agnew and Lieutenant Anderson at Multan, by order of the diwan Mulraj, and of the raising of the standard of revolt by the latter, Lieutenant Edwardes was authorized to march against him. He set out immediately with a small force, occupied Leiah on the left bank of the Indus, was joined by Colonel van Cortlandt, and, although he could not attack Multan, held the enemy at bay and gave a check at the critical moment to their projects. He won a great victory over a greatly superior Sikh force at Kinyeri (June 18), and received in acknowledgment of his services the local rank of major. In the course of the operations which followed near Multan, Edwardes lost his right hand by the explosion of a pistol in his belt. On the arrival of a large force under General Whish the siege of Multan was begun, but was suspended for several months in consequence of the desertion of Shere Singh with his army and artillery. Edwardes distinguished himself by the part he took in the final operations, begun in December, which ended with the capture of the city on the 4th of January 1849. For his services he received the thanks of both houses of parliament, was promoted major by brevet, and created C.B. by special statute of the order. The directors of the East India Company conferred on him a gold medal and a good service pension of £100 per annum.

After the conclusion of peace Major Edwardes returned to England for the benefit of his health, married during his stay there, and wrote and published his fascinating account of the scenes in which he had been engaged, under the title of *A Year on the Punjab Frontier in 1848-1849*. His countrymen gave him fitting welcome, and the university of Oxford conferred on him the degree of D.C.L. In 1851 he returned to India and resumed his civil duties in the Punjab under Sir Henry Lawrence. In November 1853 he was entrusted with the responsible post of commissioner of the Peshawar frontier, and this he held when the Mutiny of 1857 broke out. It was a position of enormous difficulty, and momentous consequences were involved in the way the crisis might be met. Edwardes rose to the height of the occasion. He saw as if by inspiration the facts and the needs, and by the prompt measures which he adopted he rendered a service of incalculable importance, by effecting a reconciliation with Afghanistan, and securing the neutrality of the amir and the frontier tribes during the war. So effective was his procedure for the safety of the border that he was able to raise a large force in the Punjab and send it to co-operate in the siege and capture of Delhi. In 1859 Edwardes once more went to England, his health so greatly impaired by the continual strain of arduous work that it was doubtful whether he could ever return to India. During his stay he was created K.C.B., with the rank of brevet colonel; and the degree of LL.D. was conferred upon him by the university of Cambridge. Early in 1862 he again sailed for India, and was appointed commissioner of Umballa and agent for the Cis-Sutlej states. He had been offered the governorship of the Punjab, but on the ground of failing health had declined it. In February 1865 he was compelled to finally resign his post and return to England. A second good service pension was at once conferred on him; in May 1866 he was created K.C. of the Star of India; and early in 1868 was promoted major-general in the East Indian Army. He had been for some time engaged on a life of Sir Henry Lawrence, and high expectations were formed of the work; but he did not live to complete it, and after his death it was put into the hands of Mr Herman Merivale. He died in London on the 23rd of December 1868. Great in council and great in war, he was singularly beloved by his friends, generous and unselfish to a high degree, and a man of deep religious convictions.

See *Memorials of the Life and Letters of Sir Herbert Benjamin Edwardes*, by his wife (2 vols., London, 1886); T. R. E. Holmes, *Four Soldiers* (London, 1889); J. Ruskin, *Bibl. pastorum*, iv. "A Knight's Faith" (1885), passages from the life of Edwardes.

EDWARDS, AMELIA ANN BLANDFORD (1831-1892), English author and Egyptologist, the daughter of one of Wellington's officers, was born in London on the 7th of June 1831. At a very early age she displayed considerable literary and artistic talent. She became a contributor to various magazines and newspapers, and besides many miscellaneous works she wrote eight novels, the most successful of which were *Debenham's Vow* (1870) and *Lord Brackenbury* (1880). In the winter of 1873-1874 she visited Egypt, and was profoundly impressed by the new openings for archaeological research. She learnt the hieroglyphic characters, and made a considerable collection of Egyptian antiquities. In 1877 she published *A Thousand Miles up the Nile*, with illustrations by herself. Convinced that only by proper scientific investigations could the wholesale destruction of Egyptian antiquities be avoided, she devoted herself to arousing public opinion on the subject, and ultimately, in 1882, was largely instrumental in founding the Egypt Exploration Fund, of which she became joint honorary secretary with Reginald Stuart Poole. For the business of this Fund she

abandoned her other literary work, writing only on Egyptology. In 1889-1890 she went on a lecturing tour in the United States. The substance of her lectures was published in volume form in 1891 as *Pharaohs, Fellahs, and Explorers*. She died at Weston-super-Mare, Somerset, on the 15th of April 1892, bequeathing her valuable collection of Egyptian antiquities to University College, London, together with a sum to found a chair of Egyptology. Miss Edwards received, shortly before her death, a civil list pension from the British government.

EDWARDS, BELA BATES (1802-1852), American man of letters, was born at Southampton, Massachusetts, on the 4th of July 1802. He graduated at Amherst College in 1824, was a tutor there in 1827-1828, graduated at Andover Theological Seminary in 1830, and was licensed to preach. From 1828 to 1833 he was assistant secretary of the American Education Society (organized in Boston in 1815 to assist students for the ministry), and from 1828 to 1842 was editor of the society's organ, which after 1831 was called the *American Quarterly Register*. He also founded (in 1833) and edited the *American Quarterly Observer*; in 1836-1841 edited the *Biblical Repository* (after 1837 called the *American Biblical Repository*) with which the *Observer* was merged in 1835; and was editor-in-chief of the *Bibliotheca Sacra* from 1844 to 1851. In 1837 he became professor of Hebrew at Andover, and from 1848 until his death was associate professor of sacred literature there. He died at Athens, Georgia, on the 20th of April 1852. Among his numerous publications were *A Missionary Gazetteer* (1832), *A Biography of Self Taught Men* (1832), a once widely known *Eclectic Reader* (1835), a translation, with Samuel Harvey Taylor (1807-1871), of Kuhner's *Schulgrammatik der Griechischen Sprache* and *Classical Studies* (1844), essays in ancient literature and art written in collaboration with Barnas Sears and C. C. Felton.

Edwards' *Addresses and Sermons*, with a memoir by Rev. Edwards A. Park, were published in two volumes at Boston in 1853.

EDWARDS, BRYAN (1743-1800), English politician and historian, was born at Westbury, Wiltshire, on the 21st of May 1743. His father died in 1756, when his maintenance and education were undertaken by his maternal uncle, Zachary Bayly, a wealthy merchant of Jamaica. About 1759 Bryan went to Jamaica, and joined his uncle, who engaged a private tutor to complete his education, and when Bayly died his nephew inherited his wealth, succeeding also in 1773 to the estate of another Jamaica resident named Hume. Edwards soon became a leading member of the colonial assembly of Jamaica, but in a few years he returned to England, and in 1782 failed to secure a seat in parliament as member for Chichester. He was again in Jamaica from 1787 to 1792, when he settled in England as a West India merchant, making in 1795 another futile attempt to enter parliament, on this occasion as the representative of Southampton. In 1796, however, he became member of parliament for Grampound, retaining his seat until his death at Southampton on the 15th or 16th of July 1800. In general Edwards was a supporter of the slave trade, and was described by William Wilberforce as a powerful opponent. By his wife, Martha, daughter of Thomas Phipps of Westbury, he left an only son, Hume.

In 1784 Edwards wrote *Thoughts on the late Proceedings of Government respecting the Trade of the West India Islands with the United States of America*, in which he attacked the restrictions placed by the government upon trade with the United States. In 1793 he published in two volumes his great work, *History, Civil and Commercial, of the British Colonies in the West Indies*, and in 1797 published his *Historical Survey of the French Colony in the Island of St Domingo*. In 1801 a new edition of both these works with certain additions was published in three volumes under the title of *History of the British Colonies in the West Indies*. This has been translated into German and parts of it into French and Spanish, and a fifth edition was issued in 1819. When Mungo Park returned in 1796 from his celebrated journey in Africa, Edwards, who was secretary of the Association for Promoting the Discovery of the Interior Parts of Africa, drew up from Park's narrative an account of his travels, which was published by the association in their *Proceedings*, and when Park wrote an account of his journeys he availed himself of Edwards' assistance. Edwards also wrote some poems and some other works relating to the history of the West Indies.

He left a short sketch of his life which was prefixed to the edition of the *History of the West Indies*, published in 1801.

EDWARDS, GEORGE (1693-1773), English naturalist, was born at Stratford, Essex, on the 3rd of April 1693. In his early years he travelled extensively over Europe, studying natural history, and gained some reputation for his coloured drawings of animals, especially birds. In 1733, on the recommendation of Sir Hans Sloane, he was appointed librarian to the Royal College of Physicians in London. In 1743 he published the first volume of his *History of Birds*, the fourth volume of which appeared in 1751, and three supplementary volumes, under the title *Gleanings of Natural History*, were issued in 1758, 1760 and 1764. The two works contain engravings and descriptions of more than 600 subjects in natural history not before described or delineated. He likewise added a general index in French and English, which was afterwards supplied with Linnaean names by Linnaeus himself, with whom he frequently corresponded. About 1764 he retired to Plaistow, Essex, where he died on the 23rd of July 1773. He also wrote *Essays of Natural History* (1770) and *Elements of Fossilogy* (1776).

EDWARDS, HENRY THOMAS (1837-1884), Welsh divine, was born on the 6th of September 1837 at Llan ym Mawddwy, Merioneth, where his father was vicar. He was educated at Westminster and at Jesus College, Oxford (B.A., 1860), and after teaching for two years at Llandovery went to Llangollen as his father's curate. He became vicar of Aberdare in 1866 and of Carnarvon in 1869. Here he began his lifelong controversy with Nonconformity, especially as represented by the Rev. Evan Jones (Calvinistic Methodist) and Rev. E. Herber Evans (Congregationalist). In 1870 he fought in vain for the principle of all-round denominationalism in the national education system, and in the same year addressed a famous letter to Mr Gladstone on "The Church of the Cymry," pointing out that the success of Nonconformity in Wales was largely due to "the withering effect of an alien episcopate." One immediate result of this was the appointment of the Welshman Joshua Hughes (1807-1889) to the vacant see of St Asaph. Edwards became dean of Bangor in 1876 and at once set about restoring the cathedral, and he promoted a clerical education society for supplying the diocese with educated Welsh-speaking clergy. He was a popular preacher and an earnest patriot; his chief defect was a lack of appreciation of the theological attainments of Nonconformity, and a Welsh commentary on St Matthew, which he had worked at for many years and published in two volumes in 1882, was severely handled by a Bangor Calvinistic Methodist minister. Edwards suffered from overwork and insomnia and a Mediterranean cruise in 1883 failed to restore his health; and he died by his own hand on the 24th of May 1884 at Ruabon.

See V. Morgan, *Welsh Religious Leaders in the Victorian Era*.

EDWARDS, JONATHAN (1703-1758), American theologian and philosopher, was born on the 5th of October 1703 at East (now South) Windsor, Connecticut. His earliest known ancestor was Richard Edwards, Welsh by birth, a London clergyman in Elizabeth's reign. His father Timothy Edwards (1669-1758), son of a prosperous merchant of Hartford, had graduated at Harvard, was minister at East Windsor, and eked out his salary by tutoring boys for college. His mother, a daughter of the Rev. Solomon Stoddard, of Northampton, Mass., seems to have been a woman of unusual mental gifts and independence of character. Jonathan, the only son, was the fifth of eleven children. The boy was trained for college by his father and by his elder sisters, who all received an excellent education. When ten years old he wrote a semi-humorous tract on the immateriality of the soul; he was interested in natural history, and at the age of twelve wrote a remarkable essay on the habits of the "flying spider." He entered Yale College in 1716, and in the following year became acquainted with Locke's *Essay*, which influenced him profoundly. During his college course he kept note books labelled "The Mind," "Natural Science" (containing a discussion of the atomic theory, &c.), "The Scriptures" and "Miscellanies," had a grand plan for a work on natural and mental philosophy, and drew up for himself rules for its composition. Even before his graduation in September 1720 as valedictorian and head of his class, he seems to have had a well formulated philosophy. The two years after his graduation he spent in New Haven studying theology. In 1722-1723 he was for eight months stated supply of a small Presbyterian church in New York city, which invited him to remain, but he declined the call, spent two months in study at home, and then in 1724-1726 was one of the two tutors at Yale, earning for himself the name of a "pillar tutor" by his steadfast loyalty to the college and its orthodox teaching at the time when Yale's rector (Cutler) and one of her tutors had gone over to the Episcopal Church.

The years 1720 to 1726 are partially recorded in his diary and in the resolutions for his own conduct which he drew up at this time. He had long been an eager seeker after salvation and was not fully satisfied as to his own "conversion" until an experience in his last year in college, when he lost his feeling that the election of some to salvation and of others to eternal damnation was "a horrible doctrine," and reckoned it "exceedingly pleasant, bright and sweet." He now took a great and new joy in the beauties of nature, and delighted in the allegorical interpretation of the Song of Solomon. Balancing these mystic joys is the stern tone of his Resolutions, in which he is almost ascetic in his eagerness to live earnestly and soberly, to waste no time, to maintain the strictest temperance in eating and drinking. On the 15th of February 1727 he was ordained minister at Northampton and assistant to his grandfather, Solomon Stoddard. He was a student minister, not a visiting pastor, his rule being thirteen hours of study a day. In the same year he married Sarah Pierrepont, then aged seventeen, daughter of James Pierrepont (1659-1714), a founder of Yale, and through her mother great-granddaughter of Thomas Hooker. Of her piety and almost nun-like love of God and belief in His personal love for her, Edwards had known when she was only thirteen, and had written of it with spiritual enthusiasm; she was of a bright and cheerful disposition, a practical housekeeper, a model wife and the mother of his twelve children. Solomon Stoddard died on the 11th of February 1729, leaving to his grandson the difficult task of the sole ministerial charge of one of the largest and wealthiest congregations in the colony, and one proud of its morality, its culture and its reputation.

In 1731 Edwards preached at Boston the "Public Lecture" afterwards published under the title *God Glorified in Man's Dependence*. This was his first public attack on Arminianism. The leading thought was God's absolute sovereignty in the work of redemption: that while it behoved God to create man holy, it was of His "good pleasure" and "mere and arbitrary grace" that any man was now made holy, and that God might deny this grace without any disparagement to any of His perfections. In 1733 a revival of religion began in Northampton, and reached such intensity in the winter of 1734 and the following spring as to threaten the business of the town. In six months nearly three hundred were admitted to the church. The revival gave Edwards an opportunity of studying the process of conversion in all its phases and varieties, and he recorded his observations with psychological minuteness and discrimination in *A Faithful Narrative of the Surprising Work of God in the Conversion of Many Hundred Souls in Northampton* (1737). A year later he published *Discourses on*

Various Important Subjects, the five sermons which had proved most effective in the revival, and of these none, he tells us, was so immediately effective as that on the *Justice of God in the Damnation of Sinners*, from the text, "That every mouth may be stopped." Another sermon, published in 1734, on the *Reality of Spiritual Light* set forth what he regarded as the inner, moving principle of the revival, the doctrine of a "special" grace in the immediate and supernatural divine illumination of the soul. In the spring of 1735 the movement began to subside and a reaction set in. But the relapse was brief, and the Northampton revival, which had spread through the Connecticut valley and whose fame had reached England and Scotland, was followed in 1739-1740 by the Great Awakening, distinctively under the leadership of Edwards. The movement met with no sympathy from the orthodox leaders of the church. In 1741 Edwards published in its defence *The Distinguishing Marks of a Work of the Spirit of God*, dealing particularly with the phenomena most criticized, the swoonings, outcries and convulsions. These "bodily effects," he insisted, were not "distinguishing marks" of the work of the Spirit of God; but so bitter was the feeling against the revival in the more strictly Puritan churches that in 1742 he was forced to write a second apology, *Thoughts on the Revival in New England*, his main argument being the great moral improvement of the country. In the same pamphlet he defends an appeal to the emotions, and advocates preaching terror when necessary, even to children, who in God's sight "are young vipers ... if not Christ's." He considers "bodily effects" incidentals to the real work of God, but his own mystic devotion and the experiences of his wife during the Awakening (which he gives in detail) make him think that the divine visitation usually overpowers the body, a view in support of which he quotes Scripture. In reply to Edwards, Charles Chauncy anonymously wrote *The Late Religious Commotions in New England Considered* (1743), urging conduct as the sole test of conversion; and the general convention of Congregational ministers in the Province of Massachusetts Bay protested "against disorders in practice which have of late obtained in various parts of the land." In spite of Edwards's able pamphlet, the impression had become widespread that "bodily effects" were recognized by the promoters of the Great Awakening as the true tests of conversion. To offset this feeling Edwards[1] preached at Northampton during the years 1742 and 1743 a series of sermons published under the title of *Religious Affections* (1746), a restatement in a more philosophical and general tone of his ideas as to "distinguishing marks." In 1747 he joined the movement started in Scotland called the "concert in prayer," and in the same year published *An Humble Attempt to Promote Explicit Agreement and Visible Union of God's People in Extraordinary Prayer for the Revival of Religion and the Advancement of Christ's Kingdom on Earth*. In 1749 he published a memoir of David Brainerd; the latter had lived in his family for several months, had been constantly attended by Edwards's daughter Jerusha, to whom he had been engaged to be married, and had died at Northampton on the 7th of October 1747; and he had been a case in point for the theories of conversion held by Edwards, who had made elaborate notes of Brainerd's conversations and confessions.

In 1748 there had come a crisis in his relations with his congregation. The Half-Way Covenant adopted by the synods of 1657 and 1662 had made baptism alone the condition to the civil privileges of church membership, but not of participation in the sacrament of the Supper. Edwards's grandfather and predecessor, Solomon Stoddard, had been even more liberal, holding that the Supper was a converting ordinance and that baptism was a sufficient title to all the privileges of the church. As early as 1744 Edwards, in his sermons on the Religious Affections, had plainly intimated his dislike of this practice. In the same year he had published in a church meeting the names of certain young people, members of the church, who were suspected of reading improper books,[2] and also the names of those who were to be called as witnesses in the case. But witnesses and accused were not distinguished on this list, and the congregation was in an uproar. A great many, fearing a scandal, now opposed an investigation which all had previously favoured. Edwards's preaching became unpopular; for four years no candidate presented himself for admission to the church; and when one did in 1748, and was met with Edwards's formal but mild and gentle tests, as expressed in the *Distinguishing Marks* and later in *Qualifications for Full Communion* (1749) the candidate refused to submit to them; the church backed him and the break was complete. Even permission to discuss his views in the pulpit was refused him. The ecclesiastical council voted by 10 to 9 that the pastoral relation be dissolved. The church by a vote of more than 200 to 23 ratified the action of the council, and finally a town meeting voted that Edwards should not be allowed to occupy the Northampton pulpit, though he did this on occasion as late as May 1755. He evinced no rancour or spite; his "Farewell Sermon" was dignified and temperate; nor is it to be ascribed to chagrin that in a letter to Scotland after his dismissal he expresses his preference for Presbyterian to Congregational church government. His position at the time was not unpopular throughout New England, and it is needless to say that his doctrine that the Lord's Supper is not a cause of regeneration and that communicants should be professing Christians has since (very largely through the efforts of his pupil Joseph Bellamy) become a standard of New England Congregationalism.

Edwards with his large family was now thrown upon the world, but offers of aid quickly came to him. A parish in Scotland could have been procured, and he was called to a Virginia church. He declined both, to become in 1750 pastor of the church in Stockbridge and a missionary to the Housatonic Indians. To the Indians he preached through an interpreter, and their interests he boldly and successfully defended by attacking the whites who were using their official position among them to increase their private fortunes. In Stockbridge he wrote the *Humble Relation*, also called *Reply to Williams* (1752), which was an answer to Solomon Williams (1700-1776), a relative and a bitter opponent of Edwards as to the qualifications for full communion; and he there composed the treatises on which his reputation as a philosophical theologian chiefly rests, the essay on *Original Sin*, the *Dissertation concerning the Nature of True Virtue*, the *Dissertation concerning the End for which God created the World*, and the great work on the Will, written in four months and a half, and published in 1754 under the title, *An Inquiry into the Modern Prevailing Notions Respecting that*

Freedom of the Will which is supposed to be Essential to Moral Agency.

In 1757, on the death of President Burr, who five years before had married Edwards's daughter Esther, he reluctantly accepted the presidency of the College of New Jersey (now Princeton University), where he was installed on the 16th of February 1758. Almost immediately afterwards he was inoculated for smallpox, which was raging in Princeton and vicinity, and, always feeble, he died of the inoculation on the 28th of March 1758. He was buried in the old cemetery at Princeton. He was slender and fully six feet tall, and with his oval, gentle, almost feminine face looked the scholar and the mystic.

The Edwardean System.—It is difficult to separate Edwards's philosophy from his theology, except as the former is contained in the early notes on the Mind, where he says that matter exists only in idea; that space is God; that minds only are real; that in metaphysical strictness there is no being but God; that entity is the greatest and only good; and that God as infinite entity, wherein the agreement of being with being is absolute, is the supreme excellency, the supreme good. It seems certain that these conclusions were independent of Berkeley and Malebranche, and were not drawn from Arthur Collier's *Clavis universalis* (1713), with which they have much in common, but were suggested, in part at least, by Locke's doctrine of ideas, Newton's theory of colours, and Cudworth's Platonism, with all of which Edwards was early familiar. But they were never developed systematically, and the conception of the material universe here contended for does not again explicitly reappear in any of his writings. The fundamental metaphysical postulate that being and God are ultimately identical remained, however, the philosophical basis of all his thinking, and reverence for this being as the supreme good remained the fundamental disposition of his mind. That he did not interpret this idea in a Spinozistic sense was due to his more spiritual conception of "being" and to the reaction on his philosophy of his theology. The theological interest, indeed, came in the end to predominate, and philosophy to appear as an instrument for the defence of Calvinism. Perhaps the best criticism of Edwards's philosophy as a whole is that, instead of being elaborated on purely rational principles, it is mixed up with a system of theological conceptions with which it is never thoroughly combined, and that it is exposed to all the disturbing effects of theological controversy. Moreover, of one of his most central convictions, that of the sovereignty of God in election, he confesses that he could give no account.

Edwards's reputation as a thinker is chiefly associated with his treatise on the Will, which is still sometimes called "the one large contribution that America has made to the deeper philosophic thought of the world." The aim of this treatise was to refute the doctrine of free-will, since he considered it the logical, as distinguished from the sentimental, ground of most of the Arminian objections to Calvinism. He defines the will as that by which the "mind chooses anything." To act voluntarily, he says, is to act electively. So far he and his opponents are agreed. But choice, he holds, is not arbitrary; it is determined in every case by "that motive which as it stands in the view of the mind is the strongest," and that motive is strongest which presents in the immediate object of volition the "greatest apparent good," that is, the greatest degree of agreeableness or pleasure. What this is in a given case depends on a multitude of circumstances, external and internal, all contributing to form the "cause" of which the voluntary act and its consequences are the "effect." Edwards contends that the connexion between cause and effect here is as "sure and perfect" as in the realm of physical nature and constitutes a "moral necessity." He reduces the opposite doctrine to three assumptions, all of which he shows to be untenable: (1) "a self-determining power in the will"; (2) "indifference,... that the mind previous to the act of volition (is) in equilibrio"; (3) "contingence ... as opposed to ... any fixed and certain connexion (of the volition) with some previous ground or reason for its existence." Although he denies liberty to the will in this sense—indeed, strictly speaking, neither liberty nor necessity, he says, is properly applied to the will, "for the will itself is not an agent that has a will"—he nevertheless insists that the subject willing is a free moral agent, and argues that without the determinate connexion between volition and motive which he asserts and the libertarians deny, moral agency would be impossible. Liberty, he holds, is simply freedom from constraint, "the power ... that any one has to do as he pleases." This power man possesses. And that the right or wrong of choice depends not on the cause of choice but on its nature, he illustrates by the example of Christ, whose acts were necessarily holy, yet truly virtuous, praiseworthy and rewardable. Even God Himself, Edwards here maintains, has no other liberty than this, to carry out without constraint His will, wisdom and inclination.

There is no necessary connexion between Edwards's doctrine of the motivation of choice and the system of Calvinism with which it is congruent. Similar doctrines have more frequently perhaps been associated with theological scepticism. But for him the alternative was between Calvinism and Arminianism, simply because of the historical situation, and in the refutation of Arminianism on the assumptions common to both sides of the controversy, he must be considered completely successful. As a general argument his account of the determination of the will is defective, notably in his abstract conception of the will and in his inadequate, but suggestive, treatment of causation, in regard to which he anticipates in important respects the doctrine of Hume. Instead of making the motive to choice a factor within the concrete process of volition, he regards it as a cause antecedent to the exercise of a special mental faculty. Yet his conception of this faculty as functioning only in and through motive and character, inclination and desire, certainly carries us a long way beyond the abstraction in which his opponents stuck, that of a bare faculty without any assignable content. Modern psychology has strengthened the contention for a fixed connexion between motive and act by reference to subconscious and unconscious processes of which Edwards, who thought that nothing could affect the mind which was unperceived, little dreamed; at the same time, at least in some of its developments, especially in its freer use of genetic

and organic conceptions, it has rendered much in the older forms of statement obsolete, and has given a new meaning to the idea of self-determination, which, as applied to an abstract power, Edwards rightly rejected as absurd.

Edwards's controversy with the Arminians was continued in the essay on *Original Sin*, which was in the press at the time of his death. He here breaks with Augustine and the Westminster Confession by arguing, consistently with his theory of the Will, that Adam had no more freedom of will than we have, but had a special endowment, a supernatural gift of grace, which by rebellion against God was lost, and that this gift was withdrawn from his descendants, not because of any fictitious imputation of guilt, but because of their real participation in his guilt by actual identity with him in his transgression.

The *Dissertation on the Nature of True Virtue*, posthumously published, is justly regarded as one of the most original works on ethics of the 18th century, and is the more remarkable as reproducing, with no essential modification, ideas on the subject written in the author's youth in the notes on the Mind. Virtue is conceived as the beauty of moral qualities. Now beauty, in Edwards's view, always consists in a harmonious relation in the elements involved, an agreement of being with being. He conceives, therefore, of virtue, or moral beauty, as consisting in the cordial agreement or consent to intelligent being. He defines it as benevolence (good-will), or rather as a disposition to benevolence, towards being in general. This disposition, he argues, has no regard primarily to beauty in the object, nor is it primarily based on gratitude. Its first object is being, "simply considered," and it is accordingly proportioned, other things being equal, to the object's "degree of existence." He admits, however, benevolent being as a second object, on the ground that such an object, having a like virtuous propensity, "is, as it were, enlarged, extends to, and in some sort comprehends being in general." In brief, since God is the "being of beings" and comprehends, in the fullest extent, benevolent consent to being in general, true virtue consists essentially in a supreme love to God. Thus the principle of virtue—Edwards has nothing to say of "morality"—is identical with the principle of religion. From this standpoint Edwards combats every lower view. He will not admit that there is any evidence of true virtue in the approbation of virtue and hatred of vice, in the workings of conscience or in the exercises of the natural affections; he thinks that these may all spring from self-love and the association of ideas, from "instinct" or from a "moral sense of a secondary kind" entirely different from "a sense or relish of the essential beauty of true virtue." Nor does he recognize the possibility of a natural development of true virtue out of the sentiments directed on the "private systems"; on the contrary, he sets the love of particular being, when not subordinated to being in general, in opposition to the latter and as equivalent to treating it with the greatest contempt. All that he allows is that the perception of natural beauty may, by its resemblance to the primary spiritual beauty, quicken the disposition to divine love in those who are already under the influence of a truly virtuous temper.

Closely connected with the essay on Virtue is the boldly speculative *Dissertation on the End for which God Created the World*. As, according to the doctrine of virtue, God's virtue consists primarily in love to Himself, so His final end in creation is conceived to be, not as the Arminians held, the happiness of His creatures, but His own glory. Edwards supposes in the nature of God an original disposition to an "emanation" of His being, and it is the excellency of this divine being, particularly in the elect, which is, in his view, the final cause and motive of the world.

Edwards makes no attempt to reconcile the pantheistic element in his philosophy with the individuality implied in moral government. He seems to waver between the opinion that finite individuals have no independent being and the opinion that they have it in an infinitesimal degree; and the conception of "degrees of existence" in the essay on Virtue is not developed to elucidate the point. His theological conception of God, at any rate, was not abstractly pantheistic, in spite of the abstractness of his language about "being," but frankly theistic and trinitarian. He held the doctrine of the trinitarian distinctions indeed to be a necessity of reason. His *Essay on the Trinity*, first printed in 1903, was long supposed to have been withheld from publication because of its containing Arian or Sabellian tendencies. It contains in fact nothing more questionable than an attempted deduction of the orthodox Nicene doctrine, unpalatable, however, to Edwards's immediate disciples, who were too little speculative to appreciate his statement of the subordination of the "persons" in the divine "oeconomy," and who openly derided the doctrine of the eternal generation of the Son as "eternal nonsense"; and this perhaps was the original reason why the essay was not published.

Though so typically a scholar and abstract thinker on the one hand and on the other a mystic, Edwards is best known to the present generation as a preacher of hell fire. The particular reason for this seems to lie in a single sermon preached at Enfield, Connecticut, in July 1741 from the text, "Their foot shall slide in due time," and commonly known from its title, *Sinners in the Hands of an Angry God*. The occasion of this sermon is usually overlooked. It was preached to a congregation who were careless and loose in their lives at a time when "the neighbouring towns were in great distress for their souls." A contemporary account of it says that in spite of Edwards's academic style of preaching, the assembly was "deeply impressed and bowed down, with an awful conviction of their sin and danger. There was such a breathing of distress and weeping, that the preacher was obliged to speak to the people and desire silence, that he might be heard." Edwards preached other sermons of this type, but this one was the most extreme. The style of the imprecatory sermon, however, was no more peculiar to him than to his period. He was not a great preacher in the ordinary meaning of the word. His gestures were scanty, his voice was not powerful, but he was desperately in earnest, and he held his audience whether his sermon contained a picturesque and detailed description of the torments of the damned, or, as was often the case, spoke of the love and peace of God in the heart of man. He was an earnest, devout Christian, and a man

of blameless life. His insight into the spiritual life was profound. Certainly the most able metaphysician and the most influential religious thinker of America, he must rank in theology, dialectics, mysticism and philosophy with Calvin and Fénelon, Augustine and Aquinas, Spinoza and Novalis; with Berkeley and Hume as the great English philosophers of the 18th century; and with Hamilton and Franklin as the three American thinkers of the same century of more than provincial importance.

Edwards's main aim had been to revivify Calvinism, modifying it for the needs of the time, and to promote a warm and vital Christian piety. The tendency of his successors was—to state the matter roughly—to take some one of his theories and develop it to an extreme. Of his immediate followers Joseph Bellamy is distinctly Edwardean in the keen logic and in the spirit of his *True Religion Delineated*, but he breaks with his master in his theory of general (not limited) atonement. Samuel Hopkins laid even greater stress than Edwards on the theorem that virtue consists in disinterested benevolence; but he went counter to Edwards in holding that unconditional resignation to God's decrees, or more concretely, willingness to be damned for the glory of God, was the test of true regeneration; for Edwards, though often quoted as holding this doctrine, protested against it in the strongest terms. Hopkins, moreover, denied Edwards's identity theory of original sin, saying that our sin was a result of Adam's and not identical with it; and he went much further than Edwards in his objection to "means of grace," claiming that the unregenerate were more and more guilty for continual rejection of the gospel if they were outwardly righteous and availed themselves of the means of grace. Stephen West (1735-1819), too, out-Edwardsed Edwards in his defence of the treatise on the *Freedom of the Will*, and John Smalley (1734-1820) developed the idea of a natural (not moral) inability on the part of man to obey God. Emmons, like Hopkins, considered both sin and holiness "exercises" of the will. Timothy Dwight (1752-1847) urged the use of the means of grace, thought Hopkins and Emmons pantheistic, and boldly disagreed with their theory of "exercises," reckoning virtue and sin as the result of moral choice or disposition, a position that was also upheld by Asa Burton (1752-1836), who thought that on regeneration the disposition of man got a new relish or "taste."

Jonathan Edwards3 the younger (1745-1801), second son of the philosopher, born at Northampton, Massachusetts, on the 26th of May 1745, also takes an important place among his followers. He lived in Stockbridge in 1751-1755 and spoke the language of the Housatonic Indians with ease, for six months studied among the Oneidas, graduated at Princeton in 1765, studied theology at Bethlehem, Connecticut, under Joseph Bellamy, was licensed to preach in 1766, was a tutor at Princeton in 1766-1769, and was pastor of the White Haven Church, New Haven, Connecticut, in 1769-1795, being then dismissed for the nominal reason that the church could not support him, but actually because of his opposition to the Half-Way Covenant as well as to slavery and the slave trade. He preached at Colebrook, Connecticut, in 1796-1799 and then became president of Union College, Schenectady, New York, where he died on the 1st of August 1801. His studies of the Indian dialects were scholarly and valuable. He edited his father's incomplete *History of the Work of Redemption*, wrote in answer to Stephen West, *A Dissertation Concerning Liberty and Necessity* (1797), which defended his father's work on the Will by a rather strained interpretation, and in answer to Chauncy on universal salvation formulated what is known as the "Edwardean," New England or Governmental theory of the atonement in *The Necessity of the Atonement and its Consistency with Free Grace in Forgiveness* (1785). His collected works were edited by his grandson Tryon Edwards in two volumes, with memoir (Andover, 1842). His place in the Edwardean theology is principally due to his defence against the Universalists of his father's doctrine of the atonement, namely, that Christ's death, being the equivalent of the eternal punishment of sinners, upheld the authority of the divine law, but did not pay any debt, and made the pardon of all men a possibility with God, but not a necessity.

Bibliography.—There have been various editions of Edwards's works. His pupil, Samuel Hopkins, in 1765 published two volumes from manuscript containing eighteen sermons and a memoir; the younger Jonathan Edwards with Dr Erskine published an edition in 4 volumes (1744 sqq.), and Samuel Austin in 1808 edited an edition in 8 volumes. In 1829 Sereno E. Dwight, a great-grandson of Edwards, published the *Life and Works* in 10 volumes, the first volume containing the memoir, which is still the most complete and was the standard until the publication (Boston, 1889) of *Jonathan Edwards*, by A. V. G. Allen, who attempts to "distinguish what he (Edwards) meant to affirm from what he actually teaches." In 1865 the Rev. Alexander B. Grosart edited from original manuscripts *Selections from the Unpublished Writings of Jonathan Edwards of America* (Edinburgh, 1865, printed for private circulation). This was the only part of a complete edition planned by Grosart that ever appeared. It contained the important Treatise on Grace, Annotations on the Bible, Directions for Judging of Persons' Experiences, and Sermons, the last for the most part merely in outline. E. C. Smyth published from a copy *Observations Concerning the Scripture Oeconomy of the Trinity and Covenant of Redemption* (New York, 1880), a careful edition from the manuscript of the essay on the Flying Spider (in the *Andover Review*, January 1890) and "Some Early Writings of Jonathan Edwards," with specimens from the manuscripts (in *Proceedings of the American Antiquarian Society*, October, 1895). In 1900 on the death of Prof. Edwards A. Park, the entire collection of Edwards's manuscripts loaned to him by Tryon Edwards was transferred to Yale University. Professor Park, like Mr Grosart before him, had been unable to accomplish the great task of editing this mass of manuscript. "A Study of the Manuscripts of Jonathan Edwards" was published by F. B. Dexter in the *Proceedings of the Massachusetts Historical Society*, series 2, vol. xv. (Boston, 1902), and in the same volume of the *Proceedings* appeared "A Study of the Shorthand Writings of Jonathan Edwards," by W. P. Upham. The long sought for essay on the Trinity was edited (New York, 1903) with valuable introduction and appendices by G. P. Fisher under the title, *An Unpublished Essay of Edwards's on the Trinity*. The only other edition of Edwards (in whole or in part) of any importance is *Selected Sermons*

of Jonathan Edwards (New York, 1904), edited by H. N. Gardiner, with brief biographical sketch and annotations on seven sermons, one of which had not previously been published.

For estimates of Edwards consult: *The Volume of the Edwards Family Meeting at Stockbridge, Massachusetts, September 6-7, a.d. 1870* (Boston, 1871); *Jonathan Edwards, a Retrospect, Being the Addresses Delivered in Connecticut with the Unveiling of a Memorial in the First Church of Christ in Northampton, Massachusetts, on the One Hundred and Fiftieth Anniversary of his Dismissal from the Pastorate of that Church*, edited by H. N. Gardiner (Boston, 1901); *Exercises Commemorating the Two Hundredth Anniversary of the Birth of Jonathan Edwards, held at Andover Theological Seminary, October 4-5, 1903* (Andover, 1904); and among the addresses delivered at Stockbridge in October 1903, John De Witt, "Jonathan Edwards: A Study," in the *Princeton Theological Review* (January, 1904). Also H. C. King, "Edwards as Philosopher and Theologian," in *Hartford Theological Seminary Record*, vol. xiv. (1903), pp. 23-57; H. N. Gardiner, "The Early Idealism of Jonathan Edwards," in the *Philosophical Review*, vol. ix. (1900), pp. 573-596; E. C. Smyth, *American Journal of Theology*, vol. i. (1897), pp. 960-964; Samuel P. Hayes, "An Historical Study of the Edwardean Revivals," in *American Journal of Psychology*, vol. xiii. (1902), pp. 550 ff.; J. H. MacCracken, "Philosophical Idealism of Edwards" in *Philosophical Review*, vol. xi. (1902), pp. 26-42, suggesting that Edwards did not know Berkeley, but Collier, and the same author's *Jonathan Edwards' Idealismus* (Halle, 1899); F. J. E. Woodbridge, "Jonathan Edwards," in *Philosophical Review*, vol. xiii. (1904), pp. 393-408; W. H. Squires, *Jonathan Edwards und seine Willenslehre* (Leipzig, 1901); Samuel Simpson, "Jonathan Edwards, A Historical Review," in *Hartford Seminary Record*, vol. xiv. (1903), pp. 3-22; and *The Edwardean, a Quarterly Devoted to the History of Thought in America* (Clinton, New York, 1903-1904), edited by W. H. Squires, of which only four parts appeared, all devoted to Edwards and all written by Squires.

(H. N. G.; R. We.)

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1 Edwards recognized the abuse of impulses and impressions, opposed itinerant and lay preachers, and defended a well-ordered and well-educated clergy.

2 These were probably not fiction like *Pamela*, as Sir Leslie Stephen suggested, for Edwards listed several of Richardson's novels for his own reading, and considered *Sir Charles Grandison* a very moral and excellent work.

3 Besides the younger Jonathan many of Edwards's descendants were great, brilliant or versatile men. Among them were: his son Pierrepont (1750-1826), a brilliant but erratic member of the Connecticut bar, tolerant in religious matters and bitterly hated by stern Calvinists, a man whose personal morality resembled greatly that of Aaron Burr; his grandsons, William Edwards (1770-1851), an inventor of important leather rolling machinery; Aaron Burr the son of Esther Edwards; Timothy Dwight (1752-1817), son of Mary Edwards, and his brother Theodore Dwight, a Federalist politician, a member, the secretary and the historian of the Hartford Convention; his great-grandsons, Tryon Edwards (1809-1894) and Sereno Edwards Dwight, theologian, educationalist and author; and his great-great-grandsons, Theodore William Dwight, the jurist, and Timothy Dwight, second of that name to be president of Yale.

EDWARDS, LEWIS (1809-1887), Welsh Nonconformist divine, was born in the parish of Llanbadarn Fawr, Cardiganshire, on the 27th of October 1809. He was educated at Aberystwyth and at Llangeitho, and then himself kept school in both these places. He had already begun to preach for the Calvinistic Methodists when, in December 1830, he went to London to take advantage of the newly-opened university. In 1832 he settled as minister at Laugharne in Carmarthenshire, and the following year went to Edinburgh, where a special resolution of the senate allowed him to graduate at the end of his third session. He was now better able to further his plans for providing a trained ministry for his church. Previously, the success of the Methodist preachers had been due mainly to their natural gifts. Edwards made his home at Bala, and there, in 1837, with David Charles, his brother-in-law, he opened a school, which ultimately became the denominational college for north Wales. He died on the 19th of July 1887.

Edwards may fairly be called one of the makers of modern Wales. Through his hands there passed generation after generation of preachers, who carried his influence to every corner of the principality. By fostering competitive meetings and by his writings, especially in *Y Traethodydd* ("The Essayist"), a quarterly magazine which he founded in 1845 and edited for ten years, he did much to inform and educate his countrymen on literary and theological subjects. A new college was built at Bala in 1867, for which he raised £10,000. His chief publication was a noteworthy book on *The Doctrine of the Atonement*, cast in the form of a dialogue between master and pupil; the treatment is forensic, and emphasis is laid on merit. It was due to him that the North and South Wales Calvinistic Methodist Associations united to form an annual General Assembly; he was its moderator in 1866 and again in 1876. He was successful in bringing the various churches of the Presbyterian order into closer touch with each other, and unwearying in his efforts to promote education for his countrymen.

See *Bywyd a Llythyrau y Parch*, (*i.e.* Life and Letters of the Rev.) *Lewis Edwards, D.D.*, by his son T. C. Edwards.

EDWARDS, RICHARD (c. 1523-1566), English musician and playwright, was born in Somersetshire, became a scholar of Corpus Christi College, Oxford, in 1540, and took his M.A. degree in 1547. He was appointed in 1561 a gentleman of the chapel royal and master of the children, and entered Lincoln's Inn in 1564, where at Christmas in that year he produced a play which was acted by his choir boys. On the 3rd of September 1566 his play, *Palamon and Arcite*, was performed before Queen Elizabeth in the Hall of Christ Church, Oxford. Another play, *Damon and Pithias*, tragic in subject but with scenes of vulgar farce, entered at Stationers' Hall in 1567-8, appeared in 1571 and was reprinted in 1582; it may be found in Dodsley's *Old Plays*, vol. i., and *Ancient British Drama*, vol. i. It is written in rhymed lines of rude construction, varying in length and neglecting the *caesura*. A number of the author's shorter pieces are preserved in the *Paradise of Dainty Devices*, first published in 1575, and reprinted in the *British Bibliographer*, vol. iii.; the best known are the lines on May, the *Amantium Irae*, and the *Commendation of Music*, which has the honour of furnishing a stanza to *Romeo and Juliet*. The *Historie of Damocles and Dionise* is assigned to him in the 1578 edition of the *Paradise*. Sir John Hawkins credited him with the part song "In going to my lonely bed"; the words are certainly his, and probably the music. In his own day Edwards was highly esteemed. The fine poem, "The Soul's Knell," is supposed to have been written by him when dying.

See *Grove's Dict. of Music* (new edition); the *Shakespeare Soc. Papers*, vol. ii. art. vi.; Ward, *English Dram. Literature*, vol. i.

EDWARDS, THOMAS CHARLES (1837-1900), Welsh Nonconformist divine and educationist, was born at Bala, Merioneth, on the 22nd of September 1837, the son of Lewis Edwards (*q.v.*). His resolve to become a minister was

deepened by the revival of 1858-1859. After taking his degrees at London (B.A. 1861, M.A. 1862), he matriculated at St Alban Hall, Oxford, in October 1862, the university having just been opened to dissenters. He obtained a scholarship at Lincoln College in 1864, and took a first class in the school of Literae Humaniores in 1866. He was especially influenced by Mark Pattison and Jowett, who counselled him to be true to the church of his father, in which he had already been ordained. Early in 1867 he became minister at Windsor Street, Liverpool, but left it to become first principal of the University College of Wales at Aberystwyth, which had been established through the efforts of Sir Hugh Owen and other enthusiasts. The college was opened with a staff of three professors and twenty-five students in October 1872, and for some years its career was chequered enough. Edwards, however, proved a skilful pilot, and his hold on the affection of the Welsh people enabled him to raise the college to a high level of efficiency. When it was destroyed by fire in 1885 he collected £25,000 to rebuild it; the remainder of the necessary £40,000 being given by the government (£10,000) and by the people of Aberystwyth (£5000). In 1891 he gave up what had been the main work of his life to accept an undertaking that was even nearer his heart, the principalship of the theological college at Bala. A stroke of paralysis in 1894 fatally weakened him, but he continued at work till his death on the 22nd of March 1900. The Calvinistic Methodist Church of Wales bestowed on him every honour in their possession, and he received the degree of D.D. from the universities of Edinburgh (1887) and Wales (1898). His chief works were a *Commentary on 1 Corinthians* (1885), the *Epistle to the Hebrews* ("Expositor's Bible" series, 1888), and *The God-Man* ("Davies Lecture," 1895).

EDWARDSVILLE, a city and the county-seat of Madison county, Illinois, U.S.A., in the south-western part of the state, on Cahokia Creek, about 18 m. N.E. of St Louis. Pop. (1890) 3561; (1900) 4157 (573 foreign-born); (1910) 5014. Edwardsville is served by the Toledo, St Louis & Western, the Wabash, the Litchfield & Madison, and the Illinois Terminal railways, and is connected with St Louis by three electric lines. It has a Carnegie library. The city's principal manufactures are carriages, ploughs, brick, machinery, sanitary ware and plumber's goods. Bituminous coal is extensively mined in the vicinity. Adjoining Edwardsville is the co-operative village Leclaire (unincorporated), with the factory of the N.O. Nelson Manufacturing Co., makers of plumber's supplies, brass goods, sanitary fixtures, &c.; the village was founded in 1890 by Nelson O. Nelson (b. 1844), and nearly all of the residents are employed by the company of which he is the head; they share to a certain extent in its profits, and are encouraged to own their own homes. The company supports a school, Leclaire Academy, and has built a club-house, bowling alleys, tennis-courts, base-ball grounds, &c. The first settlement on the site of Edwardsville was made in 1812, and in 1815 the town was laid out and named in honour of Ninian Edwards (1775-1833), the governor of the Illinois Territory (1809-1818), and later United States senator (1818-1824) and governor of the state of Illinois (1826-1830). Edwardsville was incorporated in 1819 and received its present charter in 1872.

EDWARDSVILLE, a borough of Luzerne county, Pennsylvania, U.S.A., on the north branch of the Susquehanna river, adjoining Kingston and close to the north-western limits of Wilkes-Barre (on the opposite side of the river), in the north-eastern part of the state; the official name of the post office is Edwardsdale. Pop. (1890), 3284; (1900), 5165, of whom 2645 were foreign-born; (1910 census), 8407. It is served by the electric line of the Wilkes-Barre & Wyoming Valley Traction Co. Coal mining and brewing are the chief industries. Edwardsville was incorporated in 1884.

EDWIN, Aeduini or Edwine (585-633), king of Northumbria, was the son of Ella of Deira. On the seizure of Deira by Æthelfrith of Bernicia (probably 605), Edwin was expelled and is said to have taken refuge with Cadfan, king of Gwynedd. After the battle of Chester, in which Æthelfrith defeated the Welsh, Edwin fled to Rœdwald, the powerful king of East Anglia, who after some wavering espoused his cause and defeated and slew Æthelfrith at the river Idle in 617. Edwin thereupon succeeded to the Northumbrian throne, driving out the sons of Æthelfrith. There is little evidence of external activity on the part of Edwin before 625. It is probable that the conquest of the Celtic kingdom of Elmet, a district in the neighbourhood of the modern Leeds, ruled over by a king named Cerdic (Ceredig) is to be referred to this period, and this may have led to the later quarrel with Cadwallon, king of Gwynedd. Edwin seems also to have annexed Lindsey to his kingdom by 625. In this year he entered upon negotiations with Eadbald of Kent for a marriage with his sister Æthelberg. It was made a condition that Christianity should be tolerated in Northumbria, and accordingly Paulinus was consecrated bishop by Justus in 625, and was sent to Northumbria with Æthelberg. According to Bede, Edwin was favourably disposed towards Christianity owing to a vision he had seen at the court of Rœdwald, and in 626 he allowed Eanfled, his daughter by Æthelberg, to be baptized. On the day of the birth of his daughter, the king's life had been attempted by Eomer, an emissary of Cwichelm, king of Wessex. Preserved by the devotion of his thegn Lilla, Edwin vowed to become a Christian if victorious over his treacherous enemy. He was successful in the ensuing campaign, and abstained from the worship of the gods of his race. A letter of Pope Boniface helped to decide him, and after consulting his friends and counsellors, of whom the priest Coifi afterwards took a prominent part in destroying the temple at Goodmanham, he was baptized with his people and nobles at York, at Easter 627. In this town he granted Paulinus a see, built a wooden church and began one of stone. Besides York, Yeavering and Maelmin in Bernicia, and Catterick in Deira, were the chief scenes of the work of Paulinus. It was the influence of Edwin which led to the conversion of Eorpwald of East Anglia. Bede notices the peaceful state of Britain at this time, and relates that Edwin was preceded on his progresses by a kind of standard like that borne before the Roman emperors. In 633 Cadwallon of North Wales and

Penda of Mercia rose against Edwin and slew him at Hatfield near Doncaster. His kinsman Osric succeeded in Deira, and Eanfrith the son of Æthelfrith in Bernicia. Bede tells us that Edwin had subdued the islands of Anglesey and Man, and the *Annales Cambriae* record that he besieged Cadwallon (perhaps in 632) in the island of Glannauc (Puffin Island). He was definitely recognized as overlord by all the other Anglo-Saxon kings of his day except Eadbald of Kent.

See Bede, *Hist. Eccl.* (ed. Plummer, Oxford, 1896), ii. 5, 9, 11, 12, 13, 15, 16, 18, 20; Nennius (ed. San Marte, 1844), § 63; *Vita S. Oswaldi*, ix. Simeon of Durham (ed. Arnold, London, 1882-1885, vol. i. R.S.).

(F. G. M. B.)

EDWIN, JOHN (1749-1790), English actor, was born in London on the 10th of August 1749, the son of a watchmaker. As a youth, he appeared in the provinces, in minor parts; and at Bath in 1768 he formed a connexion with a Mrs Walmsley, a milliner, who bore him a son, but whom he afterwards deserted. His first London appearance was at the Haymarket in 1776 as Flaw in Samuel Foote's *The Cozeners*, but when George Colman took over the theatre he was given better parts and became its leading actor. In 1779 he was at Covent Garden, and played there or at the Haymarket until his death on the 31st of October 1790. Ascribed to him are *The Last Legacy of John Edwin*, 1780; *Edwin's Jests* and *Edwin's Pills to Purge Melancholy*.

His son, John Edwin (1768-1805), made a first appearance on the stage at the Haymarket as Hengo in Beaumont and Fletcher's *Bonduca* in 1778, and from that time acted frequently with his father, and managed the private theatricals organized by his intimate friend Lord Barrymore at Wargrave, Berks. In 1791 he married Elizabeth Rebecca Richards, an actress already well known in juvenile parts, and played at the Haymarket and elsewhere thereafter with her. He died in Dublin on the 22nd of February 1805. His widow joined the Drury Lane company (then playing, on account of the fire of 1809, at the Lyceum), and took all the leading characters in the comedies of the day. She died on the 3rd of August 1854.

EDWY (Eadwig), "The Fair" (c. 940-959), king of the English, was the eldest son of King Edmund and Ælfgifu, and succeeded his uncle Eadred in 955, when he was little more than fifteen years old. He was crowned at Kingston by Archbishop Odo, and his troubles began at the coronation feast. He had retired to enjoy the company of the ladies Æthelgifu (perhaps his foster-mother) and her daughter Ælfgifu, whom the king intended to marry. The nobles resented the king's withdrawal, and he was induced by Dunstan and Cynesige, bishop of Lichfield, to return to the feast. Edwy naturally resented this interference, and in 957 Dunstan was driven into exile. By the year 956 Ælfgifu had become the king's wife, but in 958 Archbishop Odo of Canterbury secured their separation on the ground of their being too closely akin. Edwy, to judge from the disproportionately large numbers of charters issued during his reign, seems to have been weakly lavish in the granting of privileges, and soon the chief men of Mercia and Northumbria were disgusted by his partiality for Wessex. The result was that in the year 957 his brother, the Ætheling Edgar, was chosen as king by the Mercians and Northumbrians. It is probable that no actual conflict took place, and in 959, on Edwy's death, Edgar acceded peaceably to the combined kingdoms of Wessex, Mercia and Northumbria.

Authorities.—*Saxon Chronicle* (ed. Earle and Plummer, Oxford), *sub ann.*; *Memorials of St Dunstan* (ed. Stubbs, Rolls Series); William of Malmesbury, *Gesta regum* (ed. Stubbs, Rolls Series); Birch, *Cartularium Saxonicum*, vol. ii. Nos. 932-1046; Florence of Worcester.

EECKHOUT, GERBRAND VAN DEN (1621-1674), Dutch painter, born at Amsterdam on the 19th of August 1621, entered early into the studio of Rembrandt. Though a companion pupil to F. Bol and Govaert Flinck, he was inferior to both in skill and in the extent of his practice; yet at an early period he assumed Rembrandt's manner with such success that his pictures were confounded with those of his master; and, even in modern days, the "Resurrection of the Daughter of Jairus," in the Berlin museum, and the "Presentation in the Temple," in the Dresden gallery, have been held to represent worthily the style of Rembrandt. As evidence of the fidelity of Eeckhout's imitation we may cite his "Presentation in the Temple," at Berlin, which is executed after Rembrandt's print of 1630, and his "Tobit with the Angel," at Brunswick, which is composed on the same background as Rembrandt's "Philosopher in Thought." Eeckhout not merely copies the subjects; he also takes the shapes, the figures, the Jewish dress and the pictorial effects of his master. It is difficult to form an exact judgment of Eeckhout's qualities at the outset of his career. His earliest pieces are probably those in which he more faithfully reproduced Rembrandt's peculiarities. Exclusively his is a tinge of green in shadows marring the harmony of the work, a certain gaudiness of jarring tints, uniform surface and a touch more quick than subtle. Besides the pictures already mentioned we should class amongst early productions on this account the "Woman taken in Adultery," at Amsterdam; "Anna presenting her Son to the High Priest," in the Louvre; the "Epiphany," at Turin; and the "Circumcision," at Cassel. Eeckhout matriculated early in the Gild of Amsterdam. A likeness of a lady at a dressing-table with a string of beads, at Vienna, bears the date of 1643, and proves that the master at this time possessed more imitative skill than genuine mastery over nature. As he grew older he succeeded best in portraits, a very fair example of which is that of the historian Dappers (1669), in the Städel collection. Eeckhout occasionally varied his style so as to

recall in later years the “small masters” of the Dutch school. Waagen justly draws attention to his following of Terburg in “Gambling Soldiers,” at Stafford House, and a “Soldiers’ Merrymaking,” in the collection of the marquess of Bute. A “Sportsman with Hounds,” probably executed in 1670, now in the Vander Hoo gallery, and a “Group of Children with Goats” (1671), in the Hermitage, hardly exhibit a trace of the artist’s first education. Amongst the best of Eeckhout’s works “Christ in the Temple” (1662), at Munich, and the “Haman and Mordecai” of 1665, at Luton House, occupy a good place. Eeckhout died at Amsterdam on the 22nd of October 1674.

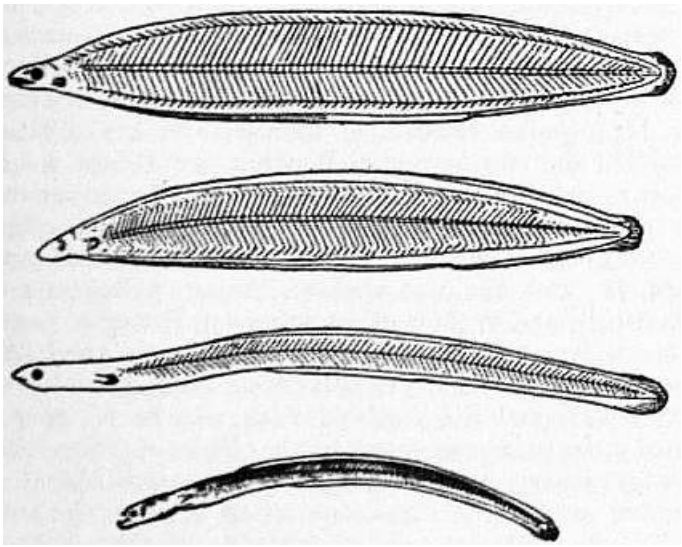
EEL. The common freshwater eel (Lat. *anguilla*; O. Eng. *œl*) belongs to a group of soft-rayed fishes distinguished by the presence of an opening to the air-bladder and the absence of the pelvic fins. With its nearest relatives it forms the family *Muraenidae*, all of which are of elongated cylindrical form. The peculiarities of the eel are the rudimentary scales buried in the skin, the well-developed pectoral fins, the rounded tail fin continuous with the dorsal and ventral fins. Only one other species of the family occurs in British waters, namely, the conger, which is usually much larger and lives in the sea. In the conger the eyes are larger than in the eel, and the upper jaw overlaps the lower, whereas in the eel the lower jaw projects beyond the upper. Both species are voracious and predatory, and feed on almost any animal food they can obtain, living or dead. The conger is especially fond of squid or other Cephalopods, while the eel greedily devours carrion. The common eel occurs in all the rivers and fresh waters of Europe, except those draining towards the Arctic Ocean, the Black Sea and the Caspian Sea. It also occurs on the Atlantic side of North America. The conger has a wider range, extending from the western and southern shores of Britain and Ireland to the East Indian Archipelago and Japan. It is common in the Mediterranean.

The ovaries of the eel resemble somewhat those of the salmon in structure, not forming closed sacs, as in the majority of Teleostei, but consisting of laminae exposed to the body cavity. The laminae in which the eggs are produced are very numerous, and are attached transversely by their inner edges to a membranous band running nearly the whole length of the body-cavity. The majority of the eels captured for market are females with the ovaries in an immature condition. The male eel was first discovered in 1873 by Syrski at Trieste, the testis being described by him as a lobed elongated organ, in the same relative position as the ovary in the female, surrounded by a smooth surface without laminae. He did not find ripe spermatozoa. He discovered the male by examining small specimens, all the larger being female. L. Jacoby, a later observer, found no males exceeding 19 in. in length, while the female may reach a length of 39 in. or more. Dr C. G. J. Petersen, in a paper published in 1896, states that in Denmark two kinds of eels are distinguished by the fishermen, namely, yellow eels and silver eels. The silver eels are further distinguished by the shape of the snout and the size of the eyes. The snout in front of the eyes is not flat, as in the yellow eels, but high and compressed, and therefore appears more pointed, while the eyes are much larger and directed outwards. In both kinds there are males and females, but Petersen shows that the yellow eels change into silver eels when they migrate to the sea. The sexual organs in the silver eels are more developed than in the yellow eels, and the former have almost or entirely ceased to take food. The male silver eels are from 11½ to 19 in. in length, the females from 16½ to about 39 in. It is evident, therefore, that if eels only spawn once, they do not all reach the same size when they become sexually mature. The male conger was first described in 1879 by Hermes, who obtained a ripe specimen in the Berlin Aquarium. This specimen was not quite 2½ ft. in length, and of the numerous males which have been identified at the Plymouth Laboratory, none exceeded this length. The large numbers of conger above this size caught for the market are all immature females. Female conger of 5 or 6 ft. in length and weighing from 30 to 50 ℔ are common enough, and occasionally they exceed these limits. The largest recorded was 8 ft. 3 in. long, and weighed 128 ℔.

There is every reason to believe that eels and conger spawn but once in their lives, and die soon after they have discharged their generative products. When kept in aquaria, both male and female conger are vigorous and voracious. The males sooner or later cease to feed, and attain to the sexually mature condition, emitting ripe milt when handled and gently squeezed. They live in this condition five or six months, taking no food and showing gradual wasting and disease of the bodily organs. The eyes and skin become ulcerated, the sight is entirely lost, and the bones become soft through loss of lime. The females also after a time cease to feed, and live in a fasting condition for five or six months, during which time the ovaries develop and reach great size and weight, while the bones become soft and the teeth disappear. The female, however, always dies in confinement before the ova are perfectly ripe and before they are liberated from the ovarian tissue. The absence of some necessary condition, perhaps merely of the pressure which exists at the bottom of the sea, evidently prevents the complete development of the ovary. The invariable death of the fish in the same almost ripe condition leads to the conclusion that under normal conditions the fish dies after the mature ova have been discharged. G. B. Grassi states that he obtained ripe male eels, and ripe specimens of *Muraena*, another genus of the family, in the whirlpools of the Strait of Messina. A ripe female *Muraena* has also been described at Zanzibar. Gravid female eels, *i.e.* specimens with ovaries greatly enlarged, have been occasionally obtained in fresh water, but there is no doubt that, normally, sexual maturity is attained only in the sea.

Until recent years nothing was known from direct observation concerning the reproduction of the common eel or any species of the family. It was a well-known fact that large eels migrated towards the sea in autumn, and that in the spring small transparent eels of 2 in. in length and upwards were common on the shore under stones, and ascended rivers and streams in vast swarms. It was reasonable, therefore, to infer that the mature eels spawned in the sea, and that there the

young were developed.



Leptocephali. (By permission of J. & A. Churchill.)

A group of peculiar small fishes were, however, known which were called Leptocephali, from the small proportional size of the head. The first of these described was captured in 1763 near Holyhead, and became the type of *L. Morrisii*, other specimens of which have been taken either near the shore or at the surface of the sea. Other forms placed in the same genus had been taken by surface fishing in the Mediterranean and in tropical ocean currents. The chief peculiarities of Leptocephali, in addition to the smallness of the head, are their ribbon-like shape and their glassy transparency during life. The body is flattened from side to side, and broad from the dorsal to the ventral edge. Like the eels, they are destitute of pelvic fins and no generative organs have been observed in them (see fig.).

In 1864 the American naturalist, T. N. Gill, published the conclusion that *L. Morrisii* was the young or larva of the conger, and Leptocephali generally the young stages of species of *Muraenidae*. In 1886 this conclusion was confirmed from direct observation by Yves Delage, who kept alive in a tank at Roscoff a specimen of *L. Morrisii*, and saw it gradually transformed into a young conger. From 1887 to 1892 Professor Grassi and Dr Calandruccio carried on careful and successful researches into the development of the Leptocephali at Catania, in Sicily. The specimens were captured in considerable numbers in the harbour, and the transformation of *L. Morrisii* into young conger, and of various other forms of Leptocephalus into other genera of *Muraenidae*, such as *Muraena*, *Congromuraena* and *Ophichthys*, was observed. In 1894 the same authors published the announcement that another species of Leptocephalus, namely, *L. brevirostris*, was the larva of the common eel. This larval form was captured in numbers with other Leptocephali in the strong currents of the Strait of Messina. In the metamorphosis of all Leptocephali a great reduction in size occurs. The *L. brevirostris* reaches a length of 8 cm., or a little more than 2½ in., while the perfectly-formed young eel is 2 in. long or a little more.

The Italian naturalists have also satisfied themselves that certain pelagic fish eggs originally described by Raffaele at Naples are the eggs of *Muraenidae*, and that among them are the eggs of *Conger* and *Anguilla*. They believe that these eggs, although free in the water, remain usually near the bottom at great depths, and that fertilization takes place under similar conditions. No fish eggs of the kind to which reference is here made have yet been obtained on the British coasts, although conger and eels are so abundant there. Raffaele described and figured the larva newly hatched from one of the eggs under consideration, and it is evident that this larva is the earliest stage of a Leptocephalus.

Although young eels, some of them more or less flat and transparent, are common enough on the coasts of Great Britain and north-western Europe in spring, neither eggs nor specimens of *Leptocephalus brevirostris* have yet been taken in the North Sea, English Channel or other shallow waters in the neighbourhood of the British Islands, or in the Baltic. Marked eels have been proved to migrate from the inmost part of the Baltic to the Kattegat. Recently, however, search has been made for the larvae in the more distant and deeper portions of the Atlantic Ocean. In May 1904 a true larval specimen was taken at the surface south-west of the Faeroe Islands, and another was taken 40 m. north by west of Achill Head, Ireland. In 1905 numbers were taken in deep water in the Atlantic. The evidence at present available indicates that the spawning of mature eels takes place beyond the 100 fathom line, and that the young eels which reach the coast are already a year old. As eels, both young and old, are able to live for a long time out of water and have the habit of travelling at night over land in wet grass and in damp weather, there is no difficulty in explaining their presence in wells, ponds or other isolated bodies of fresh water at any distance from the sea.

See “The Eel Question,” *Report U.S. Commissioner of Fisheries for 1879* (Washington, 1882); J. T. Cunningham, “Reproduction and Development of the Conger,” *Journ. Mar. Biol. Assn.* vol. ii.; C. G. J. Petersen, *Report Dan. Biol. Station*, v. (1894); G. B. Grassi, *Quart. Journ. Mic. Sci.* vol. xxxix. (1897).

(J. T. C.)

EFFENDI (a Turkish word, corrupted from the Gr. αὐθέντης, a lord or master), a title of respect, equivalent to the English "sir," in the Turkish empire and some other eastern countries. It follows the personal name, when that is used, and is generally given to members of the learned professions, and to government officials who have no higher rank, such as Bey, Pasha, &c. It may also indicate a definite office, as *Hakim effendi*, chief physician to the sultan. The possessive form *effendim* (my master) is used by servants and in formal intercourse.

EFFIGIES, MONUMENTAL. An "effigy" (Lat. *effigies*, from *effingere*, to fashion) is, in general, a material image or likeness of a person; and the practice of hanging or burning people "in effigy," *i.e.* their semblance only, preserves the more general sense of the word. Such representations may be portraits, caricatures or models. But, apart from general usages of the term (see *e.g.* Wax Figures), it is more particularly applied in the history of art to a particular class of sculptured figures, in the flat or the round, associated with Christian sepulchral monuments, dating from the 12th century. The earliest of these attempts at commemorative portraiture were executed in low relief upon coffin-lids of stone or purbeck marble, some portions of the designs for the most part being executed by means of incised lines, cut upon the raised figure. Gradually, with the increased size and the greater architectural dignity of monumental structures, effigies attained to a high rank as works of art, so that before the close of the 13th century very noble examples of figures of this order are found to have been executed in full relief; and, about the same period, similar figures also began to be engraved, either upon monumental slabs of stone or marble, or upon plates of metal, which were affixed to the surfaces of slabs that were laid in the pavements of churches.

Engraved plates of this class, known as "Brasses" (see Brasses, Monumental), continued in favour until the era of the Reformation, and in recent times their use has been revived. It seems probable that the introduction and the prevalence of flat engraved memorials, in place of commemorative effigies in relief, was due, in the first instance, to the inconvenience resulting from increasing numbers of raised stones on the pavement of churches; while the comparatively small cost of engraved plates, their high artistic capabilities, and their durability, combined to secure for them the popularity they unquestionably enjoyed. If considerably less numerous than contemporary incised slabs and engraved brasses, effigies sculptured in relief—with some exceptions in full relief—continued for centuries to constitute the most important features in many medieval monuments. In the 13th century, their origin being apparently derived from the endeavour to combine a monumental effigy with a monumental cross upon the same sepulchral stone (whether in sculpture or by incised lines), parts only of the human figure sometimes were represented, such as the head or bust, and occasionally also the feet; in some of the early examples of this curious class the cross symbol was not introduced, and after awhile half-length figures became common.

Except in very rare instances, that most important element, genuine face-portraiture, is not to be looked for, in even the finest sculptured effigies, earlier than about the middle of the 15th century. In works of the highest order of art, indeed, the memorials of personages of the most exalted rank, effigies from an early period in their existence may be considered occasionally to have been portraits properly so called; and yet even in such works as these an approximately correct general resemblance but too frequently appears to have been all that was contemplated or desired. At the same time, in the earliest monumental effigies we possess contemporary examples of vestments, costume,1 armour, weapons, royal and knightly insignia, and other personal appointments and accessories, in all of which accurate fidelity has been certainly observed with scrupulous care and minute exactness. Thus, since the monumental effigies of England are second to none in artistic merit, while they have been preserved in far greater numbers, and generally in better condition than those in other countries, they represent in unbroken continuity an unrivalled series of original personal representations of successive generations, very many of them being, in the most significant acceptation of that term, veritable contemporaneous portraits.

Once esteemed to be simply objects of antiquarian curiosity, and either altogether disregarded or too often subjected to injurious indignity, the monumental effigies in England long awaited the formation of a just estimate of their true character and their consequent worth in their capacity as authorities for face-portraiture. In the original contract for the construction of the monument at Warwick to Richard Beauchamp, the fifth earl, who died in 1439, it is provided that an effigy of the deceased noble should be executed in bronze gilt, with all possible care, by the most skilful and experienced artists of the time; and the details of the armour and the ornaments of the figure are specified with minute precision. It is remarkable, however, that the effigy itself is described only in the general and indefinite terms—"an image of a man armed." There is no provision that the effigy should be "an image" of the earl; and much less is anything said as to its being such a "counterfeit presentment" of the features and person of the living man, as the contemporaries of Shakespeare had learned to expect in what they would accept as true portraiture. The effigy, almost as perfect as when it left the sculptor's hands, still bears witness, as well to the conscientious care with which the conditions of the contract were fulfilled, as to the eminent ability of the artists employed. So complete is the representation of the armour, that this effigy might be considered actually to have been equipped in the earl's own favourite suit of the finest Milan steel. The cast of the figure also was evidently studied from what the earl had been when in life, and the countenance is sufficiently

marked and endowed with the unmistakable attributes of personal character. Possibly such a resemblance may have been the highest aim in the image-making of the period, somewhat before the middle of the 15th century. Three-quarters of a century later, a decided step towards fidelity in true portraiture is shown to have been taken, when, in his will (1510 a.d.), Henry VII. spoke of the effigies of himself and of his late queen, Elizabeth of York, to be executed for their monument, as “an image of our figure and another of hers.” The existing effigies in the Beauchamp chapel and in Henry VII.’s chapel, with the passages just quoted from the contract made by the executors of the Lancastrian earl, strikingly illustrate the gradual development of the idea of true personal portraiture in monumental effigies, during the course of the 15th and at the commencement of the 16th century in England.

Study of the royal effigies still preserved must commence in Worcester Cathedral with that of King John. This earliest example of a series of effigies of which the historical value has never yet been duly appreciated is rude as a work of art, and yet there is on it the impress of such individuality as demonstrates that the sculptor did his best to represent the king. Singularly fine as achievements of the sculptor’s art are the effigies of Henry III., Queen Eleanor of Castile, and her ill-fated son Edward II., the two former in Westminster Abbey, the last in Gloucester cathedral; and of their fidelity also as portraits no doubt can be entertained. In like manner the effigies of Edward III. and his queen Philippa, and those of their grandson Richard II. and his first consort, Anne of Bohemia (all at Westminster), and of their other grandson, Henry of Lancaster, with his second consort, Joan of Navarre, at Canterbury—all convince us that they are true portraits. Next follow the effigies of Henry VII. and Elizabeth of York,—to be succeeded, and the royal series to be completed, by the effigies of Queen Elizabeth and Mary Stuart, all of them in Westminster Abbey. Very instructive would be a close comparison between the two last-named works and the painted portraits of the rival queens, especially in the case of Mary, the pictures of whom differ so remarkably from one another.

As the 15th century advanced, the rank of the personage represented and the character of the art that distinguishes any effigy goes far to determine its portrait qualities. Still later, when more exact face-portraiture had become a recognized element, sculptors must be supposed to have aimed at the production of such resemblance as their art would enable them to give to their works; and accordingly, when we compare effigies with painted portraits of the same personages, we find that they corroborate one another. The prevalence of portraiture in the effigies of the 16th and 17th centuries, when their art generally underwent a palpable decline, by no means raises all works of this class, or indeed the majority of them, to the dignity of true portraits; on the contrary, in these effigies, as in those of earlier periods, it is the character of the art in each particular example that affects its merit, value and authority as a portrait. In judging of these latter effigies, however, we must estimate them by the standard of art of their own era; and, as a general rule, the effigies that are the best as works of art in their own class are the best also and the most faithful in their portraiture. The earlier effigies, usually produced without any express aim at exact portraiture, as we now employ that expression, have nevertheless strong claims upon our veneration. Often their sculpture is very noble; and even when they are rudest as works of art, there is rarely lacking a rough grandeur about them, as exhibited in the fine bold figure of Fair Rosamond’s son, Earl William of the Long Sword, which reposes in such dignified serenity in his own cathedral at Salisbury. These effigies may not bring us closely face to face with remote generations, but they do place before us true images of what the men and women of those generations were.

Observant students of monumental effigies will not fail to appreciate the singular felicity with which the medieval sculptors adjusted their compositions to the recumbent position in which their “images” necessarily had to be placed. Equally worthy of notice is the manner in which many monumental effigies, particularly those of comparatively early date, are found to have assumed an aspect neither living nor lifeless, and yet impressively life-like. The sound judgment also, and the good taste of those early sculptors, were signally exemplified in their excluding, almost without exception, the more extravagant fashions in the costume of their era from their monumental sculpture, and introducing only the simpler but not less characteristic styles of dress and appointments. Monumental effigies, as commonly understood, represent recumbent figures, and the accessories of the effigies themselves have been adjusted to that position. With the exceptions when they appear on one side resting on the elbow (as in the case of Thomas Owen (d. 1598) and Sir Thomas Heskett (d. 1605), both in Westminster Abbey), these effigies lie on their backs, and as a general rule (except in the case of episcopal figures represented in the act of benediction, or of princes and warriors who sometimes hold a sceptre or a sword) their hands are uplifted and conjoined as in supplication. The crossed-legged attitude of numerous armed effigies of the era of mail-armour has been supposed to imply the personages so represented to have been crusaders or Knights of the Temple; but in either case the supposition is unfounded and inconsistent with unquestionable facts. Much beautiful feeling is conveyed by figures of ministering angels being introduced as in the act of supporting and smoothing the pillows or cushions that are placed in very many instances to give support to the heads of the recumbent effigies. The animals at the feet of these effigies, which frequently have an heraldic significance, enabled the sculptors, with equal propriety and effectiveness, to overcome one of the special difficulties inseparable from the recumbent position. In general, monumental effigies were carved in stone or marble, or cast in bronze, but occasionally they were of wood: such is the effigy of Robert Curthose, son of William I. (d. 1135), whose altar tomb in Gloucester cathedral was probably set up about 1320.

In addition to recumbent statues, upright figures must receive notice here, especially those set in wall-monuments in churches mainly. These usually consisted in half-length figures, seen full-face, placed in a recess within an architectural

setting more or less elaborate. They belong mainly to the 16th and 17th centuries. Among the many examples in old St Paul's cathedral (destroyed in the Great Fire of 1666) were those of Dean Colet (d. 1519), William Aubrey (1595) and Alexander Nowell (d. 1601). In St Giles's, Cripplegate, is the similarly designed effigy of John Speed (d. 1629); while that of John Stow (d. 1605) is a full-length, seated figure. This, like the figure of Thomas Owen, is in alabaster, but since its erection has always been described as terra-cotta—a material which came into considerable favour for the purpose of busts and half-lengths towards the end of the 16th century, imported, of course, from abroad. Sometimes the stone monuments were painted to resemble life, as in the monuments to Shakespeare and John Combe (the latter now over-painted white), in Holy Trinity Church, Stratford-on-Avon.

Bibliography.—Among the more noteworthy publications are the following: *Monumental Effigies in Great Britain* (Norman Conquest to Henry VIII.), by C. A. Stothard, folio (London, 1876); *The Recumbent Monumental Effigies in Northamptonshire*, by A. Hartshorne (4to, London, 1867-1876); *Sepulchral Memorials* (Northamptonshire), by W. H. Hyett (folio, London, 1817); *Ancient Sepulchral Effigies and Monumental Sculpture of Devon*, by W. H. H. Rogers (4to, Exeter, 1877); *The Ancient Sepulchral Monuments of Essex*, ed. by C. M. Carlton (4to, Chelmsford, 1890); and other works dealing with the subject according to counties. Of particular value is the *Report of the Sepulchral Monuments Committee* of the Society of Antiquaries, laboriously compiled at the request of the Office of Works, arranged (1) personally and chronologically, and (2) locally (1872).

(C. B.; M. H. S.)

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1 It is well known that the costume of effigies nearly always represented what was actually worn by the remains of the person commemorated, when prepared for interment and when lying in state; and, in like manner, the aspect of the lifeless countenance, even if not designedly reproduced by medieval "image" makers, may long have exercised a powerful influence upon their ideas of consistent monumental portraiture.

EGAN, PIERCE (1772-1849), English sporting writer, was born in London in 1772. He began life as sporting reporter for the newspapers, and was soon recognized as the best of his day. In 1814 he wrote, set and printed a book about the relations of the prince regent (afterwards George IV.) and Miss Robinson, called *The Mistress of Royalty, or the Loves of Florizel and Perdita*. But his best-known work is *Life in London, or Days and Nights of Jerry Hawthorne and his Elegant Friend Corinthian Tom* (1821), a book describing the amusements of sporting men, with illustrations by Cruikshank. This book took the popular fancy and was one of Thackeray's early favourites (see his *Roundabout Papers*). It was repeatedly imitated, and several dramatic versions were produced in London. A sequel containing more of country sports and misadventures probably suggested Dickens's *Pickwick Papers*. In 1824 *Pierce Egan's Life in London and Sporting Guide* was started, a weekly newspaper afterwards incorporated with *Bell's Life*. Among his numerous other books are *Boxiana* (1818), *Life of an Actor* (1824), *Book of Sports* (1832), and the *Pilgrims of the Thames* (1838). Egan died at Pentonville on the 3rd of August 1849.

His son, Pierce Egan (1814-1880), illustrated his own and his father's books, and wrote a score of novels of varying merit, of which *The Snake in the Grass* (1858) is perhaps the best.

EGBO, a secret society flourishing chiefly among the Efiks of the Calabar district, West Africa. Egbo or Ekpé is a mysterious spirit who lives in the jungle and is supposed to preside at the ceremonies of the society. Only males can join, boys being initiated about the age of puberty. Members are bound by oath of secrecy, and fees on entrance are payable. The Egbo-men are ranked in seven or nine grades, for promotion to each of which fresh initiation ceremonies, fees and oaths are necessary. The society combines a kind of freemasonry with political and law-enforcing aims. For instance any member wronged in an Egbo district, that is one dominated by the society, has only to address an Egbo-man or beat the Egbo drum in the Egbo-house, or "blow Egbo" as it is called, *i.e.* sound the Egbo horn before the hut of the wrong-doer, and the whole machinery of the society is put in force to see justice done. Formerly the society earned as bad a name as most secret sects, from the barbarous customs mingled with its rites; but the British authorities have been able to make use of it in enforcing order and helping on civilization. The Egbo-house, an oblong building like the nave of a church, usually stands in the middle of the villages. The walls are of clay elaborately painted inside and ornamented with clay figures in relief. Inside are wooden images, sometimes of an obscene nature, to which reverence is paid. Much social importance attaches to the highest ranks of Egbo-men, and it is said that very large sums, sometimes more than a thousand pounds, are paid to attain these dignities. At certain festivals in the year the Egbo-men wear black wooden masks with horns which it is death for any woman to look on.

See Mary H. Kingsley, *West African Studies* (1901); Rev. Robt. H. Nassau, *Fetichism in West Africa* (1904); C. Partridge, *Cross River Natives* (1905).

EGEDE, HANS (1686-1758), Norwegian missionary, was born in the vogtship of Senjen, Norway, on the 31st of January 1686. He studied at the university of Copenhagen, and in 1706 became pastor at Vaagen in the Lofoten islands, but the study of the chronicles of the northmen having awakened in him the desire to visit the colony of Northmen in Greenland, and to convert them to Christianity, he resigned his charge in 1717; and having, after great difficulty, obtained the sanction and help of the Danish government in his enterprise, he set sail with three ships from Bergen on the 3rd of May 1721, accompanied by his wife and children. He landed on the west coast of Greenland on the 3rd of July, but found to his dismay that the Northmen were entirely superseded by the Eskimo, in whom he had no particular interest, and whose language he would be able to master, if at all, only after years of study. But, though compelled to endure for some years great privations, and at one time to see the result of his labours almost annihilated by the ravages of small-pox, he remained resolutely at his post. He founded the colony of Godthaab, and soon gained the affections of the people. He converted many of them to Christianity, and established a considerable commerce with Denmark. Ill-health compelling him to return home in 1736, he was made principal of a seminary at Copenhagen, in which workers were trained for the Greenland mission; and from 1740 to 1747 he was superintendent of the mission. He died on the 5th of November 1758. He is the author of a book on the natural history of Greenland.

His work in Greenland was continued, on his retirement, by his son Paul Egede (1708-1789), who afterwards returned to Denmark and succeeded his father as superintendent of the Greenland mission. Paul Egede also became professor of theology in the mission seminary. He published a Greenland-Danish-Latin dictionary (1750), Greenland grammar (1760) and Greenland catechism (1756). In 1766 he completed the translation begun by his father of the New Testament into the Greenland tongue; and in 1787 he translated Thomas à Kempis. In 1789 he published a journal of his life in Greenland.

EGER, AQIBA (1761-1837), Jewish scholar, was for the last twenty-five years of his life rabbi of Posen. He was a rigorous casuist of the old school, and his chief works were legal notes on the Talmud and the code of Qaro (*q.v.*). He believed that religious education was enough, and thus opposed the party which favoured secular schools. He was a determined foe of the reform movement, which began to make itself felt in his time.

EGER (Czech, *Cheb*), a town of Bohemia, Austria, 148 m. W.N.W. of Prague by rail. Pop. (1900) 23,665. It is situated on the river Eger, at the foot of one of the spurs of the Fichtelgebirge, and lies in the centre of a German district of about 40,000 inhabitants, who are distinguished from the surrounding population by their costumes, language, manners and customs. On the rock, to the N.W. of the town, lies the Burg or Castle, built probably in the 12th century, and now in ruins. It possesses a massive black tower, built of blocks of lava, and in the courtyard is an interesting chapel, in Romanesque style with fantastic ornamentations, which was finished in the 13th century. In the banquet-room of this castle Wallenstein's officers Terzky, Kinsky, Illo and Neumann were assassinated a few hours before Wallenstein himself was murdered by Captain Devereux. The murder took place on the 25th of February 1634 in the town-house, which was at that time the burgomaster's house. The rooms occupied by Wallenstein have been transformed since 1872 into a museum, which contains many historical relics and antiquities of the town of Eger. The handsome and imposing St Nicholas church was built in the 13th century and restored in 1892. There is a considerable textile industry, together with the manufacture of shoes, machinery and milling. Eger was the birthplace of the novelist and playwright Braun von Braunthal (1802-1866). About 3 m. N.W. of Eger is the well-known watering place of Franzensbad (*q.v.*).

The district of Eger was in 870 included in the new margraviate of East Franconia, which belonged at first to the Babenbergs, but from 906 to the counts of Vohburg, who took the title of margraves of Eger. By the marriage, in 1149, of Adela of Vohburg with the emperor Frederick I., Eger came into the possession of the house of Swabia, and remained in the hands of the emperors until the 13th century. In 1265 it was taken by Ottakar II. of Bohemia, who retained it for eleven years. After being repeatedly transferred from the one power to the other, according to the preponderance of Bohemia or the empire, the town and territory were finally incorporated with Bohemia in 1350, after the Bohemian king became the emperor Charles IV. Several imperial privileges, however, continued to be enjoyed by the town till 1849. It suffered severely during the Hussite war, during the Swedish invasion in 1631 and 1647, and in the War of the Austrian Succession in 1742.

See Drivok, *Ältere Geschichte der deutschen Reichstadt Eger und des Reichsgebietes Egerland* (Leipzig, 1875).

EGER (Ger. *Erlau*, Med. Lat. *Agria*), a town of Hungary, capital of the county of Heves, 90 m. E.N.E. of Budapest by rail. Pop. (1900) 24,650. It is beautifully situated in the valley of the river Eger, an affluent of the Theiss, and on the eastern

outskirts of the Mátra mountains. Eger is the see of an archbishopric, and owing to its numerous ecclesiastical buildings has received the name of “the Hungarian Rome.” Amongst the principal buildings are the beautiful cathedral in the Italian style, with a handsome dome 130 ft. high, erected in 1831-1834 by the archbishop Ladislaus Pyrker (1772-1847); the church of the Brothers of Mercy, opposite which is a handsome minaret, 115 ft. high, the remains of a mosque dating from the Turkish occupation, other Roman Catholic churches, and an imposing Greek church. The archiepiscopal palace; the lyceum, with a good library and an astronomical observatory; the seminary for Roman priests; and the town-hall are all noteworthy. On an eminence N.E. of the town, laid out as a park, are the ruins of the old fortress, and a monument of Stephen Dobó, the heroic defender of the town against the assaults of the Turks in 1552. The chief occupation of the inhabitants is the cultivation of the vineyards of the surrounding hills, which produce the red Erlauer wine, one of the best in Hungary. To the S.W. of Eger, in the same county of Heves, is situated the town of Gyöngyös (pop. 15,878). It lies on the south-western outskirts of the Mátra mountains, and carries on a brisk trade in the Erlauer wine, which is produced throughout the district. The Hungarians defeated the Austrians at Gyöngyös on the 3rd of April 1849. To the S.W. of Gyöngyös is situated the old town of Hatvan (pop. 9698), which is now a busy railway junction, and possesses several industrial establishments.

Eger is an old town, and owes its importance to the bishopric created by King Stephen in 1010, which was one of the richest in the whole of Hungary. In 1552 Eger resisted the repeated assaults of a large Turkish force; in 1596, however, it was given up to the Turks by the Austrian party in the garrison, and remained in their possession until 1687. It was created an archbishopric in 1814. During the revolution of 1848-1849, Eger was remarkable for the patriotic spirit displayed by its inhabitants; and it was here that the principal campaigns against the Austrians were organized.

EGERIA, an ancient Italian goddess of springs. Two distinct localities were regarded as sacred to her,—the grove of Diana Nemorensis at Aricia, and a spring in the immediate neighbourhood of Rome at the Porta Capena. She derives her chief importance from her legendary connexion with King Numa, who had frequent interviews with her and consulted her in regard to his religious legislation (Livy i. 19; Juvenal iii. 12). These meetings took place on the spot where the sacred shield had fallen from heaven, and here Numa dedicated a grove to the Camenae, like Egeria deities of springs. After the death of Numa, Egeria was said to have fled into the grove of Aricia, where she was changed into a spring for having interrupted the rites of Diana by her lamentations (Ovid, *Metam.* xv. 479). At Aricia there was also a Manius Egerius, a male counterpart of Egeria. Her connexion with Diana Nemorensis, herself a birth goddess, is confirmed by the fact that her aid was invoked by pregnant women. She also possessed the gift of prophecy; and the statement (Dion. Halic. ii. 60) that she was one of the Muses is due to her connexion with the Camenae, whose worship was displaced by them.

EGERTON, SIR PHILIP DE MALPAS GREY, Bart. (1806-1881), English palaeontologist, was born on the 13th of November 1806, the son of the 9th baronet. He was educated at Eton and Christ Church, Oxford, where he graduated B.A. in 1828. While at college his interest in geology was aroused by the lectures of W. Buckland, and by his acquaintance with W.D. Conybeare. Subsequently when travelling in Switzerland with Lord Cole (afterwards 3rd earl of Enniskillen) they were introduced to Prof. L. Agassiz at Neufchatel, and determined to make a special study of fossil fishes. During the course of fifty years they gradually gathered together two of the largest and finest of private collections —that of Sir Philip Grey Egerton being at Oulton Park, Tarporley, Cheshire. He described the structure and affinities of numerous species in the publications of the Geological Society of London, the *Geological Magazine* and the Decades of the Geological Survey; and in recognition of his services the Wollaston medal was awarded to him in 1873 by the Geological Society. He was elected F.R.S. in 1831, and was a trustee of the British Museum. As a member of Parliament he represented the city of Chester in 1830, the southern division of Cheshire from 1835 until 1868, and the western division from 1868 to 1881. He died in London on the 6th of April 1881. His collection of fossil fishes is now in the British Museum.

EGG, AUGUSTUS LEOPOLD (1816-1863), English painter, was born on the 2nd of May 1816 in London, where his father carried on business as a gun-maker. He had some schooling at Bexley, and was not at first intended for the artistic profession; but, developing a faculty in this line, he entered in 1834 the drawing class of Mr Sass, and in 1836 the school of the Royal Academy. His first exhibited picture appeared in 1837 at the Suffolk Street gallery. In 1838 he began exhibiting in the Academy, his subject being a “Spanish Girl”; altogether he sent twenty-seven works to this institution. In 1848 he became an associate and in 1860 a full member of the Academy: he had considerable means, apart from his profession. In 1857 he took a leading part in selecting and arranging the modern paintings in the Art-Treasures Exhibition in Manchester. His constitution being naturally frail, he went in 1853, with Dickens and Wilkie Collins, to Italy for a short trip, and in 1863 he visited Algeria. Here he benefited so far as his chronic lung-disease was concerned; but exposure to a cold wind while out riding brought on an attack of asthma, from which he died on the 26th of March 1863 at Algiers, near which city his remains were buried.

Egg was a gifted and well-trained painter of genre, chiefly in the way of historical anecdote, or of compositions from the poets and novelists. Among his principal pictures may be named: 1843, the “Introduction of Sir Piercie Shafton and

Halbert Glendinning" (from Scott's *Monastery*); 1846, "Buckingham Rebuffed"; 1848, "Queen Elizabeth discovers she is no longer young"; 1850, "Peter the Great sees Catharine for the first time"; 1854, "Charles I. raising the Standard at Nottingham" (a study); 1855, the "Life and Death of Buckingham"; 1857 and 1858, two subjects from Thackeray's *Esmond*; 1858, "Past and Present, a triple picture of a faithless wife"; 1859, the "Night before Naseby"; 1860, his last exhibited work, the Dinner Scene from *The Taming of the Shrew*. The Tate Gallery contains one of his earlier pictures, Patricio entertaining two Ladies, from the *Diable boiteux*; it was painted in 1844.

Egg was rather below the middle height, with dark hair and a handsome well-formed face; the head of Peter the Great (in the picture of Peter and Catharine, which may be regarded as his best work, along with the Life and Death of Buckingham) was studied, but of course considerably modified, from his own countenance. He was manly, kind-hearted, pleasant, and very genial and serviceable among brother-artists; social and companionable, but holding mainly aloof from fashionable circles. As an actor he had uncommon talent. He appeared among Dickens's company of amateurs in 1852 in Lord Lytton's comedy *Not so Bad as we Seem*, and afterwards in Wilkie Collins's *Frozen Deep*, playing the humorous part of Job Want.

EGG (O.E. *aeg*, cf. Ger. *Ei*, Swed. *aegg*, and prob. Gr. ὠόν, Lat. *ovum*), the female reproductive cell or ovum of animals, which gives rise generally only after fertilization to the young. The largest eggs are those of birds; and this because, to the minute essential portion of the egg, or germ, from which the young bird grows, there is added a large store of food-material—the yolk and white of the egg—destined to nourish the growing embryo while the whole is enclosed within a hard shell.

The relative sizes of eggs depend entirely on the amount of the food-yolk thus enclosed with the germ; while the form and texture of the outer envelope are determined by the nature of the environment to which the egg is exposed. Where the food material is infinitesimal in quantity the egg is either not extruded—the embryo being nourished by the maternal tissues,—or it passes out of the parental body and gives rise at once to a free-living organism or "larva" (see Larval Forms), as in the case of many lowly freshwater and marine animals. In such cases no "egg" in the usual sense of the term is produced.

The number of eggs periodically produced by any given individual depends on the risks of destruction to which they, and the young to which they give rise, are exposed: not more than a single egg being annually laid by some species, while with others the number may amount to millions.

Birds' Eggs.—The egg of the bird affords, for general purposes, the readiest example of the modifications imposed on eggs by the external environment. Since it must be incubated by the warmth of the parent's body, the outer envelope has taken the form of a hard shell for the protection of the growing chick from pressure, while the dyes which commonly colour the surface of this shell serve as a screen to hide it from egg-eating animals.

Carbonate of lime forms the principal constituent of this shell; but in addition phosphate of lime and magnesia are also present. In section, this shell will be found to be made up of three more or less distinct crystalline layers, traversed by vertical canals, whereby the shell is made porous so as to admit air to the developing chick.

The outermost, or third, layer of this shell often takes the form of a glaze, as of porcelain, as for example in the burnished egg of the ostrich: or it may assume the character of a thick, chalky layer as in some cuckoos (*Guira*, *Crotophaga ani*), cormorants, grebes and flamingoes: while in some birds as in the auks, gulls and tinamous, this outer layer is wanting; yet the tinamous have the most highly glazed eggs of all birds, the second layer of the shell developing a surface even more perfectly burnished than that formed by the outermost, third layer in the ostrich.

While the eggs of some birds have the shell so thin as to be translucent, *e.g.* kingfisher, others display considerable thickness, the maximum being reached in the egg of the extinct *Aepyornis*.

Though in shape differing but little from that of the familiar hen's egg, certain well-marked modifications of form are yet to be met with. Thus the eggs of the plover are pear-shaped, of the sand-grouse more or less cylindrical, of the owls and titmice spherical and of the grebes biconical.

In the matter of coloration the eggs of birds present a remarkable range. The pigments to which this coloration is due have been shown, by means of their absorption spectra (Sorby, *Proc. Zool. Soc.*, 1875), to be seven in number. The first of these, oorhodeine, is brown-red in tone, and rarely absent: the second and third, oocyanin, and banded oocyanin, are of a beautiful blue, and though differing spectroscopically give rise to the same product when oxidized: the fourth and fifth are yellow, and rufous ooxanthine, the former combining with oocyanin gives rise to the wonderful malachite green of the emu's egg, while the latter occurs only in the eggs of tinamous: the sixth is lichenoxanthine, a pigment not yet thoroughly known but present in the shells of all eggs having a peculiar brick-red colour. Still less is known of the seventh pigment which is, as yet, nameless. It is a substance giving a banded absorption spectrum, and which, mixed with other pigments, imparts an abnormally browner tint. The origin of these pigments is yet uncertain, but it is probable that they are derived

from the haemoglobin or red colouring matter of the blood. This being so, then the pigments of the egg-shell differ entirely in their nature from those which colour the yolk or the feathers.

While many eggs are either colourless or of one uniform tint, the majority have the surface broken up by spots or lines, or a combination of both, of varying tints: the pigment being deposited as the egg passes down the lower portion of the oviduct. That the egg during this passage turns slowly on its long axis is shown by the fact that the spots and lines have commonly a spiral direction; though some of the markings are made during periods of rest, as is shown by their sharp outlines, movement giving a blurred effect. Where the egg is pyriform, the large end makes way for the smaller. Many eggs display, in addition to the strongly marked spots, more or fewer fainter spots embedded in a deeper layer of the shell, and hence such eggs are said to be "double-spotted," *e.g.* rails and plovers.

Among some species, as in birds of prey, the intensity of this coloration is said to increase with age up to a certain point, when it as gradually decreases. Frequently, especially where but two eggs are laid (Newton), all the dye will be deposited, sometimes on the first, sometimes on the last laid, leaving the other colourless. But although of a number of eggs in a "clutch"—as the full complement of eggs in a nest is called—no two are exactly alike, they commonly bear a very close resemblance. Among certain species, however, which lay several eggs, one of the number invariably differs markedly from the rest, as for example in the eggs of the house-sparrow or in those of the sparrow-hawk, where, of a clutch of six, two generally differ conspicuously from the rest. Differing though these eggs do from the rest of the clutch, all yet present the characters common to the species. But the eggs of some birds, such as the Australian swamp quail, *Synoecus australis*, present a remarkably wide range of variation in the matter of coloration, no two clutches being alike, the extremes ranging from pure white to eggs having a greenish ground colour and rufous spots or blotches. But a still more interesting illustration of variation equally marked is furnished by the chikor partridge (*Caccabis chukar*), since here the variation appears to be correlated with the geographical distribution of the species. Thus eggs taken in Greece are for the most part cream-coloured and unspotted; those from the Grecian Archipelago are generally spotted and blotched; while more to the eastward spots are invariably present, and the blotches attain their maximum development.

But in variability the eggs of the guillemot (*Lomvia troile*) exceed all others: both in the hue of the ground colour and in the form of the superimposed markings, these eggs exhibit a wonderful range for which no adequate explanation has yet been given.

Individual peculiarities of coloration are commonly reproduced, not only with this species but also in others, year after year.

The coloration of the egg bears no sort of relation to the coloration of the bird which lays it; but it bears on the other hand a more or less direct relation to the nature of the Significance of colour. environment during incubation.

White eggs may generally be regarded as representing the primitive type of egg, since they agree in this particular with the eggs of reptiles. And it will generally be found that eggs of this hue are deposited in holes or in domed nests. So long indeed as nesting-places of this kind are used will the eggs be white. And this because coloured eggs would be invisible in dimly lighted chambers of this description, and therefore constantly exposed to the risk of being broken by the sitting bird, or rolling out of reach where the chamber was large enough to admit of this, whereas white eggs are visible so long as they can be reached by the faintest rays of light. Pigeons invariably lay white eggs; and while some deposit them in holes others build an open nest, a mere platform of sticks. These exceptions to the rule show that the depredations of egg-eating animals are sufficiently guarded against by the overhanging foliage, as well as by the great distance from the ground at which the nest is built. Birds which have reverted to the more ancient custom of nesting in holes after having developed pigmented eggs, have adopted the device of covering the shell with a layer of chalky matter (*e.g.* puffins), or, to put the case more correctly, they have been enabled to maintain survival after their return to the more ancient mode of nidification, because this reversion was accompanied by the tendency to cover the pigmented surface of the shell with this light-reflecting chalky incrustation.

Eggs which are deposited on the bare ground, or in other exposed situations, are usually protectively coloured: that is to say, the hue of the shell more or less completely harmonizes with the ground on which the egg is placed. The eggs of the plover tribe afford the most striking examples of this fact.

But the majority of birds deposit their eggs in a more or less elaborately constructed nest, and in such cases the egg, so far from being protectively coloured, often displays tints that would appear calculated rather to attract the attention of egg-stealing animals; bright blue or blue spotted with black being commonly met with. It may be, however, that coloration of this kind is less conspicuous than is generally supposed, but in any case the safety of the egg depends not so much on its coloration as on the character of the nest, which, where protective devices are necessary, must harmonize sufficiently with its surroundings to escape observation from prowling egg-stealers of all kinds.

The size of the egg depends partly on the number produced and partly on the conditions determining the state of the young bird at hatching: hence there is a great disparity in the relative sizes of the eggs of different birds. Thus it will be found that young birds which emerge in the world blind, naked and helpless are the product of relatively small eggs,

while on the contrary young hatched from relatively large eggs are down-clad and active from birth.

The fact that the eggs must be brooded by the parent is also a controlling factor in so far as number is concerned, for no more can be hatched than can be covered by the sitting bird. Other factors, however, less understood, also exercise a controlling influence in this matter. Thus the ostrich lays from 12 to 16, the teal 15, the partridge 12-20, while among many other species the number is strictly limited, as in the case of the hornbills and guillemots, which lay but a single egg; the apteryx, divers, petrels and pigeons never lay more than 2, while the gulls and plovers never exceed 4. Tropical species are said to lay fewer eggs than their representatives in temperate regions, and further immature birds lay more and smaller eggs than when fully adult.

Partly owing to the uniformity of shape, size and texture of the shell, the eggs of birds are by no means easy to distinguish, except in so far as their family resemblances are concerned: that is to say, except in particular cases, they cannot be specifically distinguished, and hence they are of but little or no value for the purposes of classification.

Save only among the megapodes, all birds brood their eggs, the period of incubation varying from 13 days, as in small passerine birds, to 8 weeks, as in the cassowary, though eggs of the rhea and of *Struthio* hatch in from 5 to 6 weeks. But the megapodes deposit their eggs in mounds of decaying vegetable matter or in sand in the neighbourhood of hot springs, and there without further apparent care leave them. Where the nestling is active from the moment of hatching the eggs have a relatively longer incubation period than in cases where the nestlings are for a long while helpless.

Eggs of Mammals.—Only in the spiny ant-eater, or *Echidna*, and the duck-billed platypus, or *Ornithorhynchus*, among the Mammalia, are the eggs provided with a large store of yolk, enclosed within a shell, and extruded to undergo development apart from the maternal tissues. In the case of the echidna the eggs, two in number, are about as large as those of a sparrow, similar in shape, and have a white, parchment-like shell. After expulsion they are transferred by the beak of the mother to a pouch resembling that of the marsupial kangaroos, and there they undergo development. The *Ornithorhynchus*, on the other hand, lays from two to four eggs, which in size and general appearance resemble those of the echidna. They are, however, deposited in a loosely constructed nest at the end of a long burrow and there brooded. In Marsupials, the eggs are smaller than those of *Echidna* and *Ornithorhynchus*, and they contain a larger proportion of yolk than occurs in higher mammals.

Eggs of Reptiles.—The eggs of reptiles are invariably provided with a large amount of food yolk and enclosed with a firm test or shell, which though generally parchment-like in texture may be calcareous as in birds, as, for example, in many of the tortoises and turtles and in the crocodiles.

Among reptiles the egg is always white or yellowish, while the number laid often far exceeds that in the case of birds. The tuatara of New Zealand, however, lays but ten—white hard-shelled, long and oval—at intervals between November and January. The long intervals between the appearance of the successive eggs is a characteristic feature of the reptiles, but is met with among the birds only in the megapodes, which, like the reptiles, do not “brood” their eggs.

Among the Chelonia the number of eggs varies from two to four in some of the tortoises, to 200 in some of the turtles: while in the crocodiles between 20 and 30 are produced, hard-shelled and white.

The eggs of the lizards are always white or yellowish, and generally soft-shelled; but the geckos and the green lizard lay hard-shelled eggs. Many of the soft-shelled eggs are remarkable for the fact that they increase in size after extrusion, owing to the stretching of the membranous shell by the growing embryo. In the matter of number lizards are less prolific than many of the Chelonia, a dozen eggs being the general number, though as many as thirty may be produced at a time, as in the case of the common chameleon.

While as a general rule the eggs of lizards are laid in burrows or buried, some are retained within the body of the parent until the young are ready to emerge; or they may even hatch within the oviduct. This occurs with some chameleons and some lizards, *e.g.* the slow-worm. The common English lizard is also viviparous. Normally the young leaves the egg immediately after its extrusion, but if by any chance this extrusion is delayed they escape while yet in the oviduct.

The majority of the snakes lay eggs, but most of the vipers and the aquatic snakes are viviparous, as also are a few terrestrial species. The shell of the egg is always soft and parchment-like. As a rule the number of eggs produced among the snakes is not large, twenty or thirty being common, but some species of python lay as many as a hundred. Generally, among the oviparous snakes the eggs are buried, but some species of boas jealously guard them, enclosing them within the coils of the body.

Eggs of Amphibia.—Among the amphibia a greater variety obtains in the matter of the investment of the egg, as well as in the number, size and method of their disposal. The outer covering is formed by a toughening of the surface of a thick gelatinous coat which surrounds the essential parts of the egg. This coat in many species of salamander—using this name in the wide sense—is produced into threads which serve either to anchor the eggs singly or to bind them together in bunches.

Viviparity occurs both among the limbless and the tailed Amphibia, the eggs hatching before they leave the oviduct or immediately after extrusion. The number of young so produced is generally not large, but the common salamander (*Salamandra maculosa*) may produce as many as fifty at a birth, though fifteen is the more normal figure. When the higher number is reached the young are relatively small and weak.

As a rule among the Amphibia the young leave the egg in the form of larvae, generally known as "tadpoles"; but many species produce eggs containing a sufficient amount of food material to enable the whole of the larval phase to be completed before hatching.

Among the tailless Amphibia (frogs and toads) there are wide differences in the number of eggs produced, while the methods by which these eggs are disposed of present a marvellous variety.

As a rule vast quantities of eggs are shed by the female into the water in the form of "spawn." In the common toad as many as 7000 eggs may be extruded at a time. These leave the body in the form of two long strings—one from each oviduct—of translucent globules, gelatinous in texture, and enclosing a central sphere of yolk, the upper pole of which is black. The spawn of the common frog differs from that of the toad in that the eggs all adhere to form a huge jelly-like mass. But in many species the number of eggs produced are few; and these may be sufficiently stored with food-yolk to allow of the tadpole stage being passed before hatching, as in frogs of the genus *Hylodes*. In many cases the eggs are deposited out of the water and often in quite remarkable ways.

Eggs of Fishes.—The eggs of fishes present an extremely wide range of form, and a no less extensive range in the matter of number. Both among the cartilaginous and bony fishes viviparity occurs. Most of the sharks and rays are viviparous, but in the oviparous species the eggs present some interesting and peculiar forms. Large in size, the outer coat or "shell" is in all cases horn-like and flexible, but differs greatly in shape. Thus in the egg of the larger spotted dog-fish it is oblong in shape, flattened from side to side, and has the angles produced into long, slender tendrils. As the egg is laid the lower tendrils project from the vent, and the mother rubs herself against some fixed body. The tendrils soon catch fast in some slight projection, when the egg is dragged forth there to remain till hatching takes place. A couple of narrow slits at each corner of the upper end serve to admit fresh water to the imprisoned embryo during the later stages of development; when development is complete escape is made through the end of the shell. In the rays or "skates," long spines take the place of tendrils, the egg simply resting at the bottom of the sea. The empty egg-cases of the rays are often found on the seashore, and are known as "Mermaids' purses." The egg of the Port Jackson shark (*Cestracion*) is of enormous size, pear-shaped, and provided with a spiral flange extending along the whole length of the capsule. In the *Chimaera* the egg is long, more or less spindle-shaped, and produced on each side into a broad flange having a fringed edge, so that the whole bears a close resemblance to a long leaf, broad and notched at one end, pointed at the other. This likeness to the seaweed among which it rests is doubtless a protective device, akin to that of protectively coloured birds' eggs.

Among the bony fishes the eggs generally take the form of small spheres, enclosed within a tough membrane or capsule. But they present many important differences, being in some fishes heavy and remaining at the bottom of the water, in other light and floating on the surface. While in some species they are distributed separately, in others they adhere together in masses. The eggs of the salmon, for example, are heavy, hard and smooth, and deposited separately in a trough dug by the parent and afterwards covered to prevent them from being carried away by the stream. In the perch they are adhesive and form long band-like masses of spawn adhering to water-plants. In the gobies the egg is spindle-shaped, and attached by one end by means of a network of fibres, resembling rootlets; while in the smelt the egg is loosely suspended by a membrane formed by the peeling off of a part of the outer sheath of the capsule. The eggs of the garfish (*Belone vulgaris*) and of the flying-fish of the genus *Exocoetus*, attach themselves to foreign objects, or to one another, by means of threads or cords developed at opposite poles of the egg.

Among a number of fishes the eggs float at the surface of the sea, often in enormous masses, when they are carried about at the mercy of tides and currents. An idea of the size which such masses attain may be gathered from the fact that the spawn of the angler-fish, *Lophius piscatorius*, takes the form of a sheet from 2 to 3 ft. wide, and 30 ft. long. Another remarkable feature of these floating eggs is their transparency, inasmuch as they are extremely difficult to see, and hence they probably escape the rapacious maws of spawn-eating animals. The cod tribe and flat-fishes lay floating eggs of this description.

The maximum number of eggs laid by fishes varies greatly, some species laying relatively few, others an enormous number. But in all cases the number increases with the weight and age of the fish. Thus it has been calculated that the number laid by the salmon is roughly about 1000 to every pound weight of the fish, a 15 ▮ salmon laying 15,000 eggs. The sturgeon lays about 7,000,000; the herring 50,000; the turbot 14,311,000; the sole 134,000; the perch 280,000. Briefly, the number is greatest where the risks of destruction are greatest.

The eggs of the degenerate fishes known as the lampreys and hag-fishes are remarkable for the fact that in the latter they are large in size, cylindrical in shape, and provided at each end with hooklets whereby they adhere one to another;

while in the lampreys they are extremely small and embedded in a jelly.

Molluscs.—Among the Mollusca, Crustacea and Insecta yolk-stored eggs of very remarkable forms are commonly produced.

In variety, in this connexion, the Mollusca must perhaps be given the first place. This diversity, indeed, is strikingly illustrated by the eggs of the Cephalopoda. In the squids (*Loligo*), for example, the eggs are enclosed in long cylindrical cases, of which there are several hundreds, attached by one end to a common centre; the whole series looking strangely like a rough mop-head. Each case, in such a cluster, contains about 250 eggs, or about 40,000 in all. By way of contrast the eggs of the true cuttle-fish (*Sepia*) are deposited separately, each enclosed in a tough, black, pear-shaped capsule which is fastened by a stalk to fronds of seaweed or other object. They appear to be extruded at short intervals, till the full complement is laid, the whole forming a cluster looking like a bunch of grapes. The octopus differs yet again in this matter, its eggs being very small, berry-like, and attached to a stalk which runs through the centre of the mass.

The eggs of the univalve Mollusca are hardly less varied in the shapes they take. In the common British *Purpura lapillus* they resemble delicate pink grains of rice set on stalks; in *Busycon* they are disk-shaped, and attached to a band nearly 3 ft. long. The eggs of the shell-bearing slugs (*Testacella*) are large, and have the outer coat so elastic that if dropped on a stone floor they will rebound several inches; while some of the snails (*Bulimus*) lay eggs having a white calcareous and slightly iridescent shell, in size and shape closely resembling the egg of the pigeon. Some are even larger than the egg of the wood-pigeon. The beautiful violet-snail (*Ianthina*)—a marine species—carries its eggs on the under side of a gelatinous raft. No less remarkable are the eggs of the whelk; since, like those of the squids, they are not laid separately but enveloped in capsules, and these to the number of many hundreds form the large, ball-like masses so commonly met with on the seashore. When the eggs in these capsules hatch, the crowd of embryos proceed to establish an internecine warfare, devouring one another till only the strongest survives!

With the Mollusca, as with other groups of animals, where the eggs are exposed to great risks they are small, produced in great numbers, and give rise to larvae. This is well illustrated by the common oyster which annually disperses about 60,000,000 eggs. But where the risk of destruction is slight, the eggs are large and produce young differing from the parent only in size, as in the case of the pigeon-like eggs of *Bulimus*.

Crustaceans.—Among the higher Crustacea, as a rule, the eggs are carried by the female, attached to special appendages on the under side of the body. But in some—Squillas—they are deposited in burrows. Generally they are relatively small so that the young which emerge therefrom differ markedly in appearance from the parents, but in deep-sea and freshwater species the eggs are large, when the young, on emerging, differ but little from the adults in appearance.

Insects, &c.—The eggs of insects though minute, are also remarkable for the great variety of form which they present, while they are frequently objects of great beauty owing to the sculptured markings of the shell. They are generally laid in clusters, either on the ground, on the leaves of plants, or in the water. Some of the gnats (*Culex*) lay them on the water. Cylindrical in shape they are packed closely together, set on end, the whole mass forming a kind of floating raft. Frequently, as in the case of the stick and leaf insect, the eggs are enclosed in capsules of very elaborate shapes and highly ornamented.

As to the rest of the Invertebrata—above the Protozoa the eggs are laid in water, or in damp places. In the former case they are as a rule small, and give rise to larvae; while eggs hatched on land are sometimes enclosed in capsules, "cocoons," as in the case of the earthworm, where this capsule is filled with a milky white fluid, of a highly nutritious character, on which the embryos feed.

Among some invertebrates two different kinds of eggs are laid by the same individual. The water-flea, *Daphnia* (a crustacean), lays two kinds of eggs known as "summer" and "winter" eggs. The summer eggs are carried by the female in a "brood-pouch" on the back. The "winter" eggs, produced at the approach of winter, differ markedly in appearance from the summer eggs, being larger, darker in colour, thicker shelled, and enclosed in a capsule formed from the shell or carapace, of the parent's body. "Winter eggs," however, may be produced in the height of summer. While the "summer eggs" are unfertilized, the winter eggs are fertilized by the male, and possess the remarkable power of lying dormant for months or even years before they develop. The production of these two kinds of eggs is a device to overcome the cold of winter, or the drying up of the pools in which the species lives, during the heat of the summer. The power of resistance which such eggs possess may be seen in the fact that a sample of mud which had been kept dry for ten years still contained living eggs. In deep water where neither drought nor winter cold can seriously affect the *Daphnias*, they propagate all the year round by unfertilized "summer" eggs.

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(W. P. P.)

EGGENBERG, HANS ULRICH VON, Prince (1568-1634), Austrian statesman, was a son of Siegfried von Eggenberg (d. 1594), and began life as a soldier in the Spanish service, becoming about 1596 a trusted servant of the archduke of Styria, afterwards the emperor Ferdinand II. Having become a Roman Catholic, he was soon the chancellor and chief adviser of Ferdinand, whose election as emperor he helped to secure in 1619. He directed the imperial policy during the earlier part of the Thirty Years' War, and was in general a friend and supporter of Wallenstein, and an opponent of Maximilian I., duke of Bavaria, and of Spain. He was largely responsible for Wallenstein's return to the imperial service early in 1632, and retired from public life just after the general's murder in February 1634, dying at Laibach, on the 18th of October 1634. Eggenberg's influence with Ferdinand was so marked that it was commonly said that Austria rested upon three hills (*Berge*): Eggenberg, Questenberg and Werdenberg. He was richly rewarded for his services to the emperor. Having received many valuable estates in Bohemia and elsewhere, he was made a prince of the Empire in 1623, and duke of Krumau in 1625.

See H. von Zwiedineck-Südenhorst, *Hans Ulrich, Fürst von Eggenberg* (Vienna, 1880); and F. Mares, *Beiträge zur Geschichte der Beziehungen des Fürsten J. U. von Eggenberg zu Kaiser Ferdinand II und zu Waldstein* (Prague, 1893).

EGGER, ÉMILE (1813-1885), French scholar, was born in Paris on the 18th of July 1813. From 1840 till 1855 he was assistant professor, and from 1855 till his death professor of Greek literature in the Faculté; des Lettres at Paris University. In 1854 he was elected a member of the Académie des Inscriptions and in 1873 of the Conseil supérieur de l'instruction publique. He was a voluminous writer, a sound and discerning scholar, and his influence was largely responsible for the revival of the study of classical philology in France. His most important works were *Essai sur l'histoire de la critique chez les Grecs* (1849), *Notions élémentaires de grammaire comparée* (1852), *Apollonius Dyscole, essai sur l'histoire des théories grammalicales dans l'antiquité* (1854), *Mémoires de littérature ancienne* (1862), *Mémoires d'histoire ancienne et de philologie* (1863), *Les Papyrus grecs du Musée du Louvre et de la Biblioth&èque Impériale* (1865), *Études sur les traités publics chez les Grecs et les Romains* (1866), *L'Hellénisme en France* (1869), *La Littérature grecque* (1890). He was also the author of *Observations et réflexions sur le développement de l'intelligence et du langage chez les enfants* (1879). Egger died in Paris on the 1st of September 1885.

EGGLESTON, EDWARD (1837-1902), American novelist and historian, was born in Vevay, Indiana, on the 10th of December 1837, of Virginia stock. Delicate health, by which he was more or less handicapped throughout his life, prevented his going to college, but he was naturally a diligent student. He was a Methodist circuit rider and pastor in Indiana and Minnesota (1857-1866); associate editor (1866-1867) of *The Little Corporal*, Chicago; editor of *The National Sunday School Teacher*, Chicago (1867-1870); literary editor and later editor-in-chief of *The Independent*, New York (1870-1871); and editor of *Hearth and Home* in 1871-1872. He was pastor of the church of Christian Endeavour, Brooklyn, in 1874-1879. From 1880 until his death on the 2nd of September 1902, at his home on Lake George, New York, he devoted himself to literary work. His fiction includes *Mr Blake's Walking Stick* (1869), for children; *The Hoosier Schoolmaster* (1871); *The End of the World* (1872); *The Mystery of Metropolisville* (1873); *The Circuit Rider* (1874); *Roxy* (1878); The *Hoosier Schoolboy* (1883); *The Book of Queer Stories* (1884), for children; *The Graysons* (1888), an excellent novel; *The Faith Doctor* (1891); and *Duffels* (1893), short stories. Most of his stories portray the pioneer manners and dialect of the Central West, and the *Hoosier Schoolmaster* was one of the first examples of American local realistic fiction; it was very popular, and was translated into French, German and Danish. During the last third of his life Eggleston laboured on a *History of Life in the United States*, but he lived to finish only two volumes—*The Beginners of a Nation* (1896) and *The Transit of Civilization* (1900). In addition he wrote several popular compendiums of American history for schools and homes.

See G. C. Eggleston, *The First of the Hoosiers* (Philadelphia, 1903), and Meredith Nicholson, *The Hoosiers* (1900).

His brother George Cary Eggleston (1839-), American journalist and author, served in the Confederate army; was managing editor and later editor-in-chief of *Hearth and Home* (1871-1874); was literary editor of the *New York Evening Post* (1875-1881), literary editor and afterwards editor-in-chief of the New York *Commercial Advertiser* (1884-1889), and editorial writer for *The World* (New York) from 1889 to 1900. Most of his books are stories for boys; others, and his best, are romances dealing with life in the South especially in the Virginias and the Carolinas—before and during the Civil War. Among his publications may be mentioned: *A Rebel's Recollections* (1874); *The Last of the Flatboats* (1900); *Camp Venture* (1900); *A Carolina Cavalier* (1901); *Dorothy South* (1902); *The Master of Warlock* (1903); *Evelyn Byrd* (1904); *A Daughter of the South* (1905); *Blind Alleys* (1906); *Love is the Sum of it all* (1907); *History of the Confederate War* (1910); and *Recollections of a Varied Life* (1910).

EGHAM, a town in the Chertsey parliamentary division of Surrey, England, on the Thames, 21 m. W.S.W. of London by the London & South Western railway. Pop. (1901) 11,895. The church of St John the Baptist is a reconstruction of 1817; it contains monuments by John Flaxman. Above the right bank of the river a low elevation, Cooper's Hill, commands fine views over the valley, and over Windsor Great Park to the west. On the hill was the Royal Indian Civil Engineering College, commonly called Cooper's Hill College, of which Sir George Tomkyns Chesney was the originator and first president (1871). It educated men for the public works, accounts, railways and telegraph departments of India, and included a school of forestry; but it was decided, in the face of some opposition, to close it in 1906, on the theory that it was unnecessary for a college with such a specialized object to be maintained by the government, in view of the readiness with which servants for these departments could be recruited elsewhere. Part of the organization, including the school of forestry, was transferred to Oxford University. Cooper's Hill gives name to a famous poem of Sir John Denham (1642). A large and handsome building houses the Royal Holloway College for Women (1886), founded by Thomas Holloway; in the neighbourhood is the sanatorium of the same founder (1885) for the treatment of mental ailments, accommodating about 250 patients. The college for women, surrounded by extensive grounds, commands a wide view from the wooded slope on which it stands. The recreation hall, with its fine art collection, is the most notable room in this handsome building, which can receive 250 students. Within the parish, bordering the river, is the field of Runnymede, which, with Magna Charta Island lying off it, is famous in connexion with the signature of the charter by King John. Virginia Water, a large and picturesque artificial lake to the south of Windsor Great Park, is much frequented by visitors. It was formed under the direction of the duke of Cumberland, about 1750, and was the work of the brothers Thomas and Paul Sandby.

EGIN (Armenian *Agn*, "the spring"), an important town in the Mamuret el-Aziz vilayet of Asiatic Turkey (altitude 3300 ft.). Pop. about 20,000, fairly equally divided between Armenian Christians and Moslems. It is picturesquely situated in a theatre of lofty, abrupt rocks, on the right bank of the western Euphrates, which is crossed by a wooden bridge. The stone houses stand in terraced gardens and orchards, and the streets are mere rock ladders. Egin was settled by Armenians who emigrated from Van in the 11th century with Senekherim. On the 8th of November 1895 and in the summer of 1896 many Armenians were massacred here.

(D. G. H.)

EGLANTINE (E. Frisian, *egeltiere*; Fr. *aiglantier*), a plant-name of which Dr R. C. A. Prior (*Popular Names of British Plants*, p. 70) says that it "has been the subject of much discussion, both as to its exact meaning and as to the shrub to which it properly belongs." The eglantine of the herbalists was the sweet-brier, *Rosa rubiginosa*. The signification of the word seems to be thorn-tree or thorn-bush, the first two syllables probably representing the Anglo-Saxon *egla*, *egle*, a prick or thorn, while the termination is the Dutch *tere*, *taere*, a tree. Eglantine is frequently alluded to in the writings of English poets, from Chaucer downwards. Milton, in *L'Allegro*, is thought by the term "twisted eglantine" to denote the honeysuckle, *Lonicera Periclymenum*, which is still known as eglantine in north-east Yorkshire.

EGLINTON, EARLS OF. The title of earl of Eglinton has been held by the famous Scottish family of Montgomerie since 1508. The attempts made to trace the descent of this house to Roger of Montgomery, earl of Shrewsbury (d. 1094), one of William the Conqueror's followers, will not bear examination, and the sure pedigree of the family only begins with Sir John Montgomerie, lord of Eaglesham, who fought at the battle of Otterbourne in 1388 and died about 1398. His grandson, Sir Alexander Montgomerie (d. c. 1460), was made a lord of the Scottish parliament about 1445 as Lord Montgomerie, and Sir Alexander's great-grandson Hugh, the 3rd lord (c. 1460-1545), was created earl of Eglinton, or Eglintoun, in 1508. Hugh, who was a person of importance during the minority of James V., was succeeded by his grandson Hugh (d. 1546), and then by the latter's son Hugh (c. 1531-1585), who became 3rd earl of Eglinton. This nobleman was a firm supporter of Mary queen of Scots, for whom he fought at Langside, and of the Roman Catholic Church; his son and successor, Hugh, was murdered in April 1586 by the Cunninghams, a family with which his own had

an hereditary blood feud. In 1612, by the death of Hugh, the 5th earl, the male line of the Montgomeries became extinct.

Having no children Earl Hugh had settled his title and estates on his cousin, Sir Alexander Seton of Foulstruther (1588-1661), a younger son of Robert Seton, 1st earl of Wintoun (c. 1550-1603), and his wife Margaret, daughter of the 3rd earl of Eglinton. Alexander, who thus became the 6th earl of Eglinton and took the name of Montgomerie, was commonly called Greysteel; he was a prominent Covenanter and fought against Charles I. at Marston Moor. Later, however, he supported the cause of Charles II., and fell into the hands of Cromwell, who imprisoned him. His fifth son, Robert Montgomerie (d. 1684), a soldier of distinction, fought against Cromwell at Dunbar and at Worcester, afterwards escaping from the Tower of London and serving in Denmark. Robert's elder brother, Hugh, 7th earl of Eglinton (1613-1669), who also fought against Cromwell, was the grandfather of Alexander, the 9th earl (c. 1660-1729), who married, for his third wife, Susannah (1689-1780), daughter of Sir Archibald Kennedy, Bart., of Culzean, a lady celebrated for her wit and beauty. Alexander, the 10th earl (1723-1769), a son of the 9th earl, was one of the first of the Scottish landowners to carry out improvements on his estates. He was shot near Ardrossan by an excise officer named Mungo Campbell on the 24th of October 1769. His brother and successor, Archibald, the 11th earl (1726-1796), raised a regiment of Highlanders with which he served in America during the Seven Years' War. As he left no male issue he was succeeded in the earldom by his kinsman Hugh Montgomerie (1739-1819), a descendant of the 6th earl, who was created a peer of the United Kingdom as Baron Ardrossan in 1806. Before succeeding to the earldom Hugh had served in the American war and had been a member of parliament; after this event he began to rebuild Eglinton castle on a magnificent scale and to construct a harbour at Ardrossan.

This earl's successor was his grandson, Archibald William, the 13th earl (1812-1861), who was born at Palermo on the 29th of September 1812. His father was Archibald, Lord Montgomerie (1773-1814), the eldest son of the 12th earl, and his mother was Mary (d. 1848), a daughter of the 11th earl. Educated at Eton, the young earl's main object of interest for some years was the turf; he kept a large racing stud and won success and reputation in the sporting world. In 1839 his name became more widely known in connexion with the famous tournament which took place at Eglinton castle and is said to have cost him £30,000 or £40,000. This was made the subject of much ridicule and was partly spoiled by the unfavourable weather, the rain falling in torrents. Yet it was a real tournament and the "knights" broke their spears in the orthodox way. Prince Louis Napoleon (Napoleon III.) took part in it, and Lady Seymour, a daughter of Thomas Sheridan and the wife of Lord Seymour, afterwards 12th duke of Somerset, was the queen of beauty. A list of the challengers with an account of the jousts and the melée will be found in the volume on the tournament written by John Richardson, with drawings by J. H. Nixon. It is also described by Disraeli in *Endymion*. Eglinton was a staunch Tory, and in February 1852 he became lord-lieutenant of Ireland under the earl of Derby. He retired with the ministry in the following December, having by his princely hospitality made himself one of the most popular of Irish viceroys. When Derby returned to office in February 1858 he was again appointed lord-lieutenant, and he discharged the duties of this post until June 1859. In this year he was created earl of Winton, an earldom which had been held by his kinsfolk, the Setons, from 1600 until 1716, when George Seton, the 5th earl (c. 1678-1749), was deprived of his honours for high treason. The earl died on the 4th of October 1861, and was succeeded by his eldest son Archibald William (1841-1892). When this earl died in 1892 his younger brother George Arnulph (b. 1848) became 15th earl of Eglinton and 3rd earl of Winton.

See Sir W. Fraser, *Memorials of the Montgomeries, earls of Eglinton* (1859).

EGMONT, EARLS OF. John Perceval, 1st earl of Egmont (1683-1748), Irish politician, and partner with J. E. Oglethorpe in founding the American colony of Georgia, was created earl in 1733. He claimed descent from the Egmonts of Flanders, but his title was taken from the place in County Cork where the family residence stood. Its name of Burton House, and that of Burton manor which formed part of the family estates, were a reminiscence of Burton in Somerset, where was the earlier English family property of his great-great-grandfather Richard Perceval (1550-1620), Burghley's secret agent, and author of a Spanish dictionary published in 1591, whose son Sir Philip Perceval (1605-1647) acquired the Irish estates by judicious use of his opportunities as commissioner for land titles and of his interest at court. Sir Philip's son John, grandfather of the 1st earl, was made a baronet in 1661. The first earl of Egmont (who had been made Baron Perceval in 1715, and Viscount Perceval in 1723) is chiefly important for his connexion with the colonization of Georgia, and for his voluminous letters and writings on biography and genealogy.

John Perceval, 2nd earl of Egmont (1711-1770), his eldest son, was an active politician, first lord of the admiralty (1763-1766), and political pamphleteer, and like his father an ardent genealogist. He was twice married, and had eight sons and eight daughters. One of his younger sons was Spencer Perceval, prime minister of England. His eldest son succeeded as 3rd earl, and the eldest by his second marriage (with Catherine Compton, baroness of Arden in Ireland) was in 1802 created Baron Arden of the United Kingdom, a title which subsequently became merged in the Egmont earldom.

EGMONT (Egmond), **LAMORAL,** Count of, prince of Gavre (1522-1568), was born in Hainaut in 1522. He was the younger of the two sons of John IV., count of Egmont, by his wife Françoise of Luxemburg, princess of Gavre. On the

death of his elder brother Charles, about 1541, he succeeded to his titles and estates. In this year he served his apprenticeship as a soldier in the expedition of the emperor Charles V. to Algiers, distinguishing himself in the command of a body of cavalry. In 1544 he married Sabina, sister of the elector palatine Frederick III., and the wedding was celebrated at Spires with great pomp in the presence of the emperor and his brother Ferdinand, afterwards emperor. Created knight of the Golden Fleece in 1546, he accompanied Philip of Spain in his tour through the Netherland towns, and in 1554 he went to England at the head of a special embassy to ask the hand of Mary of England for Philip, and was afterwards present at the wedding ceremony at Winchester. In the summer of 1557 Egmont was appointed commander of the Flemish cavalry in the war between Spain and France; and it was by his vehement persuasion that the battle of St Quentin was fought. The victory was determined by the brilliant charge that he led against the French. The reputation which he won at St Quentin was raised still higher in 1558, when he encountered the French army under de Thermes at Gravelines, on its march homewards after the invasion of Flanders, totally defeated it, and took Marshal de Thermes prisoner. The battle was fought against the advice of the duke of Alva, and the victory made Alva Egmont's enemy. But the count now became the idol of his countrymen, who looked upon him as the saviour of Flanders from the devastations of the French. He was nominated by Philip stadtholder of Flanders and Artois. At the conclusion of the war by the treaty of Cateau Cambrésis, Egmont was one of the four hostages selected by the king of France as pledges for its execution.

The attempt made by King Philip to convert the Netherlands into a Spanish dependency and to govern it by Spanish ministers excited the resentment of Egmont and other leading members of the Netherlands aristocracy. Between him and Cardinal Granvella, the all-powerful minister of the regent Margaret of Parma, there was no love lost. As a member of the council of state Egmont joined the prince of Orange in a vigorous protest addressed to Philip (1561) against the autocratic proceedings of the minister; and two years later he again protested in conjunction with the prince of Orange and Count Horn. In the spring of 1564 Granvella left the Netherlands, and the malcontent nobles once more took their places in the council of state. The resolve, however, of Philip to enforce the decrees of the council of Trent throughout the Netherlands once more aroused their resentment. Although himself a good Catholic, Egmont had no wish to see the Spanish Inquisition established in his native country. Orange, Egmont and others were convinced that the enforcement of the decrees in the Netherlands was impossible, and, in January 1665, Egmont accepted a special mission to Spain to make known to Philip the state of affairs and the disposition of the people. At Madrid the king gave him an ostentatiously cordial reception, and all the courtiers vied with one another in lavishing professions of respect upon him. They knew his vain and somewhat unstable character, and hoped to win him over without conceding anything to the wishes of the Netherlanders. The king gave him plenty of flatteries and promises, but steadily evaded any serious discussion of the object of his mission, and Egmont finally returned home without having accomplished anything. At the same time Philip sent further instructions to the regent to abate nothing of the severity of the persecution.

Egmont was naturally indignant at the treatment he had received, while the terrors of the Inquisition were steadily rousing the people to a state of frenzied excitement. In 1566 a confederacy of the lesser nobility was formed (*Les Gueux*) whose principles were set out in a document known as the Compromise. From this league Egmont held aloof; he declined to take any step savouring of actual disloyalty to his sovereign. He withdrew to his government of Flanders, and as stadtholder took active measures for the persecution of heretics. But in the eyes of Philip he had long been a marked man. The Spanish king had temporized only until the moment arrived when he could crush opposition by force. In the summer of 1567 the duke of Alva was despatched to the Netherlands at the head of an army of veterans to supersede the regent Margaret and restore order in the discontented provinces. Orange fled to Germany after having vainly warned Egmont and Horn of the dangers that threatened them. Alva was at pains to lull their suspicions, and then suddenly seized them both and threw them in the castle of Ghent. Their trial was a farce, for their fate had already been determined before Alva left Spain. After some months of imprisonment they were removed to Brussels, where sentence was pronounced upon them (June 4) by the infamous Council of Blood erected by Alva. They were condemned to death for high treason. It was in vain that the most earnest intercessions were made in behalf of Egmont by the emperor Maximilian, by the knights of the order of the Golden Fleece, by the states of Brabant, and by several of the German princes. Vain, too, was the pathetic pleading of his wife, who with her eleven children was reduced to want, and had taken refuge in a convent. Egmont was beheaded at Brussels in the square before the town hall on the day after his sentence had been publicly pronounced (June 5, 1568). He met his fate with calm resignation; and in the storm of terror and exasperation to which this tragedy gave rise Egmont's failings were forgotten, and he and his fellow-victim to Spanish tyranny were glorified in the popular imagination as martyrs of Flemish freedom. From this memorable event, which Goethe made the theme of his play *Egmont* (1788), is usually dated the beginning of the famous revolt of the Netherlands. In 1865 a monument to Counts Egmont and Horn, by Fraiken, was erected on the spot where they were beheaded.

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(G. E.)

EGOISM (from Gr. and Lat. *ego*, I, the 1st personal pronoun), a modern philosophical term used generally, in opposition to "Altruism," for any ethical system in which the happiness or the good of the individual is the main criterion of moral action. Another form of the word, "Egotism," is really interchangeable, though in ordinary language it is often used specially (and similarly "egoism," as in George Meredith's *Egoist*) to describe the habit of magnifying one's self and one's achievements, or regarding all things from a selfish point of view. Both these ideas derive from the original meaning of *ego*, myself, as opposed to everything which is outside myself. This antithesis of ego and non-ego, self and not-self, may be understood in several senses according to the connexion in which it is used. Thus the self may be held to include one's family, property, business, and an indefinitely wider range of persons or objects in which the individual's interest is for the moment centred, *i.e.* everything which I can call "mine." In this, its widest, sense "a man's Self is the sum total of all that he *can* call his" (Wm. James, *Principles of Psychology*, chap x.). This self may be divided up in many ways according to the various forms in which it may be expressed. Thus James (ibid.) classifies the various "selves" as the material, the spiritual, the social and the "pure." Or again the self may be narrowed down to a man's own person, consisting of an individual mind and body. In the true philosophical sense, however, the conception of the ego is still further narrowed down to the individual consciousness as opposed to all that is outside it, *i.e.* can be its object. This conception of the self belongs mainly to metaphysics and involves the whole problem of the relation between subject and object, the nature of reality, and the possibility of knowledge of self and of object. The ordinary idea of the self as a physical entity, obviously separate from others, takes no account of the problem as to how and in what sense the individual is conscious of himself; what is the relation between subject and object in the phenomenon of self-consciousness, in which the mind reflects upon itself both past and present? The mind is in this case both subject and object, or, as William James puts it, both "I" and "me." The phenomenon has been described in various ways by different thinkers. Thus Kant distinguished the two selves as rational and empirical, just as he distinguished the two egos as the noumenal or real and the phenomenal from the metaphysical standpoint. A similar distinction is made by Herbart. Others have held that the self has a complex content, the subject self being, as it were, a fuller expression of the object-self (so Bradley); or again the subject self is the active content of the mind, and the object self the passive content which for the moment is exciting the attention. The most satisfactory and also the most general view is that consciousness is complex and unanalysable.

The relation of the self to the not-self need not to be treated here (see Metaphysics). It may, however, be pointed out that in so far as an object is cognized by the mind, it becomes in a sense part of the complex self-content. In this sense the individual is in himself his own universe, his whole existence being, in other words, the sum total of his psychic relations, and nothing else being *for him* in existence at all. A similar idea is prominent in many philosophico-religious systems wherein the idea of God or the Infinite is, as it were, the union of the ego and the non-ego, of subject and object. The self of man is regarded as having limitations, whereas the Godhead is infinite and all-inclusive. In many mystical Oriental religions the perfection of the human self is absorption in the infinite, as a ripple dies away on the surface of water. The problems of the self may be summed up as follows. The psychologist investigates the ideal construction of the self, *i.e.* the way in which the conception of the self arises, the different aspects or contents of the self and the relation of the subject to the object self. At this point the epistemologist takes up the question of empirical knowledge and considers the kind of validity, if any, which it can possess. What existence has the known object for the knowing subject? The result of this inquiry is generally intellectual scepticism in a greater or less degree, namely, that the object has no existence for the knower except a relative one, *i.e.* in so far as it is "known" (see Relativity of Knowledge). Finally the metaphysician, and in another sphere the theologian, consider the nature of the pure or transcendental self apart from its relations, *i.e.* the absolute self.

In ethics, egoistic doctrines disregard the ultimate problems of selfhood, and assume the self to consist of a man's person and those things in which he is or ought to be directly interested. The general statement that such doctrines refer all moral action to criteria of the individual's happiness, preservation, moral perfection, raises an obvious difficulty. Egoism merely asserts that the self is all-important in the application of moral principles, and does not in any way supply the material of these principles. It is a purely formal direction, and as such merely an adjunct to a substantive ethical criterion. A practical theory of ethics seeks to establish a particular moral ideal; if it is an absolute criterion, then the altruist would place first the attainment of that ideal by others, while the egoist would seek it for himself. The same is true of ethical theories which may be described as material. Of the second type are those, *e.g.* of Hobbes and Spinoza, which advocate self-preservation as the ideal, as contrasted with modern evolutionist moralists who advocate race-preservation. Again, we may contrast the early Greek hedonists, who bade each man seek the greatest happiness (of whatever kind), with modern utilitarian and social hedonists, who prefer the greatest good or the greatest happiness of the greatest number. It is with hedonistic and other empirical theories that egoism is generally associated. As a matter of fact, however, egoism has been no less prominent in intuitional ethics. Thus the man who seeks only or primarily his own moral perfection is an egoist par excellence. Such are ascetics, hermits and the like, whose whole object is the realization of their highest selves.

The distinction of egoistical and altruistic action is further complicated by two facts. In the first place, many systems combine the two. Thus Christian ethics may be said to insist equally on duty to self and duty to others, while crudely egoistic systems become unworkable if a man renders himself obnoxious to his fellows. On the other hand, every

deliberate action based on an avowedly altruistic principle necessarily has a reference to the agent; if it is right that A should do a certain action for the benefit of B, then it tends to the moral self-realization of A that he should do it. Upon whatsoever principle the rightness of an action depends, its performance is right *for the agent*. The self-reference is inevitable in every action in so far as it is regarded as voluntary and chosen as being of a particular moral quality.

It is this latter fact which has led many students of human character to state that men do in fact aim at the gratification of their personal desires and impulses. The laws of the state and the various rules of conduct laid down by religion or morality are merely devices adopted for general convenience. The most remarkable statement of this point of view is that of Friedrich Nietzsche, who went so far as to denounce all forms of self-denial as cowardice:—let every one who is strong seek to make himself dominant at the expense of the weak.

EGORIEVSK, a town of Russia, in the government of Ryazañ, 70 m. by rail E.S.E. of Moscow, by a branch line (15 m.) connecting with the Moscow to Ryazañ main line. The cotton mills and other factories give occupation to 6000 persons. Egorievsk has important fairs for grain, hides, &c., which are exported. Pop. (1897) 23,932.

EGREMONT, EARLS OF. In 1749 Algernon Seymour, 7th duke of Somerset, was created earl of Egremont, and on his childless death in February 1750 this title passed by special remainder to his nephew, Sir Charles Wyndham or Windham, Bart. (1710-1763), a son of Sir William Wyndham of Orchard Wyndham, Somerset. Charles, who had succeeded to his father's baronetcy in 1740, inherited Somerset's estates in Cumberland and Sussex. He was a member of parliament from 1734 to 1750, and in October 1761 he was appointed secretary of state for the southern department in succession to William Pitt. His term of office, during which he acted in concert with his brother-in-law, George Grenville, was mainly occupied with the declaration of war on Spain and with the negotiations for peace with France and Spain, a peace the terms of which the earl seems to have disliked. He was also to the fore during the proceedings against Wilkes, and he died on the 21st of August 1763. Horace Walpole perhaps rates Egremont's talents too low when he says he "had neither knowledge of business, nor the smallest share of parliamentary abilities."

The 2nd earl's son and successor, George O'Brien Wyndham (1751-1837), was more famous as a patron of art and an agriculturist than as a politician, although he was not entirely indifferent to politics. For some time the painter Turner lived at his Sussex residence, Petworth House, and in addition to Turner, the painter Leslie, the sculptor Flaxman and other talented artists received commissions from Egremont, who filled his house with valuable works of art. Generous and hospitable, blunt and eccentric, the earl was in his day a very prominent figure in English society. Charles Greville says, "he was immensely rich and his munificence was equal to his wealth"; and again that in his time Petworth was "like a great inn." The earl died unmarried on the 11th of November 1837, and on the death of his nephew and successor, George Francis Wyndham, the 4th earl (1785-1845), the earldom of Egremont became extinct. Petworth, however, and the large estates had already passed to George Wyndham (1787-1869), a natural son of the 3rd earl, who was created Baron Leconfield in 1859.

EGREMONT, a market town in the Egremont parliamentary division of Cumberland, England, 5 m. S.S.E. of Whitehaven, on a joint line of the London & North Western and Furness railways. Pop. of urban district (1901) 5761. It is pleasantly situated in the valley of the Ehen. Ruins of a castle command the town from an eminence. It was founded c. 1120 by William de Meschines; it is moated, and retains a Norman doorway and some of the original masonry, as well as fragments of later date. The church of St Mary is a modern reconstruction embodying some of the Norman features of the old church. Iron ore and limestone are raised in the neighbourhood.

It seems impossible to find any history for Egremont until after the Norman Conquest, when Henry I. gave the barony of Coupland to William de Meschines, who erected a castle at Egremont around which the town grew into importance. The barony afterwards passed by marriage to the families of Lucy and Multon, and finally came to the Percys, earls of Northumberland, from whom are descended the present lords of the manor of Egremont. The earliest evidence that Egremont was a borough occurs in a charter, granted by Richard de Lucy in the reign of King John, which gave the burgesses right to choose their reeve, and set out the customs owing to the lord of the manor, among which was that of providing twelve armed men at his castle in the time of war. The borough was represented by two members in the parliament of 1295, but in the following year was disfranchised, on the petition of the burgesses, on account of the expense of sending members. In 1267 Henry III. granted Thomas de Multon a market every Wednesday at Egremont, and a fair every year on the eve, day and morrow of the Nativity of the Virgin Mary. In the *Quo Warranto* rolls he is found to have claimed by prescription another weekly market on Saturday. The market rights were purchased from Lord Leconfield in 1885, and the market on Saturday is still held. Richard de Lucy's charter shows that dyeing, weaving and fulling were carried on in the town in his time.

EGRESS (Lat. *egressus*, going out), in astronomy, the end of the apparent transit of a small body over the disk of a

larger one; especially of a transit of a satellite of Jupiter over the disk of that planet. It designates the moment at which the smaller body is seen to leave the limb of the other.

EGYPT, a country forming the N.E. extremity of Africa.1 In the following account a division is made into (I.) *Modern Egypt*, and (II.) *Ancient Egypt*; but the history from the earliest times is given as a separate section (III.).

Section I. includes Geography, Economics, Government, Inhabitants, Finance and Army. Section II. is subdivided into:—(A) Exploration and Research; (B) The Country in Ancient Times; (C) Religion; (D) Language and Writing; (E) Art and Archaeology; (F) Chronology. Section III. is divided into three main periods:—(1) Ancient History; (2) the Mahommedan Period; (3) Modern History (from Mehemet Ali).

I. Modern Egypt

Boundaries and Areas.—Egypt is bounded N. by the Mediterranean, S. by the Anglo-Egyptian Sudan, N.E. by Palestine, E. by the Red Sea, W. by Tripoli and the Sahara. The western frontier is ill-defined. The boundary line between Tripoli and Egypt is usually taken to start from a point in the Gulf of Sollum and to run S. by E. so as to leave the oasis of Siwa to Egypt. South of Siwa the frontier, according to the Turkish firman of 1841, bends eastward, approaching the cultivated Nile-land near Wadi Halfa, *i.e.* the southern frontier. This southern frontier is fixed by agreement between Great Britain and Egypt at the 22° N. The N.E. frontier is an almost direct line drawn from Taba, near the head of the Gulf of Akaba, the eastern of the two gulfs into which the Red Sea divides, to the Mediterranean at Rafa in 34° 15′ E. The peninsula of Sinai, geographically part of Asia, is thus included in the Egyptian dominions. The total area of the country is about 400,000 sq. m., or more than three times the size of the British Isles. Of this area 14⁄15ths is desert. Canals, roads, date plantations, &c., cover 1900 sq. m.; 2850 sq. m. are comprised in the surface of the Nile, marshes, lakes, &c. A line corresponding with the 30° N., drawn just S. of Cairo, divides the country into Lower and Upper Egypt, natural designations in common use, Lower Egypt being the Delta and Upper Egypt the Nile valley. By the Arabs Lower Egypt is called Er-Rif, the cultivated or fertile; Upper Egypt Es Sa'id, the happy or fortunate. Another division of the country is into Lower, Middle and Upper Egypt, Middle Egypt in this classification being the district between Cairo and Assiut.

General Character.—The distinguishing features of Egypt are the Nile and the desert. But for the river there would be nothing to differentiate the country from other parts of the Sahara. The Nile, however, has transformed the land through which it passes. Piercing the desert, and at its annual overflow depositing rich sediment brought from the Abyssinian highlands, the river has created the Delta and the fertile strip in Upper Egypt. This cultivable land is Egypt proper; to it alone is applicable the ancient name—"the black land." The *Misr* of the Arabs is restricted to the same territory. Beyond the Nile valley east and west stretch great deserts, containing here and there fertile oases. The general appearance of the country is remarkably uniform. The Delta is a level plain, richly cultivated, and varied alone by the lofty dark-brown mounds of ancient cities, and the villages set in groves of palm-trees, standing on mounds often, if not always, ancient. Groves of palm-trees are occasionally seen besides those around the villages, but other trees are rare. In Upper Egypt the Nile valley is very narrow and is bounded by mountains of no great height. They form the edge of the desert on either side of the valley, of which the bottom is level rock. The mountains rarely take the form of peaks. Sometimes they approach the river in bold promontories, and at others are divided by the dry beds of ancient watercourses. The bright green of the fields, the reddish-brown or dull green of the great river, contrasting with the bare yellow rocks, seen beneath a brilliant sun and a deep-blue sky, present views of great beauty. In form the landscape varies little and is not remarkable; in colour its qualities are always splendid, and under a general uniformity show a continual variety.

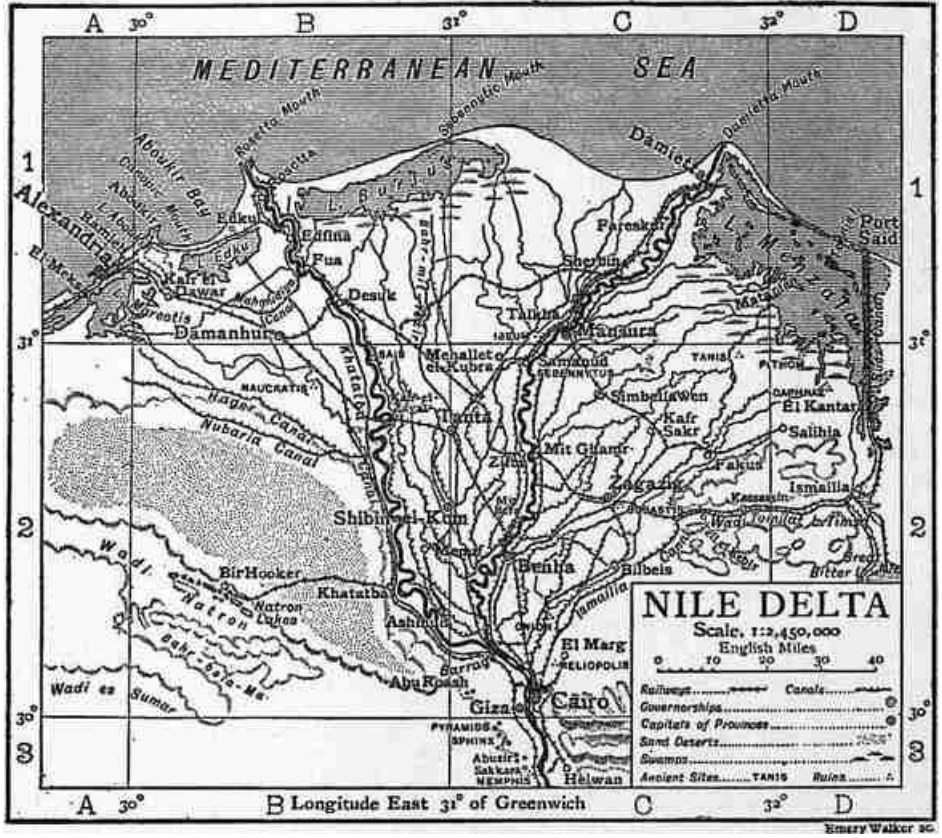
The Coast Region.—Egypt has a coast-line of over 600 m. on the Mediterranean and about 1200 m. on the Red Sea. The Mediterranean coast extends from the Gulf of Sollum on the west to Rafa on the east. From the gulf to the beginning of the Delta the coast is rock-bound, but slightly indented, and possesses no good harbourage. The cliffs attain in places a height of 1000 ft. They are the termination of a stony plateau, containing several small oases, which southward joins the more arid and uninhabitable wastes of the Libyan Desert. The Delta coast-line, composed of sandhills and, occasionally, limestone rocks, is low, with cape-like projections at the Nile mouths formed by the river silt. Two bays are thus formed, the western being the famous Bay of Aboukir. It is bounded W. by a point near the ancient Canopic mouth, eastward by the Rosetta mouth. Beyond the Delta eastward the coast is again barren and without harbours. It rises gradually southward, merging into the plateau of the Sinai peninsula. The Red Sea coast is everywhere mountainous. The mountains are the northern continuation of the Abyssinian table-land, and some of the peaks are over 6000 ft. above the sea. The highest peaks, going from north to south, are Jebels Gharib, Dukhan, Es Shayib, Fatira, Abu Tiur, Zubara and Hammada (Hamata). The coast has a general N.N.W. and S.S.E. trend, and, save for the two gulfs into which it is divided by the massif of Sinai, is not deeply indented. Where the frontier between Egypt and the Sudan reaches the sea is Ras Elba (see further Red Sea).

The Nile Valley (see also Nile).—Entering Egypt proper, a little north of the Second Cataract, the Nile flows through a valley in sandstone beds of Cretaceous age as far as 25° N., and throughout this part of its course the valley is extremely narrow, rarely exceeding 2 m. in width. At two points, namely, Kalabsha—the valley here being only 170 yds. wide and

the river over 100 ft. deep—and Assuan (First Cataract), the course of the river is interrupted by outcrops of granites and other crystalline rocks, which have been uncovered by the erosion of the overlying sandstone, and to-day form the mass of islands, with numerous small rapids, which are described not very accurately as cataracts; no good evidence exists in support of the view that they are the remains of a massive barrier, broken down and carried away by some sudden convulsion. From 25° N. northwards for 518 m. the valley is of the "rift-valley" type, a level depression in a limestone plateau, enclosed usually by steep cliffs, except where the tributary valleys drained into the main valley in early times, when there was a larger rainfall, and now carry off the occasional rainstorms that burst on the desert. The cliffs are highest between Esna and Kena, where they reach 1800 ft. above sea-level. The average width of the cultivated land is about 10 m., of which the greater part lies on the left (western) bank of the river; and outside this is a belt, varying from a few hundred yards to 3 or 4 m., of stony and sandy ground, reaching up to the foot of the limestone cliffs, which rise in places to as much as 1000 ft. above the valley. This continues as far as 29° N., after which the hills that close in the valley become lower, and the higher plateaus lie at a distance of 10 or 15 m. back in the desert.

The Fayum.—The fertile province of the Fayum, west of the Nile and separated from it by some 6 m. of desert, seems to owe its existence to movements similar to those which determined the valley itself. Lying in a basin sloping in a series of terraces from an altitude of 65 ft. above sea-level in the east to about 140 ft. *below* sea-level on the north-west, at the margin of the Birket-el-Kerun, this province is wholly irrigated by a canalized channel, the Bahr Yusuf, which, leaving the Nile at Derut esh Sherif in Upper Egypt, follows the western margin of the cultivation in the Nile valley, and at length enters the Fayum through a gap in the desert hills by the XIIth Dynasty pyramids of Lahun and Hawara (see Fayum).

The Delta.—About 30° N., where the city of Cairo stands, the hills which have hitherto run parallel with the Nile turn W.N.W. and E.N.E., and the triangular area between them is wholly deltaic. The Delta measures 100 m. from S. to N., having a width of 155 m. on the shore of the Mediterranean between Alexandria on the west and Port Said on the east. The low sandy shore of the Delta, slowly increasing by the annual deposit of silt by the river, is mostly a barren area of sandhills and salty waste land. This is the region of the lagoons and marshes immediately behind the coast-line. Southwards the quality of the soil rapidly improves, and becomes the most fertile part of Egypt. This area is watered by the Damietta and the Rosetta branches of the Nile, and by a network of canals. The soil of the Delta is a dark grey fine sandy soil, becoming at times almost a stiff clay by reason of the fineness of its particles, which consist almost wholly of extremely small grains of quartz with a few other minerals, and often numerous flakes of mica. This deposit varies in thickness, as a rule, from 55 to 70 ft., at which depth it is underlain by a series of coarse and fine yellow quartz sands, with occasional pebbles, or even banks of gravel, while here and there thin beds of clay occur. These sand-beds are sharply distinguished by their colour from the overlying Nile deposit, and are of considerable thickness. A boring made in 1886 for the Royal Society at Zagazig attained a depth of 375 ft. without reaching rock, and another, subsequently sunk near Lake Aboukir (close to Alexandria), reached a depth of 405 ft. with the same result. Numerous other borings to depths of 100 to 200 ft. have given similar results, showing the Nile deposit to rest generally on these yellow sands, which provide a constant though not a very large supply of good water; near the northern limits of the Delta this cannot, however, be depended on, since the well water at these depths has proved on several occasions to be salt. The surface of the Delta is a wide alluvial plain sloping gently towards the sea, and having an altitude of 29 ft. above it at its southern extremity. Its limits east and west are determined by the higher ground of the deserts, to which the silt-laden waters of the Nile in flood time cannot reach. This silt consists largely of alumina (about 48%) and calcium carbonate (18%) with smaller quantities of silica, oxide of iron and carbon. Although the Nile water is abundantly charged with alluvium, the annual deposit by the river, except under extraordinary circumstances, is smaller than might be supposed. The mean ordinary rate of the increase of the soil of Egypt is calculated as about 4½ in. in a century.



The Lakes.—The lagoons or lakes of the Delta, going from west to east, are Mareotis (Mariut), Edku, Burlus and Menzala. The land separating them from the Mediterranean is nowhere more than 10 m. wide. East of the Damietta mouth of the Nile this strip is in places not more than 200 yds. broad. All the lakes are shallow and the water in them salt or brackish. Mareotis, which bounds Alexandria on the south side, varies considerably in area according to the rise or fall of the Nile; when the Nile is low there is a wide expanse of marsh, when at its highest the lake covers about 100 sq. m. In ancient times Mareotis was navigable and was joined by various canals to the Nile. The country around was cultivated and produced the famous Mareotic wine. The canals being neglected, the lake decreased in size, though it was still of considerable area in the 15th and 16th centuries, and was then noted for the value of its fisheries. When the French army occupied Egypt in 1798, Mareotis was found to be largely a sandy plain. In April 1801 the British army besieging Alexandria cut through the land between Aboukir and the lake, admitting the waters of the sea into the ancient bed of Mareotis and laying under water a large area then in cultivation. This precedent was twice imitated, first by the Turks in 1803 and a second time by the British in 1807. Mareotis has no outlet, and the water is kept at a uniform level by means of powerful pumps which neutralize the effect of the Nile flood. A western arm has been cut off from the lake by a dyke, and in this arm a thick crust of salt is formed each year after the evaporation of the flood water. Near the shores of the lake wild flowers grow in rich profusion. Like all the Delta lakes, Mareotis abounds in wild-fowl. North-east of Mareotis was Lake Aboukir, a small sheet of water, now dry, lying S.W. of Aboukir Bay. East of this reclaimed marsh and reaching to within 4 m. of the Rosetta branch of the Nile, lies Edku, 22 m. long and in places 16 wide, with an opening, supposed to be the ancient Canopic mouth of the Nile, into Aboukir Bay. Burlus begins a little eastward of the Rosetta channel, and stretches bow-shaped for 64 m. Its greatest width is about 16 m. Adjoining it S.E. is an expanse of sandy marsh. Several canals or canalized channels enter the lake. Opposite the spot where the Bahr-mit Yezir enters is an opening into the Mediterranean. Canal and opening indicate the course of the ancient Sebennytic branch of the Nile. Burlus is noted for its water-melons, which are yellow within and come into season after those grown on the banks of the Nile.

Menzala greatly exceeds the other Delta lakes in size, covering over 780 sq. m. It extends from very near the Damietta branch of the Nile to Port Said. It receives the waters of the canalized channels which were once the Tanitic, Mendesian and Pelusiac branches. The northern shore is separated from the sea by an extremely narrow strip of land, across which, when the Mediterranean is stormy and the lake full, the waters meet. Its average length is about 40 m., and its average breadth about 15. The depth is greater than that of the other lakes, and the water is salt, though mixed with fresh. It contains a large number of islands, and the whole lake abounds in reeds of various kinds. Of the islands Tennīs (anciently Tennesus) contains ruins of the Roman period. The lake supports a considerable population of fishermen, who dwell in villages on the shore and islands and live upon the fish of the lake. The reeds are cover for waterfowl of various kinds, which the traveller sees in great numbers, and wild boars are found in the marshes to the south. The Suez Canal runs in a straight line for 20 m. along the eastern edge of the lake. That part of the lake east of where the canal was excavated is now marshy plain, and the Tanitic and Pelusiac mouths of the Nile are dry. East of Menzala is the site of Serbonis, another dried-up lake, which had the general characteristics of the Delta lagoons. In the Isthmus of Suez are Lake Timsa and the Great and Little Bitter Lakes, occupying part of the ancient bed of the Red Sea. All three were dry or marshy depressions previously to the cutting of the Suez Canal, at which time the waters of the Mediterranean and Red

Sea were let into them (see Suez Canal).

A chain of natron lakes (seven in number) lies in a valley in the western desert, 70 to 90 m. W.N.W. of Cairo. In the Fayum province farther south is the Birket-el-Kerun, a lake, lying below the level of the Nile, some 30 m. long and 5 wide at its broadest part. Kerun is all that is left of the Lake of Moeris, an ancient artificial sheet of water which played an important part in the irrigation schemes of the Pharaohs. The water of el-Kerun is brackish, though derived from the Nile, which has at all seasons a much higher level. It is bounded on the north by the Libyan Desert, above which rises a bold range of mountains; and it has a strange and picturesque wildness. Near the lake are several sites of ancient towns, and the temple called Kasr-Karun, dating from Roman times, distinguishes the most important of these. South-west of the Fayum is the Wadi Rayan, a large and deep depression, utilizable in modern schemes for recreating the Lake of Moeris (*q.v.*).

The Desert Plateaus.—From the southern borders of Egypt to the Delta in the north, the desert plateaus extend on either side of the Nile valley. The eastern region, between the Nile and the Red Sea, varies in width from 90 to 350 m. and is known in its northern part as the Arabian Desert. The western region has no natural barrier for many hundreds of miles; it is part of the vast Sahara. On its eastern edge, a few miles west of Cairo, stand the great pyramids (*q.v.*) of Gizeh or Giza. North of Assuan it is called the Libyan Desert. In the north the desert plateaus are comparatively low, but from Cairo southwards they rise to 1000 and even 1500 ft. above sea-level. Formed mostly of horizontal strata of varying hardness, they present a series of terraces of minor plateaus, rising one above the other, and intersected by small ravines worn by the occasional rainstorms which burst in their neighbourhood. The weathering of this desert area is probably fairly rapid, and the agents at work are principally the rapid heating and cooling of the rocks by day and night, and the erosive action of sand-laden wind on the softer layers; these, aided by the occasional rain, are ceaselessly at work, and produce the successive plateaus, dotted with small isolated hills and cut up by valleys (wadis) which occasionally become deep ravines, thus forming the principal type of scenery of these deserts. From this it will be seen that the desert in Egypt is mainly a rock desert, where the surface is formed of disintegrated rock, the finer particles of which have been carried away by the wind; and east of the Nile this is almost exclusively the case. Here the desert meets the line of mountains which runs parallel to the Red Sea and the Gulf of Suez. In the western desert, however, those large sand accumulations which are usually associated with a desert are met with. They occur as lines of dunes formed of rounded grains of quartz, and lie in the direction of the prevalent wind, usually being of small breadth as compared with their length; but in certain areas, such as that lying S.W. and W. of the oases of Farafra and Dakhla, these lines of dunes, lying parallel to each other and about half a mile apart, cover immense areas, rendering them absolutely impassable except in a direction parallel to the lines themselves. East of the oases of Baharia and Farafra is a very striking line of these sand dunes; rarely more than 3 miles wide, it extends almost continuously from Moghara in the north, passing along the west side of Kharga Oasis to a point near the Nile in the neighbourhood of Abu Simbel—having thus a length of nearly 550 m. In the northern part of this desert the dunes lie about N.W.-S.E., but farther south incline more towards the meridian, becoming at last very nearly north and south.

Oases.—In the western desert lie the five large oases of Egypt, namely, Siwa, Baharia, Farafra, Dakhla and Kharga or Great Oasis, occupying depressions in the plateau or, in the case of the last three, large indentations in the face of limestone escarpments which form the western versant of the Nile valley hills. Their fertility is due to a plentiful supply of water furnished by a sandstone bed 300 to 500 ft. below the surface, whence the water rises through natural fissures or artificial boreholes to the surface, and sometimes to several feet above it. These oases were known and occupied by the Egyptians as early as 1600 b.c., and Kharga (*q.v.*) rose to special importance at the time of the Persian occupation. Here, near the town of Kharga, the ancient Hebi, is a temple of Ammon built by Darius I., and in the same oasis are other ruins of the period of the Ptolemies and Caesars. The oasis of Siwa (Jupiter Ammon) is about 150 m. S. of the Mediterranean at the Gulf of Sollum and about 300 m. W. of the Nile (see Siwa). The other four oases lie parallel to and distant 100 to 150 m. from the Nile, between 25° and 29° N., Baharia being the most northerly and Kharga the most southerly.

Besides the oases the desert is remarkable for two other valleys. The first is that of the natron lakes already mentioned. It contains four monasteries, the remains of the famous anchorite settlement of Nitriae. South of the Wadi Natron, and parallel to it, is a sterile valley called the Bahr-bela-Ma, or “River without Water.”

The Sinai Peninsula.—The triangular-shaped Sinai peninsula has its base on the Mediterranean, the northern part being an arid plateau, the desert of Tih. The apex is occupied by a massif of crystalline rocks. The principal peaks rise over 8500 ft. Owing to the slight rainfall, and the rapid weathering of the rocks by the great range of temperature, these hills rise steeply from the valleys at their feet as almost bare rock, supporting hardly any vegetation. In some of the valleys wells or rock-pools filled by rain occur, and furnish drinking-water to the few Arabs who wander in these hills (see also Sinai).

[*Geology.*—Just as the Nile valley forms the chief geographical feature of Egypt, so the geology of the country is intimately related to it. The north and south direction of the river has been largely determined by faults, though the geologists of the Egyptian Survey are finding that the influence of faulting in determining physical outline has, in some

cases, been overestimated. The oldest rocks, consisting of crystalline schists with numerous intrusions of granite, porphyry and diorite, occupy the eastern portion of the country between the Nile south of Assuan and the Red Sea. The intrusive rocks predominate over the schists in extent of area covered. They furnished the chief material for the ancient monuments. At Assuan (Syene) the well-known syenite of Werner occurs. It is, however, a hornblende granite and does not possess the mineralogical composition of the syenites of modern petrology. Between Thebes and Khartum the western banks of the Nile are composed of Nubian Sandstone, which extends westward from the river to the edge of the great Libyan Desert, where it forms the bed rock. The age of this sandstone has given rise to much dispute. The upper part certainly belongs to the Cretaceous formation; the lower part has been considered to be of Karroo age by some geologists, while others regard the whole formation to be of Cretaceous age. In the Kharga Oasis the upper portion consists of variously coloured unfossiliferous clays with intercalated bands of sandstone containing fossil silicified woods (*Nicolia Aegyptiaca* and *Araucarioxylon Aegypticum*). They are conformably overlain by clays and limestones with *Exogyra Overwegi* belonging to the Lower Danian, and these by clays and white chalk with *Ananchytes ovata* of the Upper Danian. In many instances the Tertiary formation, which occurs between Esna and Cairo, unconformably overlies the Cretaceous, the Lower Eocene being absent. The fluvio-marine deposits of the Upper Eocene and Oligocene formations contain an interesting mammalian fauna, proving that the African continent formed a centre of radiation for the mammalia in early Tertiary times. *Arsinoitherium* is the precursor of the horned Ungulata; while *Moeritherium* and *Palaeomastodon* undoubtedly include the oldest known elephants. Miocene strata are absent in the southern Tertiary areas, but are present at Moghara and in the north. Marine Pliocene strata occur to the south of the pyramids of Giza and in the Fayum province, where, in addition, some gravel terraces, at a height of 500 ft. above sea-level, are attributed to the Pliocene period. The Lake of Moeris, as a large body of fresh water, appears to have come into existence in Pleistocene times. It is represented now by the brackish-water lake of the Birket-el-Kerun. The superficial sands of the deserts and the Nile mud form the chief recent formations. The Nile deposits its mud over the valley before reaching the sea, and consequently the Delta receives little additional material. At Memphis the alluvial deposits are over 50 ft. thick. The superficial sands of the desert region, derived in large part from the disintegration of the Nubian Sandstone, occupy the most extensive areas in the Libyan Desert. The other desert regions of Egypt are elevated stony plateaus, which are diversified by extensively excavated valleys and oases, and in which sand frequently plays quite a subordinate part. These regions present magnificent examples of dry erosion by wind-borne sand, which acts as a powerful sand blast etching away the rocks and producing most beautiful sculpturing. The rate of denudation in exposed positions is exceedingly rapid; while spots sheltered from the sand blast suffer a minimum of erosion, as shown by the preservation of ancient inscriptions. Many of the Egyptian rocks in the desert areas and at the cataracts are coated with a highly polished film, of almost microscopic thinness, consisting chiefly of oxides of iron and manganese with salts of magnesia and lime. It is supposed to be due to a chemical change within the rock and not to deposition on the surface.]

Minerals.—Egypt possesses considerable mineral wealth. In ancient times gold and precious stones were mined in the Red Sea hills. During the Moslem period mining was abandoned, and it was not until the beginning of the 20th century that renewed efforts were made to develop the mining industry. The salt obtained from Lake Mareotis at Meks, a western suburb of Alexandria, supplies the salt needed for the country, except a small quantity used for curing fish at Lake Menzala; while the lakes in the Wadi Natron, 45 m. N.W. of the pyramids of Giza, furnish carbonate of soda in large quantities. Alum is found in the western oases. Nitrates and phosphates are also found in various parts of the desert and are used as manures. The turquoise mines of Sinai, in the Wadi Maghara, are worked regularly by the Arabs of the peninsula, who sell the stones in Suez; while there are emerald mines at Jebel Zubara, south of Kosseir. Petroleum occurs at Jebel Zeit, on the west shore of the Gulf of Suez. Considerable veins of haematite of good quality occur both in the Red Sea hills and in Sinai. At Jebel ed-Dukhan are porphyry quarries, extensively worked under the Romans, and at Jebel el-Fatira are granite quarries. At El-Hammāmāt, on the old way from Coptos to Philoteras Portus, are the breccia verde quarries, worked from very early times, and having interesting hieroglyphic inscriptions. At the various mines, and on the routes to them and to the Red Sea, are some small temples and stations, ranging from the Pharaonic to the Roman period. The quarries of Syene (Assuan) are famous for extremely hard and durable red granite (syenite), and have been worked since the days of the earliest Pharaohs. Large quantities of this syenite were used in building the Assuan dam (1898-1902). The cliffs bordering the Nile are largely quarried for limestone and sandstone.

Gold-mining recommenced in 1905 at Um Rus, a short distance inland from the Red Sea and some 50 m. S. of Kosseir, where milling operations were started in March of that year. Another mine opened in 1905 was that of Um Garaiat, E.N.E. of Korosko, and 65 m. distant from the Nile.

Climate.—Part of Upper Egypt is within the tropics, but the greater part of the country is north of the Tropic of Cancer. Except a narrow belt on the north along the Mediterranean shore, Egypt lies in an almost rainless area, where the temperature is high by day and sinks quickly at night in consequence of the rapid radiation under the cloudless sky. The mean temperature at Alexandria and Port Said varies between 57° F. in January and 81° F. in July; while at Cairo, where the proximity of the desert begins to be felt, it is 53° F. in January, rising to 84° F. in July. January is the coldest month, when occasionally in the Nile valley, and more frequently in the open desert, the temperature sinks to 32° F., or even a degree or two below. The mean maximum temperatures are 99° F. for Alexandria and 110° F. for Cairo. Farther south the range of temperature becomes greater as pure desert conditions are reached. Thus at Assuan the mean maximum is 118° F., the mean minimum 42° F. At Wadi Halfa the figures in each case are one degree lower.

The relative humidity varies greatly. At Assuan the mean value for the year is only 38%, that for the summer being 29%, and for the winter 51%; while for Wadi Halfa the mean is 32%, and 20% and 42% are the mean values for summer and winter respectively. A white fog, dense and cold, sometimes rises from the Nile in the morning, but it is of short duration and rare occurrence. In Alexandria and on all the Mediterranean coast of Egypt rain falls abundantly in the winter months, amounting to 8 in. in the year; but southwards it rapidly decreases, and south of 31° N. little rain falls.

Records at Cairo show that the rainfall is very irregular, and is furnished by occasional storms rather than by any regular rainy season; still, most falls in the winter months, especially December and January, while, on the other hand, none has been recorded in June and July. The average annual rainfall does not exceed 1.50 in. In the open desert rain falls even more rarely, but it is by no means unknown, and from time to time heavy storms burst, causing sudden floods in the narrow ravines, and drowning both men and animals. These are more common in the mountainous region of the Sinai peninsula, where they are much dreaded by the Arabs. Snow is unknown in the Nile valley, but on the mountains of Sinai and the Red Sea hills it is not uncommon, and a temperature of 18° F. at an altitude of 2000 ft. has been recorded in January.

The atmospheric pressure varies between a maximum in January and a minimum in July, the mean difference being about 0.29 in. In a series of records extending over 14 years the mean pressure varied between 29.84 and 29.90 in.

The most striking meteorological factor in Egypt is the persistence of the north wind throughout the year, without which the climate would be very trying. It is this “Etesian” wind which enables sailing boats constantly to ascend the Nile, against its strong and rapid current. In December, January and February, at Cairo, the north wind slightly predominates, though those from the south and west often nearly equal it, but after this the north blows almost continuously for the rest of the year. In May and June the prevailing direction is north and north-north-east, and for July, August, September and October north and north-west. From the few observations that exist, it seems that farther south the southern winter winds decrease rapidly, becoming westerly, until at Assuan and Wadi Haifa the northerly winds are almost invariable throughout the year. The *khamsin*, hot sand-laden winds of the spring months, come invariably from the south. They are preceded by a rapid fall of the barometer for about a day, until a gradient from south to north is formed, then the wind commences to blow, at first gently, from the south-east; rapidly increasing in violence, it shifts through south to south-west, finally dropping about sunset. The same thing is repeated on the second and sometimes the third day, by which time the wind has worked round to the north again. During a khamsin the temperature is high and the air extremely dry, while the dust and sand carried by the wind form a thick yellow fog obscuring the sun. Another remarkable phenomenon is the *zobaa*, a lofty whirlwind of sand resembling a pillar, which moves with great velocity. The southern winds of the summer months which occur in the low latitudes north of the equator are not felt much north of Khartum.

One of the most interesting phenomena of Egypt is the mirage, which is frequently seen both in the desert and in the waste tracts of uncultivated land near the Mediterranean; and it is often so truthful in its appearance that one finds it difficult to admit the illusion.

Flora.—Egypt possesses neither forests nor woods and, as practically the whole of the country which will support vegetation is devoted to agriculture, the flora is limited. The most important tree is the date-palm, which grows all over Egypt and in the oases. The lower branches being regularly cut, this tree grows high and assumes a much more elegant form than in its natural state. The dom-palm is first seen a little north of 26° N., and extends southwards. The vine grows well, and in ancient times was largely cultivated for wine; oranges, lemons and pomegranates also abound. Mulberry trees are common in Lower Egypt. The sunt tree (*Acacia nilotica*) grows everywhere, as well as the tamarisk and the sycamore. In the deserts halfa grass and several kinds of thorn bushes grow; and wherever rain or springs have moistened the ground, numerous wild flowers thrive. This is especially the case where there is also shade to protect them from the midday sun, as in some of the narrow ravines in the eastern desert and in the palm groves of the oases, where various ferns and flowers grow luxuriantly round the springs. Among many trees which have been imported, the “lebbek” (*Albizzia lebbek*), a thick-foliaged mimosa, thrives especially, and has been very largely employed. The weeping-willow, myrtle, elm, cypress and eucalyptus are also used in the gardens and plantations.

The most common of the fruits are dates, of which there are nearly thirty varieties, which are sold half-ripe, ripe, dried, and pressed in their fresh moist state in mats or skins. The pressed dates of Siwa are among the most esteemed. The Fayum is celebrated for its grapes, and chiefly supplies the market of Cairo. The most common grape is white, of which there is a small kind far superior to the ordinary sort. The black grapes are large, but comparatively tasteless. The vines are trailed on trelliswork, and form agreeable avenues in the gardens of Cairo. The best-known fruits, besides dates and grapes, are figs, sycamore-figs and pomegranates, apricots and peaches, oranges and citrons, lemons and limes, bananas, which are believed to be of the fruits of Paradise (being always in season), different kinds of melons (including some of aromatic flavour, and the refreshing water-melon), mulberries, Indian figs or prickly pears, the fruit of the lotus and olives. Among the more usual cultivated flowers are the rose (which has ever been a favourite among the Arabs), the jasmine, narcissus, lily, oleander, chrysanthemum, convolvulus, geranium, dahlia, basil, the henna plant (*Lawsonia alba*, or Egyptian privet, which is said to be a flower of Paradise), the helianthus and the violet. Of wild flowers the most common are yellow daisies, poppies, irises, asphodels and ranunculuses. The *Poinsettia pulcherrima* is a bushy tree

with leaves of brilliant red.

Many kinds of reeds are found in Egypt, though they were formerly much more common. The famous byblus or papyrus no longer exists in the country, but other kinds of *cyperi* are found. The lotus, greatly prized for its flowers by the ancient inhabitants, is still found in the Delta, though never in the Nile itself. There are two varieties of this water-lily, one with white flowers, the other with blue.

Fauna.—The chief quadrupeds are all domestic animals. Of these the camel and the ass are the most common. The ass, often a tall and handsome creature, is indigenous. When the camel was first introduced into Egypt is uncertain—it is not pictured on the ancient monuments. Neither is the buffalo, which with the sheep is very numerous in Egypt. The horses are of indifferent breed, apparently of a type much inferior to that possessed by the ancient Egyptians. Wild animals are few. The principal are the hyena, jackal and fox. The wild boar is found in the Delta. Wolves are rare. Numerous gazelles inhabit the deserts. The ibex is found in the Sinaitic peninsula and the hills between the Nile and the Red Sea, and the mouflon, or maned sheep, is occasionally seen in the same regions. The desert hare is abundant in parts of the Fayum, and a wild cat, or lynx, frequents the marshy regions of the Delta. The ichneumon (Pharaoh's rat) is common and often tame; the coney and jerboa are found in the eastern mountains. Bats are very numerous. The crocodile is no longer found in Egypt, nor the hippopotamus, in ancient days a frequenter of the Nile. The common or pariah dog is generally of sandy colour; in Upper Egypt there is a breed of wiry rough-haired black dogs, noted for their fierceness. Among reptiles are several kinds of venomous snakes—the horned viper, the hooded snake and the echis. Lizards of many kinds are found, including the monitor. There are many varieties of beetle, including a number of species representing the scarabaeus of the ancients. Locusts are comparatively rare. The scorpion, whose sting is sometimes fatal, is common. There are many large and poisonous spiders and flies; fleas and mosquitoes abound. Fish are plentiful in the Nile, both scaled and without scales. The scaly fish include members of the carp and perch kind. The *bayad*, a scaleless fish commonly eaten, reaches sometimes 3½ ft. in length. A somewhat rare fish is the *Polypterus*, which has thick bony scales and 16 to 18 long dorsal fins. The *Tetrodon*, or ball fish, is found in the Red Sea, as well as in the Nile.

Some 300 species of birds are found in Egypt, and one of the most striking features of a journey up the Nile is the abundance of bird life. Many of the species are sedentary, others are winter visitants, while others again simply pass through Egypt on their way to or from warmer or colder regions. Birds of prey are very numerous, including several varieties of eagles—the osprey, the spotted, the golden and the imperial. Of vultures the black and white Egyptian variety (*Neophron percnopterus*) is most common. The griffon and the black vulture are also frequently seen. There are many kinds of kites, falcons and hawks, kestrel being numerous. The long-legged buzzard is found throughout Egypt, as are owls. The so-called Egyptian eagle owl (*Bubo ascalaphus*) is rather rare, but the barn owl is common. The kingfisher is found beside every watercourse, a black and white species (*Ceryle rudis*) being much more numerous than the common kingfisher. Pigeons and hoopoes abound in every village. There are various kinds of plovers—the black-headed species (*Pluvianus Aegyptius*) is most numerous in Upper Egypt; the golden plover and the white-tailed species are found chiefly in the Delta. The spurwing is supposed to be the bird mentioned by Herodotus as eating the parasites covering the inside of the mouth of the crocodile. Of game-birds the most plentiful are sandgrouse, quail (a bird of passage) and snipe. Red-legged and other partridges are found in the eastern desert and the Sinai hills. Of aquatic birds there is a great variety. Three species of pelican exist, including the large Dalmatian pelican. Storks, cranes, herons and spoonbills are common. The sacred ibis is not found in Egypt, but the buff-backed heron, the constant companion of the buffalo, is usually called an ibis. The glossy ibis is occasionally seen. The flamingo, common in the lakes of Lower Egypt, is not found on the Nile. Geese, duck and teal are abundant. The most common goose is the white-fronted variety; the Egyptian goose is more rare. Both varieties are depicted on the ancient monuments; the white-fronted goose being commonly shown. Several birds of gorgeous plumage come north into Egypt in the spring, among others the golden oriole, the sun-bird, the roller and the blue-cheeked bee-eater.

Egypt as a Health Resort.—The country is largely resorted to during the winter months by Europeans in search of health as well as pleasure. Upper Egypt is healthier than Lower Egypt, where, especially near the coast, malarial fevers and diseases of the respiratory organs are not uncommon. The least healthy time of the year is the latter part of autumn, when the inundated soil is drying. In the desert, at a very short distance from the cultivable land, the climate is uniformly dry and unvaryingly healthy. The most suitable places for the residence of invalids are Helwan, where there are natural mineral springs, in the desert, 14 m. S. of Cairo, and Luxor and Assuan in Upper Egypt.

The diseases from which Egyptians suffer are very largely the result of insanitary surroundings. In this respect a great improvement has taken place since the British occupation in 1882. Plague, formerly one of the great scourges of the country, seems to have been stamped out, the last visitation having been in 1844, but cholera epidemics occasionally occur.[2] Cholera rarely extends south of Cairo. In 1848 it is believed that over 200,000 persons died from cholera, but later epidemics have been much less fatal. Smallpox is not uncommon, and skin diseases are numerous, but the two most prevalent diseases among the Egyptians are dysentery and ophthalmia. The objection entertained by many natives to entering hospitals or to altering their traditional methods of "cure" renders these diseases much more malignant and fatal than they would be in other circumstances. The government, however, enforces certain health regulations, and the sanitary service is under the direction of a European official.

Chief Towns.—Cairo (*q.v.*) the capital, a city of Arab foundation, is built on the east bank of the Nile, about 12 m, above the point where the river divides, and in reference to its situation at the head of the Delta has been called by the Arabs "the diamond stud in the handle of the fan of Egypt." It has a population (1907) of 654,476 and is the largest city in Africa. Next in importance of the cities of Egypt and the chief seaport is Alexandria (*q.v.*), pop. (with Ramleh) 370,009, on the shore of the Mediterranean at the western end of the Delta. Port Said (*q.v.*), pop. 49,884, at the eastern end of the Delta, and at the north entrance to the Suez Canal, is the second seaport. Between Alexandria and Port Said are the towns of Rosetta (*q.v.*), pop. 16,810, and Damietta (*q.v.*), pop. 29,354, each built a few miles above the mouth of the branch of the Nile of the same name. In the middle ages, when Alexandria was in decay, these two towns were busy ports; with the revival of Alexandria under Mehemet Ali and the foundation of Port Said (c. 1860), their trade declined. The other ports of Egypt are Suez (*q.v.*), pop. 18,347, at the south entrance of the canal, Kosseir (794) on the Red Sea, the seat of the trade carried on between Upper Egypt and Arabia, Mersa Matruh, near the Tripolitan frontier, and El-Arish, pop. 5897, on the Mediterranean, near the frontier of Palestine, and a halting-place on the caravan route from Egypt to Syria. In the interior of the Delta are many flourishing towns, the largest being Tanta, pop. 54,437, which occupies a central position. Damanhur (38,752) lies on the railway between Tanta and Alexandria; Mansura (40,279) is on the Damietta branch of the Nile, to the N.E. of Tanta; Zagazig (34,999) is the largest town in the Delta east of the Damietta branch; Bilbeis (13,485) lies N.N.E. of Cairo, on the edge of the desert and in the ancient Land of Goshen. Ismailia (10,373) is situated midway on the Suez Canal. All these towns, which depend largely on the cotton industry, are separately noticed.

Other towns in Lower Egypt are: Mehallet el-Kubra, pop. 47,955, 16 m. by rail N.E. of Tanta, with manufactories of silk and cottons; Salihia (6100), E.N.E. of and terminus of a railway from Zagazig, on the edge of the desert south of Lake Menzala, and the starting-point of the caravans to Syria; Mataria (15,142) on Lake Menzala and headquarters of the fishing industry; Zifta (15,850) on the Damietta branch and the site of a barrage; Samanud (14,408), also on the Damietta branch, noted for its pottery, and Fua (14,515), where large quantities of tarbushes are made, on the Rosetta branch. Shibin el-Kom (21,576), 16 m. S. of Tanta, is a cotton centre, and Menuf (22,316), 8 m. S.W. of Shibin, in the fork between the branches of the Nile, is the chief town of a rich agricultural district. There are many other towns in the Delta with populations between 10,000 and 20,000.

In Upper Egypt the chief towns are nearly all in the narrow valley of the Nile. The exceptions are the towns in the oases comparatively unimportant, and those in the Fayum province. The capital of the Fayum, Medinet el-Fayum, has a population (1907) of 37,320. The chief towns on the Nile, taking them in their order in ascending the river from Cairo, are Beni Suef, Minia, Assiut, Akhmim, Suhag, Girga, Kena, Luxor, Esna, Edfu, Assuan and Korosko. Beni Suef (23,357) is 77 m. from Cairo by rail. It is on the west bank of the river, is the capital of a *mudiria* and a centre for the manufacture of woollen goods. Minia (27,221) is 77 m. by rail farther south. It is also the capital of a mudiria, has a considerable European colony, possesses a large sugar factory and some cotton mills. It is the starting-point of a road to the Baharia oasis. Assiut (*q.v.*), pop. 39,442, is 235 m. S. of Cairo by rail, and is the most important commercial centre in Upper Egypt. At this point a barrage is built across the river. Suhag (17,514) is 56 m. by rail S. of Assiut and is the headquarters of Girga mudiria. The ancient and celebrated Coptic monasteries El Abiad (the white) and El Ahmar (the red) are 3 to 4 m. W. and N.W. respectively of Suhag. A few miles above Suhag, on the opposite (east) side of the Nile is Akhmim (*q.v.*) or Ekhmim (23,795), where silk and cotton goods are made. Girga (*q.v.*), pop. 19,893, is 22 m. S. by rail of Suhag, and on the same (the west) side of the river. It is noted for its pottery. Kena (*q.v.*), pop. 20,069, is on the east bank of the Nile, 145 m. by rail from Assiut. It is the chief seat of the manufacture of the porous earthenware water-bottles used all over Egypt. Luxor (*q.v.*), pop. (with Karnak) 25,229, marks the site of Thebes. It is 418 m. from Cairo, and here the gauge of the railway is altered from broad to narrow. Esna (*q.v.*), pop. 19,103, is another place where pottery is made in large quantities. It is on the west bank of the Nile, 36 m. by rail S. of Luxor. Edfu (*q.v.*), pop. 19,262, is also on the west side of the river, 30 m. farther south. It is chiefly famous for its ancient temple. Assuan (*q.v.*), pop. 12,618, is at the foot of the First Cataract and 551 m. S. of Cairo by rail. Three miles farther south, at Shellal, the Egyptian railway terminates. Korosko, 118 m. by river above Assuan, is a small place notable as the northern terminus of the caravan route from the Sudan across the Nubian desert. Since the building of the railway—which starts 96 m. higher up, at Wadi Halfa—to Khartum, this route is little used, and Korosko has lost what importance it had.

Ancient Cities and Monuments.—Many of the modern cities of Egypt are built on the sites of ancient cities, and they generally contain some monuments of the time of the Pharaohs, Greeks or Romans. The sites of other ancient cities now in complete ruin may be indicated. Memphis, the Pharaonic capital, was on the west bank of the Nile, some 14 m. above Cairo, and Heliopolis lay some 5 m. N.N.E. of Cairo. The pyramids of Giza or Gizeh, on the edge of the desert, 8 m. west of Cairo, are the largest of the many pyramids and other monuments, including the famous Sphinx, built in the neighbourhood of Memphis. The site of Thebes has already been indicated. Syene stood near to where the town of Assuan now is; opposite, on an island in the Nile, are scanty ruins of the city of Elephantine, and a little above, on another island, is the temple of Philae. The ancient Coptos (Keft) is represented by the village of Kuft, between Luxor and Kena. A few miles north of Kena is Dendera, with a famous temple. The ruins of Abydos, one of the oldest places in Egypt, are 8 m. S.W. of Balliana, a small town in Girga mudiria. The ruined temples of Abu Simbel are on the west side of the Nile, 56 m. above Korosko. On the Red Sea, south of Kosseir, are the ruins of Myos Hormos and Berenice. Of the ancient cities in the Delta there are remains, among others, of Sais, Iseum, Tanis, Bubastis, Onion, Sebennytus, Pithom, Pelusium, and of the Greek cities Naucratis and Daphnae. There are, besides the more ancient cities and monuments, a number of Coptic towns, monasteries and churches in almost every part of Egypt, dating from the early centuries of Christianity. The monasteries, or *ders*, are generally fort-like buildings and are often built in the desert. Tombs of Mahommedan saints are also numerous, and are often placed on the summit of the cliffs overlooking the Nile. The traveller in Egypt thus views, side by side with the activities of the present day, where occident and orient meet and clash, memorials of every race and civilization which has flourished in the valley of the Nile.

Trade Routes and Communications.—Its geographical position gives Egypt command of one of the most important trade routes in the world. It is, as it were, the fort which commands the way from Europe to the East. This has been the case from time immemorial, and the provision, in 1869, of direct maritime communication between the Mediterranean and the Red Sea, by the completion of the Suez Canal, ensured for the Egyptian route the supremacy in sea-borne traffic to Asia, which the discovery of the passage to India by way of the Cape of Good Hope had menaced for three and a half centuries. The Suez Canal is 87 m. long, 66 actual canal and 21 lakes. It has sufficient depth to allow vessels drawing 27 ft. of water to pass through. It is administered by a company whose headquarters are in Paris, and no part of its revenue reaches the Egyptian exchequer (see Suez Canal). Besides the many steamship lines which use the Suez Canal, other steamers run direct from European ports to Alexandria. There is also a direct mail service between Suez and Port Sudan.

The chief means of internal communication are, in the Delta the railways, in Upper Egypt the railway and the river. The

railways are of two kinds: (1) those state-owned and state-worked, (2) agricultural light railways owned and worked by private companies. Railway construction dates from 1852, when the line from Alexandria to Cairo was begun, by order of Abbas I. The state railways, unless otherwise indicated, have a gauge of 4 ft. 8½ in. The main system is extremely simple. Trunk lines from Alexandria (via Damanhur and Tanta) and from Port Said (via Ismailia) traverse the Delta and join at Cairo. From Cairo the railway is continued south up the valley of the Nile and close to the river. At first it follows the west bank, crossing the stream at Nag Hamadi, 354 m. from Cairo, by an iron bridge 437 yds. long. Thence it continues on the east bank to Luxor, where the broad gauge ceases. From Luxor the line continues on the standard African gauge (3 ft. 6 in.) to Shellal, 3 m. above Assuan and 685 m. from Alexandria. This main line service is supplemented by a steamer service on the Nile from Shellal to Wadi Halfa, on the northern frontier of the Anglo-Egyptian Sudan, whence there is direct railway communication with Khartum and the Red Sea (see Sudan).

Branch lines connect Cairo and Alexandria with Suez and with almost every town in the Delta. From Cairo to Suez via Ismailia is a distance of 160 m. Before the Suez Canal was opened passengers and goods were taken to Suez from Cairo by a railway 84 m. long which ran across the desert. This line, now disused, had itself superseded the “overland route” organized by Lieut. Thomas Waghorn, R.N., c. 1830, for the conveyance of passengers and mails to India. In Upper Egypt a line, 40 m. long, runs west from Wasta, a station 56 m. S. of Cairo, to Abuksa in the Fayum mudiria. Another railway goes from Kharga Junction, a station on the main line 24 m. S. of Girga, to the oasis of Kharga. These lines are privately owned.

In the Delta the light railways supplement the ordinary lines and connect the villages with the towns and seaports. There are over 700 m. of these lines. The railway development of Egypt has not been very rapid. In 1880 944 m. of state lines were open; in 1900 the figure was 1393, and in 1905, 1688. For several years before 1904 the administration of the railways was carried on by an international or mixed board for the security of foreign creditors. In the year named the railways came directly under the control of the Egyptian government, which during the next four years spent £E.3,000,000 on improving and developing the lines. In the five years 1902-1906 the capital value of the state railways increased from £E.20,383,000 to £E.23,200,000 and the net earnings from £E.1,059,000 to £E. 1,475,000. The number of passengers carried in the same period rose from 12½ to over 22 millions, and the weight of goods from slightly under 3,000,000 to nearly 6,750,000 tons. In 1906 the light railways carried nearly a million tons of goods and over 6,800,000 passengers.

Westward from Alexandria a railway, begun in 1904 by the khedive, Abbas II., runs parallel with the coast, and is intended to be continued to Tripoli. The line forms the eastern end of the great railway system which will eventually extend from Tangier to Alexandria.

The Nile is navigable throughout its course in Egypt, and is largely used as a means of cheap transit of heavy goods. Lock and bridge tolls were abolished in 1899 and 1901 respectively. As a result, river traffic greatly increased. Above Cairo the Nile is the favourite tourist route, while between Shellal (Assuan) and the Sudan frontier it is the only means of communication. Among the craft using the river the dahabīya is a characteristic native sailing vessel, somewhat resembling a house-boat. From the Nile, caravan routes lead westward to the various oases and eastward to the Red Sea, the shortest (120 m.) and most used of the eastern routes being that from Kena to Kosseir. Roads suitable for wheeled vehicles are found in Lower Egypt, but the majority of the tracks are bridle-paths, goods being conveyed on the backs of donkeys, mules and camels.

Posts and Telegraphs.—The Egyptian postal system is highly organized and efficient, and in striking contrast with its condition in 1870, when there were but nineteen post-offices in the country. All the branches of business transacted in European post-offices are carried on by the Egyptian service, Egypt being a member of the Postal Union. It was the first foreign country to establish a penny postage with Great Britain, the reduction from 2½d. being made in 1905. The inland letters and packages carried yearly exceed 20,000,000 and foreign letters (30% to England) number over 4,000,000. Over £17,000,000 passes yearly through the post. A feature of the service are the travelling post-offices, of which there are some 200.

All the important towns are connected by telegraph, the telegraphs being state-owned and worked by the railway administration. Egypt is also connected by cables and land-lines with the outside world. One land-line connects at El-Arish with the line through Syria and Asia Minor to Constantinople. Another line connects at Wadi Halfa with the Sudan system, affording direct telegraphic communication via Khartum and Gondokoro with Uganda and Mombasa. The Eastern Telegraph Company, by concessions, have telegraph lines across Egypt from Alexandria via Cairo to Suez, and from Port Said to Suez, connecting their cables to Europe and the East. The principal cables are from Alexandria to Malta, Gibraltar and England; from Alexandria to Crete and Brindisi; from Suez to Aden, Bombay, China and Australia.

The telephone is largely used in the big towns, and there is a trunk telephone line connecting Alexandria and Cairo.

Standard Time.—The standard time adopted in Egypt is that of the longitude of Alexandria, 30° E., *i.e.* two hours earlier than Greenwich time. It thus corresponds with the standard time of British South Africa.

Agriculture and Land Tenure.—The chief industry of Egypt is agriculture. The proportions of the industry depend upon the area of land capable of cultivation. This again depends upon the fertilizing sediment brought down by the Nile and the measure in which lands beyond the natural reach of the flood water can be rendered productive by irrigation. By means of canals, "basins," dams and barrages, the Nile flood is now utilized to a greater extent than ever before (see Irrigation: *Egypt*). The result has been a great increase in the area of cultivated or cultivable land.

At the time of the French occupation of Egypt in 1798, it was found that the cultivable soil covered 4,429,400 acres, but the quantity actually under cultivation did not exceed 3,520,000 acres, or six-elevenths of the entire surface. Under improved conditions the area of cultivated land, or land in process of reclamation, had risen in 1906 to 5,750,000 acres, while another 500,000 acres of waste land awaited reclamation.

Throughout Egypt the cultivable soil does not present any very great difference, being always the deposit of the river; it contains, however, more sand near the river than at a distance from it. Towards the Mediterranean its quality is injured by the salt with which the air is impregnated, and therefore it is not so favourable to vegetation. Of the cultivated land, some three-fourths is held, theoretically, in life tenancy. The state, as ultimate proprietor, imposes a tax which is the equivalent of rent. These lands are *Kharaji* lands, in distinction from the *Ushuri* or tithe-paying lands. The *Ushuri* lands were originally granted in fee, and are subject to a quit-rent. All tenants are under obligation to guard or repair the banks of the Nile in times of flood, or in any case of sudden emergency. Only to this extent does the *corvée* now prevail. The land-tax is proportionate, *i.e.* land under perennial irrigation pays higher taxes than land not so irrigated (see below, *Finance*). The unit of land is the *feddan*, which equals 1.03 acre. Out of 1,153,759 proprietors of land in 1905, 1,005,705 owned less than 5 *feddans*. The number of proprietors owning over 50 *feddans* was 12,475. The acreage held by the first class was 1,264,084, that by the second class, 2,356,602. Over 1,600,000 *feddans* were held in holdings of from 5 to 50 *feddans*. The state domains cover over 240,000 *feddans*, and about 600,000 *feddans* are owned by foreigners. The policy of the government is to maintain the small proprietors, and to do nothing tending to oust the native in favour of European landowners.

The kind of crops cultivated depends largely on whether the land is under perennial, flood or "basin" irrigation. Perennial irrigation is possible where there are canals which can be supplied with water all the year round from the Nile. This condition exists throughout the Delta and Middle Egypt, but only in parts of Upper Egypt. Altogether some 4,000,000 acres are under perennial irrigation. In these regions two and sometimes three crops can be harvested yearly. In places where perennial irrigation is impossible, the land is divided by rectangular dikes into "basins." Into these basins—which vary in area from 600 to 50,000 acres—water is led by shallow canals when the Nile is in flood. The water is let in about the middle of August and the basins are begun to be emptied about the 1st of October. The land under basin irrigation covers about 1,750,000 acres. In the basins only one crop can be grown in the year. This basin system is of immemorial use in Egypt, and it was not until the time of Mehemet Ali (c. 1820) that perennial irrigation began. High land near the banks of the Nile which cannot be reached by canals is irrigated by raising water from the Nile by steam-pumps, water-wheels (*sakias*) worked by buffaloes, or water-lifts (*shadufs*) worked by hand. There are several thousand steam-pumps and over 100,000 *sakias* or *shadufs* in Egypt. The *fellah* divides his land into little square plots by ridges of earth, and from the small canal which serves his holding he lets the water into each plot as needed. The same system obtains on large estates (see further Irrigation: *Egypt*). There are three agricultural seasons: (1) summer (*sefi*), 1st of April to 31st of July, when crops are grown only on land under perennial irrigation; (2) flood (*Nili*), 1st of August to 30th of November; and (3) winter (*shetwi*), 1st of December to 31st of March. Cotton, sugar and rice are the chief summer crops; wheat, barley, flax and vegetables are chiefly winter crops; maize, millet and "flood" rice are *Nili* crops; millet and vegetables are also, but in a less degree, summer crops. The approximate areas under cultivation in the various seasons are, in summer, 2,050,000 acres; in flood, 1,500,000 acres; in winter, 4,300,000 acres. The double-cropped area is over 2,000,000 acres. Although on the large farms iron ploughs, and threshing and grain-cleaning machines, have been introduced, the small cultivator prefers the simple native plough made of wood. Corn is threshed by a *norag*, a machine resembling a chair, which moves on small iron wheels or thin circular plates fixed to axle-trees, and is drawn in a circle by oxen.

Crops.—Egypt is third among the cotton-producing countries of the world. Its production per acre is the greatest of any country but, owing to the restricted area available, the bulk raised is not more than one-tenth of that of the United States and about half that of India. Some 1,600,000 acres of land, five-sixths being in Lower Egypt, are devoted to cotton growing. The climate of Lower Egypt being very suitable to the growth of the plant, the cotton produced there is of excellent quality. The seed is sown at the end of February or beginning of March and the crop is picked in September and October. The cotton crop increased from 1,700,000 *kantars*[3] in 1878 to 4,100,000 in 1890, had reached 5,434,000 in 1900, and was 6,750,000 in 1905. Its average value, 1897-1905, was over £14,000,000 a year. The cotton exported was valued in 1907 at £E.23,598,000, in 1908 at £E.17,091,612.

While cotton is grown chiefly in the Delta, the sugar plantations, which cover about 100,000 acres, are mainly in Upper Egypt. The canes are planted in March and are cut in the following January or February. Although since 1884 the production of sugar has largely increased, there has not been a corresponding increase in its value, owing to the low price obtained in the markets of the world. Beetroot is also grown to a limited extent for the manufacture of sugar. The

sugar exported varied in annual value in the period 1884-1905 from £400,000 to £765,000.

A coarse and strong tobacco was formerly extensively grown, but its cultivation was prohibited in 1890. Flax and hemp are grown in a few places.

Maize in Lower Egypt and millet (of which there are several varieties) in Upper Egypt are largely grown for home consumption, these grains forming a staple food of the peasantry. The stalk of the maize is also a very useful article. It is used in the building of the houses of the fellahin, as fuel, and, when green, as food for cattle. Wheat and barley are important crops, and some 2,000,000 acres are sown with them yearly. The barley in general is not of good quality, but the desert or "Mariut" barley, grown by the Bedouins in the coast region west of Alexandria, is highly prized for the making of beer. Beans and lentils are extensively sown, and form an important article of export. The annual value of the crops is over £3,000,000. Rice is largely grown in the northern part of the Delta, where the soil is very wet. Two kinds are cultivated: *Sultani*, a summer crop, and *Sabaini*, a flood crop. *Sabaini* is a favourite food of the fellahin, while *Sultani* rice is largely exported. In the absence of grass, the chief green food for cattle and horses is clover, grown largely in the basin lands of Upper Egypt. To a less extent vetches are grown for the same purpose.

Vegetables and Fruit.—Vegetables grow readily, and their cultivation is an important part of the work of the fellahin. The onion is grown in great quantities along the Nile banks in Upper Egypt, largely for export. Among other vegetables commonly raised are tomatoes (the bulk of which are exported), potatoes (of poor quality), leeks, marrows, cucumbers, cauliflowers, lettuce, asparagus and spinach.

The common fruits are the date, orange, citron, fig, grape, apricot, peach and banana. Olives, melons, mulberries and strawberries are also grown, though not in very large numbers. The olive tree flourishes only in the Fayum and the oases. The Fayum also possesses extensive vineyards. The date is a valuable economic asset. There are some 6,000,000 date-palms in the country, 4,000,000 being in Upper Egypt. The fruit is one of the chief foods of the people. The value of the crop is about £1,500,000 a year.

Roses and Dyes.—There are fields of roses in the Fayum, which supply the market with rose-water. Of plants used for dyeing, the principal are bastard saffron, madder, woad and the indigo plant. The leaves of the henna plant are used to impart a bright red colour to the palms of the hands, the soles of the feet, and the nails of both hands and feet, of women and children, the hair of old ladies and the tails of horses. Indigo is very extensively employed to dye the shirts of the natives of the poorer classes; and is, when very dark, the colour of mourning; therefore, women at funerals, and generally after a death, smear themselves with it.

Domestic Animals.—The Egyptians are not particularly a pastoral people, though the wealth of the Bedouin in the Eastern or Arabian Desert consists in their camels, horses, sheep and goats. In the Nile valley the chief domestic animals are the camel, donkey, mule, ox, buffalo, sheep and goat. Horses are comparatively few, and are seldom seen outside the large towns, the camel and donkey being the principal beasts of burden. The cattle are short-horned, rather small and well formed. They are quiet in disposition, and much valued for agricultural labour by the people, who therefore very rarely slaughter them for meat. Buffaloes of an uncouth appearance and of a dark slaty colour, strikingly contrasting with the neat cattle, abound in Egypt. They are very docile, and the little children of the villagers often ride them to or from the river. The buffaloes are largely employed for turning the *sakias*. Sheep (of which the greater number are black) and goats are abundant, and mutton is the ordinary butcher's meat. The wool is coarse and short. Swine are very rarely kept, and then almost wholly for the European inhabitants, the Copts generally abstaining from eating their meat. Poultry is plentiful and eggs form a considerable item in the exports. Pigeons are kept in every village and their flesh is a common article of food.

Fishing.—The chief fishing-ground is Lake Menzala, where some 4000 persons are engaged in the industry, but fish abound in the Nile also, and are caught in large quantities along the coast of the Delta. The salting and curing of the fish is done chiefly at Mataria, on Lake Menzala, and at Damietta. Dried and salted fish eggs, called *batarekh*, command a ready market. The average annual value of the fisheries is about £200,000.

Canals.—The irrigation canals, which are also navigable by small craft, are of especial importance in a country where the rainfall is very slight. The Delta is intersected by numerous canals which derive their supply from four main channels. The Rayya Behera, known in its lower courses first as the Khatatba and afterwards as the Rosetta canal, follows the west bank of the Rosetta branch of the Nile and has numerous offshoots. The most important is the Mahmudia (50 m. long), which connects Alexandria with the Rosetta branch, taking a similar direction to that of the ancient canal which it succeeded. This canal supplies Alexandria with fresh water.

The Rayya Menufia, or Menuf canal, connects the two branches of the Nile and supplies water to the large number of canals in the central part of the Delta. Following the right (eastern) bank of the Damietta branch is the Rayya Tewfiki, known below Benha as the Mansuria, and below Mansura as the Fareskur, canal. This canal has many branches. Farther east are other canals, of which the most remarkable occupy in part the beds of the Tanitic and Pelusiac branches. That following the old Tanitic channel is called the canal of Al-Mo'izz, the first Fatimite caliph who ruled in

Egypt, having been dug by his orders, and the latter bears the name of the canal of Abu-l-Muneggi, a Jew who executed this work, under the caliph Al-Amir, in order to water the province called the Sharkia. From this circumstance this canal is also known as the Sharkawia. From a town on its bank it is called in its lower course the Shibini canal. The superfluous water from all the Delta canals is drained off by *bahrs* (rivers) into the coast lakes. The Ismailia or Fresh-water canal branches from the Nile at Cairo and follows, in the main, the course of the canal which anciently joined the Nile and the Red Sea. It dates from Pharaonic times, having been begun by "Sesostris," continued by Necho II. and by Darius Hystaspes, and at length finished by Ptolemy Philadelphus. This canal, having fallen into disrepair, was restored in the 7th century a.d. by the Arabs who conquered Egypt, but appears not long afterwards to have again become unserviceable. The existing canal was dug in 1863 to supply fresh water to the towns on the Suez Canal. Although designed for irrigation purposes, the Delta canals are also used for the transport of passengers and goods.

In Upper Egypt the most important canals are the Ibrahimia and the Bahr Yusuf (the River of Joseph). They are both on the west side of the Nile. The Ibrahimia takes its water from the Nile at Assiut, and runs south to below Beni Suef. It now supplies the Bahr Yusuf, which runs parallel with and west of the Ibrahimia, until it diverges to supply the Fayum—a distance of some 350 m. It leaves the Ibrahimia at Derut near its original point of departure from the Nile. Although the Joseph whence it takes its name is the celebrated Saladin, it is related that he merely repaired it, and it is not doubted to be of a much earlier period. Most probably it was executed under the Pharaohs. By some authorities it is believed to be a natural channel canalized. Besides supplying the canals of the Fayum with summer water, it fills many of the "basins" of Upper Egypt with water in flood time.

Manufactures and Native Industries.—Although essentially an agricultural country, Egypt possesses several manufactures. In connexion with the cotton industry there are a few mills where calico is made or oil crushed, and ginning-mills are numerous. In Upper Egypt there are a number of factories for sugar-crushing and refining, and one or two towns of the Delta possess rice mills. Flour mills are found in every part of the country, the maize and other grains being ground for home consumption. Soap-making and leather-tanning are carried on, and there are breweries at Alexandria and Cairo. The manufacture of tobacco into cigarettes, carried on largely at Alexandria and Cairo, is another important industry. Native industries include the weaving of silk, woollen, linen and cotton goods, the hand-woven silk shawls and draperies being often rich and elegant. The silk looms are chiefly at Mehallet el-Kubra, Cairo and Damietta. The Egyptians are noted for the making of pottery of the commoner kinds, especially water-jars. There is at Cairo and in other towns a considerable industry in ornamental wood and metal work, inlaying with ivory and pearl, brass trays, copper vessels, gold and silver ornaments, &c. At Cairo and in the Fayum, attar of roses and other perfumes are manufactured. Boat-building is an important trade.

Commerce.—The trade of Egypt has developed enormously since the British occupation in 1882 ensured to all classes of the community the enjoyment of the profit of their labour. The total value of the exterior trade increased in the 20 years 1882 to 1902 from £19,000,000 to £32,400,000. The wealth of Egypt lying in the cultivation of its soil, almost all the exports are agricultural produce, while the imports are mostly manufactured goods, minerals and hardware. The chief exports in order of importance are: raw cotton, cotton seed, sugar, beans, cigarettes, onions, rice and gum-arabic. The gum is not of native produce, being in transit from the Sudan. Of less importance are the exports of hides and skins, eggs, wheat and other grains, wool, quails, lentils, dates and Sudan produce in transit. The principal articles imported are: cotton goods and other textiles, coal, iron and steel, timber, tobacco, machinery, flour, alcoholic liquors, petroleum, fruits, coffee and live animals. There is an *ad valorem* duty of 8% on imports and of about 1% on exports. Tobacco and precious stones and metals pay heavier duties. The tobacco is imported chiefly from Turkey and Greece, is made into cigarettes in Egypt, and in this form exported to the value of about £500,000 yearly.

In comparison with cotton, all other exports are of minor account. The cotton exported, of which Great Britain takes more than half, is worth over three-fourths of the total value of goods sent abroad. Next to cotton, sugar is the most important article exported. A large proportion of the sugar manufactured is, however, consumed in the country and does not figure in the trade returns. Of the imports the largest single item is cotton goods, nearly all being sent from England. Woollen goods come chiefly from England, Austria and Germany, silk goods from France. Large quantities of ready-made clothes and fezes are imported from Austria. Iron and steel goods, machinery, locomotives, &c., come chiefly from England, Belgium and Germany, coal from England, live stock from Turkey and the Red Sea ports, coffee from Brazil, timber from Russia, Turkey and Sweden.

A British consular report (No. 3121, annual series), issued in 1904, shows that in the period 1887-1902 the import trade of Egypt nearly doubled. In the same period the proportion of imports from the United Kingdom fell from 39.63 to 36.76%. Though the percentage decreased, the value of imports from Great Britain increased in the same period from £2,500,000 to £4,500,000. In addition to imports from the United Kingdom, British possessions took 6.0% of the import trade. Next to Great Britain, Turkey had the largest share of the import trade, but it had declined in the sixteen years from 19 to 15%. France about 10%, and Austria 6.72%, came next, but their import trade was declining, while that of Germany had risen from less than 1 to over 3%, and Belgium imports from 1.74 to 4.27%.

In the same period (1887-1902) Egyptian exports to Great Britain decreased from 63.25 to 52.30%, Germany and the

United States showing each an increase of over 6.0%. Exports to Germany had increased from 0.13 to 6.75%, to the United States from 0.26 to 6.70%. Exports to France had remained practically stationary at 8.0%; those to Austria had dropped from 6.3% to 4.0%, to Russia from 9.11 to 8.43%.

For the quinquennial period 1901-1905, the average annual value of the exterior trade was:—imports £17,787,296; exports £18,811,588; total £36,598,884. In 1907 the total value of the merchandise imported and exported, exclusive of transit, re-exportation and specie, was £E.54,134,000—constituting a record trade return. The value of the imports was £E.26,121,000, of the exports £E.28,013,000.

Shipping.—More than 90% of the external trade passes through the port of Alexandria. Port Said, which in consequence of its position at the northern entrance of the Suez Canal has more frequent and regular communication with Europe, is increasing in importance and is the port where mails and passengers are landed. Over 3000 ships enter and clear harbour at Alexandria every year. The total tonnage entering the port increased in the five years 1901-1905 from 2,555,259 to 3,591,281. In the same period the percentage of British shipping, which before 1900 was nearly 50, varied from 40 to 45. No other nation had more than 12% of the tonnage, Italy, France, Austria and Turkey each having 9 to 12%. The tonnage of German ships increased in the five years mentioned from 3 to 7%. In number of steamships entering the harbour Great Britain is first, with some 800 yearly, or about 50% of all steamers entering. The sailing boats entering the harbour are almost entirely Turkish. They are vessels of small tonnage.

The transit trade with the East, which formerly passed overland through Egypt, has been diverted to the Suez Canal, the traffic through which has little to do with the trade or shipping of Egypt. The number of ships using the canal increased in the 20 years 1880-1900 from 2000 to 4000, while in the same period the tonnage rose from 4,300,000 to 14,000,000. In 1905 the figures were:—Number of ships that passed through the canal, 4116 (2484 being British and 600 German), net tonnage 13,134,105 (8,356,940 British and 2,113,484 German). Next to British and German the nationality of ships using the canal in order of importance is French, Dutch, Austrian, Italian and Russian. About 250,000 passengers (including some 40,000 pilgrims to Mecca) pass through the canal in a year (see further Suez).

Currency.—The monetary system in force dates from 1885, when through the efforts of Sir Edgar Vincent the currency was placed on a sound basis. The system is based on the single gold standard. The unit is a gold coin called a pound and equal to £1, 0s. 6d. in English currency. The Egyptian pound (£E.) is divided into 100 piastres, of which there are coins in silver of 20, 10, 5 and 2 piastres. One, ½, 1⁄5 and 1⁄10 piastre pieces are coined in nickel and 1⁄20 and 1⁄40 piastre pieces in bronze. The one piastre piece is worth a fraction over 2½d. The 1⁄40 of a piastre is popularly called a para and the native population generally reckon in paras. The legal piastre is called the piastre tariff (P.T.), to distinguish it from the ½ piastre, which in local usage in Cairo and Alexandria is called a piastre. Officially the ½ piastre is known as 5 milliemes, and so with the coins of lower denomination, the para being ¼ millieme. The old terms *kis* or "purse" (500 piastres) and *khazna* or "treasury" (1000 purses) are still occasionally used. Formerly European coins of all kinds were in general circulation, now the only foreign coins current are the English sovereign, the French 20 franc piece and the Turkish mejidie, a gold coin worth 18 shillings. For several years no Egyptian gold pieces have been coined. Egyptian silver money is minted at Birmingham, and nickel and bronze money at Vienna. Bank-notes, of the National Bank, are issued for £E.100, £E.50, £E.10, £E.5 and £E.1, and for 50 piastres. The notes are not legal tender, but are accepted by the government in payment of taxes.

The history of the currency reform in Egypt is interesting as affording a practical example of a system much discussed in connexion with the currency question in India, namely, a gold standard without a gold coinage. The Egyptian pound is practically nonexistent, nearly all that were coined having been withdrawn from circulation. Their place has been taken by foreign gold, principally the English sovereign, which circulates at a value of 97½ piastres. In practice the system works perfectly smoothly, the gold flowing in and out of the country through the agency of private banking establishments in proportion to the requirements of the circulation. It is, moreover, very economical for the government. As in most agricultural countries, there is a great expansion of the circulation in the autumn and winter months in order to move the crops, followed by a long period of contracted circulation throughout the rest of the year. Under the existing system the fluctuating requirements of the currency are met without the expense of alternately minting and melting down.

Weights and Measures.—The metrical system of weights and measures is in official but not in popular use, except in the foreign quarters of Cairo, Alexandria, &c. The most common Egyptian measures are the *fitr*, or space measured by the extension of the thumb and first finger; the *shibr*, or span; and the cubit (of three kinds = 222⁄3, 25 and 26½ in.). The measure of land is the *feddan*, equal to 1.03 acres, subdivided into 24 *kirats*. The *ardeb* is equal to about 5 bushels, and is divided into 6 *waybas*, and each *wayba* into 24 *rubas*. The *okieh* equals 1.32 oz., the *rotl* .99 ▮, the *oke* 2.75 ▮, the *kantar* (or 100 *rotls* or 36 *okes*) 99.04 ▮.

Constitution and Administration.—Egypt is a tributary state of the Turkish empire, and is ruled by an hereditary prince with the style of khedive, a Persian title regarded as the equivalent of king. The succession to the throne is by primogeniture. The central administration is carried on by a council of ministers, appointed by the khedive, one of whom acts as prime minister. To these is added a British financial adviser, who attends all meetings of the council of ministers,

but has not a vote; on the other hand, no financial decision may be taken without his consent. The ministries are those of the interior, finance, public works, justice, war, foreign affairs and public instruction,[4] and in each of these are prepared the drafts of decrees, which are then submitted to the council of ministers for approval, and on being signed by the khedive become law. No important decision, however, has been taken since 1882 without the concurrence of the British minister plenipotentiary. With a few exceptions, laws cannot, owing to the Capitulations, be enforced against foreigners except with the consent of the powers.

While the council of ministers with the khedive forms the legislative authority, there are various representative bodies with strictly limited powers. The legislative council is a consultative body, partly elective, partly nominative. It examines the budget and all proposed administrative laws, but cannot initiate legislation, nor is the government bound to adopt its suggestions. The general assembly consists of the legislative council and the ministers of state, together with popularly elected members, who form a majority of the whole assembly. It has no legislative functions, but no new direct personal tax nor land tax can be imposed without its consent. It must meet at least once in every two years.

For purposes of local government the chief towns constitute governorships (*moafzas*), the rest of the country being divided into *mudirias* or provinces. The governors and *mudirs* (heads of provinces) are responsible to the ministry of the interior. The provinces are further divided into districts, each of which is under a *mamur*, who in his turn supervises and controls the *omda*, mayor or head-man, of each village in his district.

The governorships are: Cairo; Alexandria, which includes an area of 70 sq. m.; Suez Canal, including Port Said and Ismailia; Suez and El-Arish. Lower Egypt is divided into the provinces of: Behera, Gharbia, Menufia, Dakahlia, Kaliubia, Sharkia. The oasis of Siwa and the country to the Tripolitan frontier are dependent on the province of Behera. Upper Egypt: Giza, Beni Suef, Fayum, Minia, Assiut, Girga, Kena, Assuan. The peninsula of Sinai is administered by the war office.

Justice.—There are four judicial systems in Egypt: two applicable to Egyptian subjects only, one applicable to foreigners only, and one applicable to foreigners and, to a certain extent, natives also. This multiplicity of tribunals arises from the fact that, owing to the Capitulations, which apply to Egypt as part of the Turkish empire, foreigners are almost entirely exempt from the jurisdiction of the native courts. It will be convenient to state first the law as regards foreigners, and secondly the law which concerns Egyptians. Criminal jurisdiction over foreigners is exercised by the consuls of the fifteen powers possessing such right by treaty, according to the law of the country of the offender. These consular courts also judge civil cases between foreigners of the same nationality.

Jurisdiction in civil matters between natives and foreigners and between foreigners of different nationalities is no longer exercised by the consular courts. The grave abuse to which the consular system was subject led to the establishment, in February 1876, at the instance of Nubar Pasha and after eight years of negotiation, of International or “Mixed” Tribunals to supersede consular jurisdiction to the extent indicated. The Mixed Tribunals employ a code based on the *Code Napoléon* with such additions from Mahommedan law as are applicable. There are three tribunals of first instance, and an appeal court at Alexandria. These courts have both foreign and Egyptian judges—the foreign judges forming the majority of the bench. In certain designated matters they enjoy criminal jurisdiction, including, since 1900, offences against the bankruptcy laws. Cases have to be conducted in Arabic, French, Italian and English, English having been admitted as a “judicial language” by khedivial decree of the 17th of April 1905. Besides their judicial duties, the courts practically exercise legislative functions, as no important law can be made applicable to Europeans without the consent of the powers, and the powers are mainly guided by the opinions of the judges of the Mixed Courts.

The judicial systems applicable solely to Egyptians are supervised by the ministry of justice, to which has been attached since 1890 a British judicial adviser. Two systems of laws are administered:—(1) the *Mehkemehs*, (2) the Native Tribunals. The *mehkemehs*, or courts of the cadis, judge in all matters of personal status, such as marriage, inheritance and guardianship, and are guided in their decisions by the code of laws founded on the Koran. The grand cadi, who must belong to the sect of the *Hanifis*, sits at Cairo, and is aided by a council of *Ulema* or learned men. This council consists of the sheikh or religious chief of each of the four orthodox sects, the sheikh of the mosque of Azhar, who is of the sect of the *Shafi'is*, the chief (*nakib*) of the *Sherifs*, or descendants of Mahomet, and others. The cadis are chosen from among the students at the Azhar university. (In the same manner, in matters of personal law, Copts and other non-Moslem Egyptians are, in general, subject to the jurisdiction of their own religious chiefs.)

For other than the purposes indicated, the native judicial system, both civil and criminal, was superseded in 1884 by tribunals administering a jurisprudence modelled on that of the French code. It is, in the words of Lord Cromer, “in many respects ill adapted to meet the special needs of the country” (*Egypt*, No. 1, 1904, p. 33). The system was, on the advice of an Anglo-Indian official (Sir John Scott), modified and simplified in 1891, but its essential character remained unaltered. In 1904, however, more important modifications were introduced. Save on points of law, the right of appeal in criminal cases was abolished, and assize courts, whose judgments were final, established. At the same time the penal code was thoroughly revised, so that the Egyptian judges were “for the first time provided with a sound working code” (Ibid. p. 49). The native courts have both native and foreign judges. There are courts of summary jurisdiction presided

over by one judge, central tribunals (or courts of first instance) with three judges, and a court of appeal at Cairo. A committee of judicial surveillance watches the working of the courts of first instance and the summary courts, and endeavours, by letters and discussions, to maintain purity and sound law. There is a *procureur-général*, who, with other duties, is entrusted with criminal prosecutions. His representatives are attached to each tribunal, and form the *parquet* under whose orders the police act in bringing criminals to justice. In the *markak* (district) tribunals, created in 1904 and presided over by magistrates with jurisdiction in cases of misdemeanour, the prosecution is, however, conducted directly by the police. Special Children's Courts have been established for the trial of juvenile offenders.

The police service, which has been subject to frequent modification, was in 1895 put under the orders of the ministry of the interior, to which a British adviser and British inspectors are attached. The provincial police is under the direction of the local authorities, the *mudirs* or governors of provinces, and the *mamurs* or district officials; to the *omdas*, or village head-men, who are responsible for the good order of the villages, a limited criminal jurisdiction has been entrusted.

Religion.—The great majority of the inhabitants are Mahommedans. In 1907 the Moslems numbered over ten millions, or 91.8% of the entire population. The Christians in the same year numbered 880,000, or 8% of the population. Of these the Coptic Orthodox church had some 667,000 adherents. Among other churches represented were the Greek Orthodox, the Armenian, Syrian and Maronite, the Roman Catholic and various Protestant bodies. The last-named numbered 37,000 (including 24,000 Copts). There were in 1907 over 38,000 Jews in Egypt.

The Mahommedans are Sunnites, professing the creed commonly termed "orthodox," and are principally of the persuasion of the *Shafi'is*, whose celebrated founder, the imam ash-Shafi'i, is buried in the great southern cemetery of Cairo. Many of them are, however, *Hanifis* (to which persuasion the Turks chiefly belong), and in parts of Lower, and almost universally in Upper, Egypt, *Mālikis*. Among the Moslems the *Sheikh-el-Islam*, appointed by the khedive from among the *Ulema* (learned class), exercises the highest religious and, in certain subjects, judicial authority. There is also a grand cadi, nominated by the sultan of Turkey from among the *Ulema* of Stamboul. Valuable property is held by the Moslems in trust for the promotion of religion and for charitable purposes, and is known as the Wakfs administration. The revenue derived is over £250,000 yearly.

The Coptic organization includes in Egypt three metropolitans and twelve bishops, under the headship of the patriarch of Alexandria. The minor orders are arch-priests, priests, archdeacons, deacons, readers and monks (see Copts: *Coptic Church*).

Education.—Two different systems of education exist, one founded on native lines, the other European in character. Both systems are more or less fully controlled by the ministry of public instruction. The government has primary, secondary and technical schools, training colleges for teachers, and schools of agriculture, engineering, law, medicine and veterinary science. The government system, which dates back to a period before the British occupation, is designed to provide, in the main, a European education. In the primary schools Arabic is the medium of instruction, the use of English for that purpose being confined to lessons in that language itself. The school of law is divided into English and French sections according to the language in which the students study law. Besides the government primary and secondary schools, there are many other schools in the large towns owned by the Moslems, Copts, Hebrews, and by various missionary societies, and in which the education is on the same lines. A movement initiated among the leading Moslems led in 1908 to the establishment as a private enterprise of a national Egyptian university devoted to scientific, literary and philosophical studies. Political and religious subjects are excluded from the curriculum and no discrimination in regard to race or religion is allowed.

Education on native lines is given in *kuttabs* and in the Azhar university in Cairo. *Kuttabs* are schools attached to mosques, found in every village and in every quarter of the larger towns. In these schools the instruction given before the British occupation was very slight. All pupils were taught to recite portions of the Koran, and a proportion of the scholars learnt to read and write Arabic and a little simple arithmetic. Those pupils who succeeded in committing to memory the whole of the Koran were regarded as *fiki* (learned in Mahommedan law), and as such escaped liability to military conscription. The government has improved the education given in the *kuttabs*, and numbers of them have been taken under the direct control of the ministry of public instruction. In these latter schools an excellent elementary secular education is given, in addition to the instruction in the Koran, to which half the school hours are devoted. The number of pupils in 1905 was over 12,000 boys and 2000 girls. Grants-in-aid are given to other schools where a sufficiently good standard of instruction is maintained. No grant is made to any *kuttab* where any language other than Arabic is taught. In all there are over 10,000 kuttabs, attended by some 250,000 scholars. The number of pupils in private schools under government inspection was in 1898, the first year of the grant-in-aid system, 7536; in 1900, 12,315; in 1905, 145,691. The number of girls in attendance rose from 598 in 1898 to 997 in 1900 and 9611 in 1905. The Copts have about 1000 primary schools, in which the teaching of Coptic is compulsory, a few industrial schools, and one college for higher instruction.

Cairo holds a prominent place as a seat of Moslem learning, and its university, the Azhar, is considered the first of the eastern world. Its professors teach “grammatical inflexion and syntax, rhetoric, versification, logic, theology, the exposition of the Koran, the traditions of the Prophet, the complete science of jurisprudence, or rather of religious, moral, civil and criminal law, which is chiefly founded on the Koran and the traditions, together with arithmetic as far as it is useful in matters of law. Lectures are also given on algebra and on the calculations of the Mahommedan calendar, the times of prayer, &c.” (E. W. Lane, *Modern Egyptians*). The students come from all parts of the Mahommedan world. They number about 8000, of whom some 2000 are resident. The students pay no fees, and the professors receive no salaries. The latter maintain themselves by private teaching and by copying manuscripts, and the former in the same manner, or by reciting the Koran. To meet the demand for better qualified judges for the Moslem courts a training college for cadis was established in 1907. Besides the subjects taught at the Azhar university, instruction is given in literature, mathematics and physical science. The necessity for a reorganization of the Azhar system itself being also recognized by the high Moslem dignitaries in Egypt, a law was passed in 1907 creating a superior board of control under the presidency of the Sheikh el-Azhar to supervise the proceedings of the university and other similar establishments. This attempt to reform the Azhar met, however, with so much opposition that in 1909 it was, for the time, abandoned.

In 1907, of the sedentary Egyptian population over seven years of age, some 12% of the Moslems could read and write, female literacy having increased 50% since 1897; of the foreign population over seven years of age 75% could read and write. Of the Coptic community about 50% can read and write.

Literature and the Press.—Since the British occupation there has been a marked renaissance of Arabic learning and literature in Egypt. Societies formed for the encouragement of Arabic literature have brought to light important texts bearing on Mahommedan history, antiquities and religion. Numbers of magazines and reviews are published in Arabic which cater both for the needs of the moment and the advancement of learning. Side by side with these literary organs there exists a vernacular press largely devoted to nationalist propaganda. Prominent among these papers is *Al Lewa* (*The Standard*), founded in 1900. Other papers of a similar character are *Al Omma*, *Al Moayad* and *Al Gerida*. The *Mokattam* represents the views of the more enlightened and conservative section of the native population. In Cairo and Alexandria there are also published several newspapers in English and French.

Authorities.—(a) General descriptions, geography, travel, &c.: *Description de l’Égypte*, 10 folio vols. and atlas of 10 vols. (Paris, 1809-1822), compiled by the scientific commission sent to Egypt by Bonaparte; Clot Bey, *Aperçu général sur l’Égypte*, 2 vols. (Paris, 1840); Boinet Bey, *Dictionnaire géographique de l’Égypte* (Cairo, 1899); Murray’s and Baedeker’s handbooks and *Guide Joanne*; G. Ebers, *Egypt, Descriptive, Historical and Picturesque*, translated from the German edition of 1879 by Clara Bell, new edition, 2 vols. (London, 1887); Sir Gardiner Wilkinson, *Modern Egypt and Thebes* (2 vols., London, 1843); Lady Duff Gordon, *Letters from Egypt*, complete edition (London, 1902), an invaluable account of social conditions in the period 1862-1869; A. B. Edwards, *A Thousand Miles up the Nile* (2nd edition, London, n.d. [1889]); *Pharaohs, Fellahs and Explorers* (London, 1892); H. W. Mardon, *Geography of Egypt ...* (London, 1902), an excellent elementary text-book; D. G. Hogarth, *The Nearer East* (London, 1902), contains brief but suggestive chapters on Egypt; S. Lane Poole, *Egypt* (London, 1881); A. B. de Guerville, *New Egypt*, translated from the French (London, 1905); R. T. Kelly, *Egypt Painted and Described* (London, 1902). The best maps are those of the Survey Department, Cairo, on the scale of 1:50000 (1.3 in. to the mile).

(b) Administration: Sir John Bowring’s *Report on Egypt ...* to Lord Palmerston (London, 1840) shows the system obtaining at that period. For the study of the state of Egypt at the time of the British occupation, 1882, and the development of the country since, the most valuable documents[5] are:

I. *Official*.—The *Reports on the Finances, Administration and Condition of Egypt*, issued yearly since 1892 (the reports

1888-1891 were exclusively financial). Up to 1906 the reports were by Lord Cromer (Sir Evelyn Baring). They clearly picture the progress of the country. The following reports are specially valuable as exhibiting the difficulties which at the outset confronted the British administrators:—*Correspondence respecting the Reorganization of Egypt* (1883); *Reports by Mr Villiers Stuart respecting Reorganization of Egypt* (1883 and 1895); *Despatch from Lord Dufferin forwarding the Decree constituting the New Political Institutions of Egypt* (1883); *Reports on the State of Egypt and the Progress of Administrative Reforms* (1885); *Reports by Sir H. D. Wolff on the Administration of Egypt* (1887). Annual returns are published in Cairo in English or French by the various ministries, and British consular reports on the trade of Egypt and of Alexandria and of the tonnage and shipping of the Suez Canal are also issued yearly.

II. *Non-official*.—Lord Cromer, *Modern Egypt* (2 vols., 1908), an authoritative record; Alfred (Lord) Milner, *England in Egypt*, first published in 1892, the story being brought up to 1904 in the 11th edition; Sir A. Colvin, *The Making of Modern Egypt* (1906); J. Ward, *Pyramids and Progress* (1900); A. S. White, *The Expansion of Egypt* (1899); and F. W. Fuller, *Egypt and the Hinterland* (1901). See also the works cited in *History*, last section.

(c) Law: H. Lamba, *De l'évolution de la condition juridique des Européens en Égypte* (Paris, 1896); J. H. Scott, *The Law affecting Foreigners in Egypt ...* (Edinburgh, 1907); *The Egyptian Codes* (London, 1892).

(d) Irrigation, agriculture, geology, &c.: *Despatch from Sir Evelyn Baring enclosing Report on the Condition of the Agricultural Population in Egypt* (1888); *Notes on Egyptian Crops* (Cairo, 1896); Yacub Artin Bey, *La Propriété foncière en Égypte* (Bulak, 1885); *Report on Perennial Irrigation and Flood Protection for Egypt*, 1 vol. and atlas (Cairo, 1894). The reports (*Egypt*, No. 2, 1901, and *Egypt*, No. 2, 1904), by Sir William Garstin on irrigation projects on the Upper Nile are very valuable records—notably the 1904 report. W. Willcocks, *Egyptian Irrigation* (2nd ed., 1899); H. G. Lyons, *The Physiography of the River Nile and its Basin* (Cairo, 1906); Leigh Canney, *The Meteorology of Egypt and its Influence on Disease* (1897). Annual meteorological reports are issued by the Public Works Department, Cairo. The same department issues special irrigation reports. See for geology Carl von Zittel, *Beiträge zur Geologie und Paläontologie der libyschen Wüste* (Cassel, 1883); *Reports of the Geological Survey of Egypt* (Cairo, 1900, et seq.).

(e) Natural history, anthropology, &c.: F. Pruner, *Ägyptens Naturgeschichte und Anthropologie* (Erlangen, 1848); R. Hartmann, *Naturgeschichtliche Skizze der Nilländer* (Berlin, 1866); Captain G. E. Shelley, *Birds of Egypt* (London, 1872).

(F. R. C.)

Inhabitants.

The population enumerated at the census taken in April 1907 was 11,189,978. In these figures nomad Arabs or Bedouins, estimated to number 97,381, are not included. The total population was thus returned at 11,287,359, or some 16% more than in 1897 when the inhabitants numbered 9,734,405. The figures for 1897 compared with 6,813,919 in 1882, an increase of 43.5% in fifteen years. Thus, during the first twenty-five years of the British occupation of the country the population increased by nearly 4,500,000. In 1800 the French estimated the population at no more than 2,460,000; the census of 1846 gave the figures at 4,476,440. From that year to 1882 the average annual increase was 1.25%. If the desert regions be excluded, the population of Egypt is extremely dense, being about 939 per sq. m. This figure may be compared with that of Belgium, the most densely populated country in Europe, 589 per sq. m., and with that of Bengal, 586 per sq. m. In parts of Menufia, a Delta province, the density rises to 1352 per sq. m., and in the Kena province of Upper Egypt to 1308.

The population is generally divisible into—

1. The fellahin or peasantry and the native townsmen.

2. The Bedouins or nomad Arabs of the desert.

3. The Nuba, Nubians or Berberin, inhabitants of the Nile valley between Assuan and Dongola.

4. Foreigners.

The first of these divisions includes both the Moslem and Coptic inhabitants. The Bedouins, or the Arabs of the desert, are of two different classes: first, Arabic-speaking tribes who range the deserts as far south as 26° N.; secondly, the tribes inhabiting the desert from Kosseir to Suakin, namely the Hadendoa, Bisharin and the Ababda tribes. This group speak a language of their own, and are probably descendants of the Blemmyes, who occupied these parts in ancient times (see Arabs; Bedouins; Hadendoa; Bishārīn; &c.). The Nubas are of mixed negro and Arab blood. They are mainly agriculturists, though some are keen traders (see Nubia).

Foreigners number over 150,000 and form 1½% of the total population. They are chiefly Greeks—of whom the majority

live in Alexandria—Italians, British and French. Syrians and Levantines are numerous, and there is a colony of Persians. The Turkish element is not numerically strong—a few thousands only—but holds a high social position.

Of the total population, about 20% is urban. In addition to the 97,000 pure nomads, there are half a million Bedouins described as "semi-sedentaries," *i.e.* tent-dwelling Arabs, usually encamped in those parts of the desert adjoining the cultivated land. The rural classes are mainly engaged in agriculture, which occupies over 62% of the adults. The professional and trading classes form about 10% of the whole population, but 50% of the foreigners are engaged in trade. Of the total population the males exceed the females by some 46,000.

The Coptic inhabitants are described in the article Copts, and the rural population under Fellah. It remains here to describe characteristics and customs common to the Moslem Egyptians Physical characteristics of the Egyptians. and particularly to those of the cities. In some respects the manner of life of the natives has been modified by contact with Europeans, and what follows depicts in general the habits of the people where little affected by western culture. With regard to physical characteristics the Egyptians are of full average height (the men are mostly 5 ft. 8 in. or 5 ft. 9 in), and both sexes are remarkably well proportioned and of strong physique. The Cairenes and the inhabitants of Lower Egypt generally have a clear complexion and soft skin of a light yellowish colour; those of Middle Egypt have a tawny skin, and the dwellers in Upper Egypt a deep bronze or brown complexion. The face of the men is of a fine oval, forehead prominent but seldom high, straight nose, eyes deep set, black and brilliant, mouth well formed, but with rather full lips, regular teeth beautifully made, and beard usually black and curly but scanty. Moustaches are worn, while the head is shaved save for a small tuft (called *shusheh*) upon the crown. As to the women, "from the age of about fourteen to that of eighteen or twenty, they are generally models of beauty in body and limbs; and in countenance most of them are pleasing, and many exceedingly lovely; but soon after they have attained their perfect growth, they rapidly decline." There are few Egyptian women over forty who retain either good looks or good figures. "The forms of womanhood begin to develop themselves about the ninth and tenth year: at the age of fifteen or sixteen they generally attain their highest degree of perfection. With regard to their complexions, the same remarks apply to them as to the men, with only this difference, that their faces, being generally veiled when they go abroad, are not quite so much tanned as those of the men. They are characterized, like the men, by a fine oval countenance, though in some instances it is rather broad. The eyes, with very few exceptions, are black, large and of a long almond-form, with long and beautiful lashes, and an exquisitely soft, bewitching expression—eyes more beautiful can hardly be conceived: their charming effect is much heightened by the concealment of the other features (however pleasing the latter may be), and is rendered still more striking by a practice universal among the females of the higher and middle classes, and very common among those of the lower orders, which is that of blackening the edge of the eyelids both above and below the eye, with a black powder called 'kohl'" (Lane, *Modern Egyptians*). Both sexes, but especially the women, tattoo several parts of the person, and the women stain their hands and feet with the red dye of the henna.

The dress of the men of the upper and middle classes who have not adopted European clothing—a practice increasingly common—consists of cotton drawers, and a cotton or silk shirt with very wide sleeves. Above these are generally worn a Dress and social life. waistcoat without sleeves, and a long vest of silk, called kaftan, which has hanging sleeves, and reaches nearly to the ankles. The kaftan is confined by the girdle, which is a silk scarf, or cashmere or other woollen shawl. Over all is worn a long cloth robe, the gibbeh (or jibbeh) somewhat resembling the kaftan in shape, but having shorter sleeves, and being open in front. The dress of the lower orders is the shirt and drawers, and waistcoat, with an outer shirt of blue cotton or brown woollen stuff; some wear a kaftan. The head-dress is the red cloth fez or tarbush round which a turban is usually worn. Men who have otherwise adopted European costume retain the tarbush. Many professions and religions, &c., are distinguished by the shape and colour of the turban, and various classes, and particularly servants, are marked by the form and colour of their shoes; but the poor go usually barefoot. Many ladies of the upper classes now dress in European style, with certain modifications, such as the head-veil. Those who retain native costume wear a very full pair of silk trousers, bright coloured stockings (usually pink), and a close-fitting vest with hanging sleeves and skirts, open down the front and at the sides, and long enough to turn up and fasten into the girdle, which is generally a cashmere shawl; a cloth jacket, richly embroidered with gold, and having short sleeves, is commonly worn over the vest. The hair in front is combed down over the forehead and cut across in a straight line; behind it is divided into very many small plaits, which hang down the back, and are lengthened by silken cords, and often adorned with gold coins and ornaments. A small tarbush is worn on the back of the head, sometimes having a plate of gold fixed on the crown, and a handkerchief is tastefully bound round the temples. The women of the lower orders have trousers of printed or dyed cotton, and a close waistcoat. All wear the long and elegant head-veil. This is a simple "breadth" of muslin, which passes over the head and hangs down behind, one side, being drawn forward over the face in the presence of a man. A lady's veil is of white muslin, embroidered at the ends in gold and colours; that of a person of the lower class is simply dyed blue. In going abroad the ladies wear above their indoor dress a loose robe of coloured silk without sleeves, and nearly open at the sides, and above it a large enveloping piece of black silk, which is brought over the head, and gathered round the person by the arms and hands on each side. A face-veil entirely conceals the features, except the eyes; it is a long and narrow piece of thick white muslin, reaching to a little below the knees. The women of the lower orders have the same out-door dress of different materials and colour. Ladies use slippers of yellow morocco, and abroad, inner boots of the same material, above which they wear, in either case, thick shoes, having only toes. The poor wear red shoes, very like those of the men. The women, especially in Upper Egypt, not infrequently wear nose-

rings.

Children, though often neglected, are not unkindly treated, and reverence for their parents and the aged is early inculcated. They are also well grounded in the leading doctrines of Islam. Boys are circumcised at the age of five or six years, when the boy is paraded, generally with a bridal procession, on a gaily caparisoned horse and dressed in woman's clothes. Most parents send their boys to school where a knowledge of reading and writing Arabic—the common tongue of the Egyptians—is obtainable, and from the closing years of the 19th century a great desire for the education of girls has arisen (see § *Education*).

It is deemed disreputable for a young man not to marry when he has attained a sufficient age; there are, therefore, few unmarried men. Girls, in like manner, marry very young, some at ten years of age, and few remain single beyond the age of sixteen; they are generally very prolific. The bridegroom never sees his future wife before the wedding night, a custom rendered more tolerable than it otherwise might be by the facility of divorce. A dowry is always given, and a simple marriage ceremony performed by a *fiki* (a schoolmaster, or one who recites the Koran, properly one learned in *fiqh*, Mahommedan law) in the presence of two witnesses. The bridal of a virgin is attended with great festivity and rejoicing, a grandee's wedding sometimes continuing eleven days and nights. On the last day, which should be that terminating with the eve of Friday, or of Monday, the bride is taken in procession to the bridegroom's house, accompanied by her female friends, and a band of musicians, jugglers, wrestlers, &c. As before stated, a boy about to be circumcised joins in such a procession, or, frequently, a succession of such boys. Though allowed by his religion four wives, most Egyptians are monogamists. A man may, however, possess any number of concubines, who, though objects of jealousy to the legal wife, are tolerated by her in consideration of her superior position and power over them, a power which she often uses with great tyranny; but certain privileges are possessed by concubines, especially if they have borne sons to their master. A divorce is rendered obligatory by the simple words "Thou art divorced." Repudiation may take place twice without being final, but if the husband repeats thrice "Thou art divorced" the separation is absolute. In that case the dowry must be returned to the wife.

Elaborate ceremonies are observed at funerals. Immediately on death the corpse is turned towards Mecca, and the women of the household, assisted by hired mourners, commence their peculiar wailing, while fikis recite portions of the Koran. The funeral takes place on the day of the death, if that happen in the morning; otherwise on the next day. The corpse, having been washed and shrouded, is placed in an open bier, covered with a cashmere shawl, in the case of a man; or in a closed bier, having a post in front, on which are placed feminine ornaments, in that of a woman or child. The funeral procession is headed by a number of poor, and generally blind, men, chanting the profession of the faith, followed by male friends of the deceased, and a party of schoolboys, also chanting, generally from a poem descriptive of the state of the soul after death. Then follows the bier, borne on the shoulders of friends, who are relieved by the passers-by, such an act being deemed highly meritorious. Behind come the women relatives and the hired wailers. On the way to the cemetery the corpse is generally carried to some revered mosque. Here the funeral service is performed by the imam, and the procession then proceeds to the tomb. In the burials of the rich, water and bread are distributed to the poor at the grave; and sometimes a buffalo or several buffaloes are slaughtered there, and the flesh given away. The tomb is a vault, surmounted by an oblong stone monument, with a stele at the head and feet; and a cupola, supported by four walls, covers the whole in the case of sheikhs' tombs and those of the wealthy. During the night following the interment, called the Night of Desolation, or that of Solitude, the soul being believed to remain with the body that one night, fikis are engaged at the house of the deceased to recite various portions of the Koran, and, commonly, to repeat the first clause of the profession of the faith, "There is no God but God," three thousand times. The women alone put on mourning attire, by dyeing their veils, shirts, &c., dark blue, with indigo; and they stain their hands, and smear the walls, with the same colour. Everything in the house is also turned upside down. The latter customs are not, however, observed on the death of an old man. At certain periods after the burial, a khatmeh, or recitation of the whole of the Koran, is performed, and the tomb is visited by the women relations and friends of the deceased. The women of the peasants of Upper Egypt perform strange dances, &c., at funerals, which are regarded partly as relics of ancient Egyptian customs.

The harem system of appointing separate apartments to the women, and secluding them from the gaze of men, is observed in Egypt as in other Moslem countries, but less strictly. The women of an Egyptian household in which old customs are maintained never sit in the presence of the master, but attend him at his meals, and are treated in every respect as inferiors. The mother, however, forms a remarkable exception to this rule; in rare instances, also, a wife becomes a companion to her husband. On the other hand, if a pair of women's shoes are placed outside the door of the harem apartments, they are understood to signify that female visitors are within, and a man is sometimes thus excluded from the upper portion of his own house for many days. Ladies of the upper or middle classes lead a life of extreme inactivity, spending their time at the bath, which is the general place of gossip, or in receiving visits, embroidering, and the like, and in absolute *dolce far niente*. Both sexes are given to licentiousness.

The principal meals are breakfast, about an hour after sunrise; dinner, or the mid-day meal, at noon; and supper, which is the chief meal of the day, a little after sunset. Pastry, sweetmeats and fruit are highly esteemed. Coffee is taken at all hours, and is, with a pipe, presented at least once to each guest. Tobacco is the great luxury of the men of all classes in

Egypt, who begin and end the day with it, and generally smoke all day with little intermission. Many women, also, especially among the rich, adopt the habit. The smoking of hashish, though illegal, is indulged in by considerable numbers of people. Men who can afford to keep a horse, mule or ass are very seldom seen to walk. Ladies ride asses and sit astride. The poorer classes cannot fully observe the harem system, but the women are in general carefully veiled. Some of them keep small shops, and all fetch water, make fuel, and cook for their households. Domestic slavery lingers but is moribund. The majority of the slaves are negresses employed in household duties.

In social intercourse the Egyptians observe many forms of salutation and much etiquette; they are very affable, and readily enter into conversation with strangers. Their courtesy and dignity of manner are very striking, and are combined with ease and a fluency of discourse. They have a remarkable quickness of apprehension, a ready wit, a retentive memory, combined, however, with religious pride and hypocrisy, and a disregard for the truth. Their common discourse is full of asseverations and expressions respecting sacred things. They entertain reverence for their Prophet; and the Koran is treated with the utmost respect—never, for example, being placed in a low situation—and this is the case with everything they esteem holy. They are fatalists, and bear calamities with surprising resignation. Their filial piety and respect for the aged have been mentioned, and benevolence and charity are conspicuous in their character. Humanity to animals is another virtue, and cruelty is openly discountenanced in the streets. Their affability, cheerfulness and hospitality are remarkable, as well as frugality and temperance in food and drink, and honesty in the payment of debt. Their cupidity is mitigated by generosity; their natural indolence by the necessity, especially among the peasantry, to work hard to gain a livelihood. Egyptians, however, are as a rule suspicious of all not of their own creed and country. Murders and other grave crimes are rare, but petty larcenies are very common.

The amusements of the people are generally not of a violent kind, being in keeping with their sedentary habits and the heat of the climate. The bath is a favourite resort of both sexes and all classes. They are acquainted with chess, draughts, backgammon, and other games, among which is one peculiar to themselves, called Mankalah, and played with cowries. Notwithstanding its condemnation by Mahomet, music is the most favourite recreation of the people; the songs of the boatmen, the religious chants, and the cries in the streets are all musical. There are male and female musical performers; the former are both instrumental and vocal, the latter (called *'Almeh*, pl. *'Awālim*) generally vocal. The 'Awālim are, as their name ("learned") implies, generally accomplished women, and should not be confounded with the Ghawāzi, or dancing-girls. There are many kinds of musical instruments. The music, vocal and instrumental, is generally of little compass, and in the minor key; it is therefore plaintive, and strikes a European ear as somewhat monotonous, though often possessing a simple beauty, and the charm of antiquity, for there is little doubt that the favourite airs have been handed down from remote ages. The Ghawāzi (sing. Ghāzīa) form a separate class, very similar to the gipsies. They intermarry among themselves only, and their women are professional dancers. Their performances are often objectionable and are so regarded by many Egyptians. They dance in public, at fairs and religious festivals, and at private festivities, but, it is said, not in respectable houses. Mehemet Ali banished them to Esna, in Upper Egypt; and the few that remained in Cairo called themselves 'Awālim, to avoid punishment. Many of the dancing-girls of Cairo to-day are neither 'Awālim nor Ghawāzi, but women of the very lowest class whose performances are both ungraceful and indecent. A most objectionable class of male dancers also exists, who imitate the dances of the Ghawāzi, and dress in a kind of nondescript female attire. Not the least curious of the public performances are those of the serpent-charmers, who are generally Rifā'iā (Saadīa) dervishes. Their power over serpents has been doubted, yet their performances remain unexplained; they, however, always extract the fangs of venomous serpents. Jugglers, rope-dancers and farce-players must also be mentioned. In the principal coffee-shops of Cairo are to be found reciters of romances, surrounded by interested audiences.

The periodical public festivals are exceedingly interesting, but many of the remarkable observances connected with them are passing away. The first ten days of the Mahommedan year are held to be blessed, and especially the tenth; Public festivals. and many curious practices are observed on these days, particularly by the women. The tenth day, being the anniversary of the martyrdom of Hosain, the son of Ali and grandson of the Prophet, the mosque of the Hasanēn at Cairo is thronged to excess, mostly by women. In the evening a procession goes to the mosque, the principal figure being a white horse with white trappings, upon which is seated a small boy, the horse and the lad, who represents Hosain, being smeared with blood. From the mosque the procession goes to a private house, where a mullah recites the story of the martyrdom. Following the order of the lunar year, the next festival is that of the Return of the Pilgrims, which is the occasion of great rejoicing, many having friends or relatives in the caravan. The Mahmal, a kind of covered litter, first originated by Queen Sheger-ed-Dur, is brought into the city in procession, though not with as much pomp as when it leaves with the pilgrims. These and other processions have lost much of their effect since the extinction of the Mamelukes, and the gradual disuse of gorgeous dress for the retainers of the officers of state. A regiment of regular infantry makes but a sorry substitute for the splendid cavalcade of former times. The Birth of the Prophet (Molid en-Nebi), which is celebrated in the beginning of the third month, is the greatest festival of the whole year. For nine days and nights Cairo has more the aspect of a fair than of a city keeping a religious festival. The chief ceremonies take place in some large open spot round which are erected the tents of the khedive, of great state officials, and of the dervishes. Next in time, and also in importance, is the Molid El-Hasanēn, commemorative of the birth of Hosain, and lasting fifteen days and nights; and at the same time is kept the Molid of al-Ṣāliḥ Ayyūb, the last sovereign but two of the Ayyubite dynasty. In the seventh month occur the Molid of the sayyida Zenab, and the commemoration of the Miarāg, or the Prophet's

miraculous journey to heaven. Early in the eighth month (Sha'bān), the Molid of the imam Shāfi'i is observed; and the night of the middle of that month has its peculiar customs, being held by the Moslems to be that on which the fate of all living is decided for the ensuing year. Then follows Ramadān, the month of abstinence, a severe trial to the faithful; and the Lesser Festival (Al-'id aṣ-ṣaghīr), which commences Shawwāl, is hailed by them with delight. A few days after, the Kiswa, or new covering for the Ka'ba at Mecca, is taken in procession from the citadel, where it is always manufactured, to the mosque of the Hasanēn to be completed; and, later, the caravan of pilgrims departs, when the grand procession of the Mahmal takes place. On the tenth day of the last month of the year the Great Festival (Al-'id al-kabīr), or that of the Sacrifice (commemorating the willingness of Ibrahim to slay his son Ismail—according to the Arab legend), closes the calendar. The Lesser and Great Festivals are those known in Turkish as the Bairam (*q.v.*).

The rise of the Nile is naturally the occasion of annual customs, some of which are doubtless relics of antiquity; these are observed according to the Coptic calendar. The commencement of the rise is commemorated on the night of the 11th of Baūna, the 17th of June, called that of the Drop (Lelet-en-Nukta), because a miraculous drop is then supposed to fall and cause the swelling of the river. The real rise begins at Cairo about the summer solstice, or a few days later, and early in July a crier in each district of the city begins to go his daily rounds, announcing, in a quaint chant, the increase of water in the nilometer of the island of Rōda. When the river has risen 20 or 21 ft., he proclaims the Wefā en-Nil, "Completion" or "Abundance of the Nile." On the following day the dam which closed the canal of Cairo was cut with much ceremony. The canal having been filled up in 1897 the ceremony has been much modified, but a brief description of what used to take place may be given. A pillar of earth before the dam is called the "Bride of the Nile," and Arab historians relate that this was substituted, at the Moslem conquest, for a virgin whom it was the custom annually to sacrifice, to ensure a plentiful inundation. A large boat, gaily decked out, representing that in which the victim used to be conveyed, was anchored near, and a gun on board fired every quarter of an hour during the night. Rockets and other fireworks were also let off, but the best, strangely, after daybreak. The governor of Cairo attended the ceremony, with the cadi and others, and gave the signal for the cutting of the dam. As soon as sufficient water had entered, boats ascended the canal to the city. The crier continues his daily rounds, with his former chant, excepting on the Coptic New Year's Day, when the cry of the Wefā is repeated, until the Salib, or Discovery of the Cross, the 26th or 27th of September, at which period, the river having attained its greatest height, he concludes his annual employment with another chant, and presents to each house some limes and other fruit, and dry lumps of Nile mud.

The period of the hot winds, called the khamsin, that is, "the fifties," is calculated from the day after the Coptic Easter, and terminates on the day of Pentecost, and the Moslems observe the Wednesday preceding this period, called "Job's Wednesday," as well as its first day, when many go into the country from Cairo, "to smell the air." This day is hence called Shem en-Nesim, or "the smelling of the zephyr." The Ulema observe the same custom on the first three days of the spring quarter.

Tombs of saints abound, one or more being found in every town and village; and no traveller up the Nile can fail to remark how every prominent hill has the sepulchre of its patron saint. The great saints of Egypt are the imam Ash-Shāfi'i, founder of the persuasion called after him, the sayyid Aḥmad al-Baiḍāwī, and the sayyid Ibrāhīm Ed-Desūkī, both of whom were founders of orders of dervishes. Al-Baiḍāwī, who lived in the 13th century a.d., is buried at the town of Tanta, in the Delta, and his tomb attracts many thousands of visitors at each of the three festivals held yearly in his honour; Ed-Desūkī is also much revered, and his festivals draw together, in like manner, great crowds to his birthplace, the town of Desūk. But, besides the graves of her native saints, Egypt boasts of those of several members of the Prophet's family, the tomb of the sayyida Zeyneb, daughter of 'Ali, that of the sayyida Sekeina, daughter of Hosain, and that of the sayyida Nefisa, great-granddaughter of Hasan, all of which are held in high veneration. The mosque of the Hasanēn (or that of the "two Hasans") is the most reverenced shrine in the country, and is believed to contain the head of Hosain. Many orders of Dervishes live in Egypt, the following being the most celebrated:—(1) the Rifā'iā, and their sects the 'Ilwānīa and Saadīa; (2) the Qādirīa (Kāhirīa), or howling dervishes; (3) the Ahmedīa, or followers of the sayyid Aḥmad al-Baiḍāwī, and their sects the Beyūmīa (known by their long hair), Shinnawīa, Sharawīa and many others; and (4) the Barāmīa, or followers of the sayyid Ibrāhīm Ed-Desūkī. These are all presided over by a direct descendant of the caliph Abu Bekr, called the Sheikh El-Bekri. The Saadīa are famous for charming and eating live serpents, &c., and the 'Ilwānīa for eating fire, glass, &c. The Egyptians firmly believe in the efficacy of charms, a belief associated with that in an omnipresent and over-ruling providence. Thus the doors of houses are inscribed with sentences from the Koran, or the like, to preserve from the evil eye, or avert the dangers of an unlucky threshold; similar inscriptions may be observed over most shops, while almost every one carries some charm about his person. The so-called sciences of magic, astrology and alchemy still flourish.

Authorities.—The standard authority for the Moslem Egyptians is E. W. Lane's *Manners and Customs of the Modern Egyptians*, first published in 1836. The best edition is that of 1860, edited, with additions, by E. S. Poole. See also B. Saint-John, *Village Life in Egypt* (2 vols., 1852); S. Lane Poole, *Social Life in Egypt* (1884); P. Arminjon, *L'Enseignement, la doctrine, el la vie dans les universités musulmanes d'Égypte* (Paris, 1907). For the language see J. S. Willmore, *The Spoken Arabic of Egypt* (2nd ed., London, 1905); Spitta Bey, *Grammatik des arabischen Vulgardialektes von Ägypten, Contes arabes modernes* (Leiden, 1883). For statistical information consult the reports on the censuses of 1897 and 1907, published by the Ministry of the Interior, Cairo, in 1898 and 1909.

(E. S. P.; S. L.-P.; F. R. C.)

Finance.

The important part which the financial arrangements have played in the political and social history of Egypt since the accession of Ismail Pasha in 1863 is shown in the section *History* of this article. Here it is proposed to trace the steps by which Egypt, after having been brought to a state of bankruptcy, passed through a period of great stress, and finally attained prosperity and a large measure of financial autonomy.

In 1862 the foreign debt of Egypt stood at £3,292,000. With the accession of Ismail (*q.v.*) there followed a period of wild extravagance and reckless borrowing accompanied by the extortion of every piastre possible from the fellahin. The real state of affairs was disclosed in the report of Mr Stephen Cave, a well-known banker, who was sent by the British government in December 1875 to inquire into the situation. The Cave report showed that Egypt suffered from "the ignorance, dishonesty, waste and extravagance of the East" and from "the vast expense caused by hasty and inconsiderate endeavours to adopt the civilization of the West." The debtor and creditor account of the state from 1864 to 1875 showed receipts amounting to £148,215,000. Of this sum over £94,000,000 had been obtained from revenue and nearly £4,000,000 by the sale of the khedive's shares in the Suez Canal to Great Britain. The rest was credited to: loans £31,713,000, floating debt £18,243,000. The cash which reached the Egyptian treasury from the loans and floating debt was far less than the nominal amount of such loans, none of which cost the Egyptian government less than 12% per annum. When the expenditure during the same period was examined the extraordinary fact was disclosed that the sum raised by revenue was only three millions less than that spent on administration, tribute and public works, including a sum of £10,500,000, described as "expenses of questionable utility or policy." The whole proceeds of the loans and floating debt had been absorbed in payment of interest and sinking funds, with the exception of £16,000,000 debited to the Suez Canal. In other words, Egypt was burdened with a debt of £91,000,000—funded or floating—for which she had no return, for even from the Suez Canal she derived no revenue, owing to the sale of the khedive's shares.

Soon after Mr Cave's report appeared (March 1876), default took place on several of the loans. Nearly the whole of the debt, it should be stated, was held in England or France, and at the instance of French financiers the stoppage of payment was followed by a scheme to unify the debt. This scheme included the distribution of a bonus of 25% to holders of treasury bonds. These bonds had then reached a sum exceeding £20,000,000 and were held chiefly by French firms. The unification scheme was elaborated in a khedivial decree of the 7th of May 1876, but was rendered abortive by the opposition of the British bondholders. Its place was taken by another scheme drawn up by Mr (afterwards Lord) Goschen and M. Joubert, who represented the British and French bondholders respectively. The details of this settlement, promulgated by decree of the 17th of November 1876, need not be given, as it was superseded in 1880. One of the securities devised for the benefit of the bondholders in the abortive scheme of May 1876 was retained in the Goschen-Joubert settlement, and being continued in later settlements grew to be one of the most important institutions in Egypt. This security was the establishment of a Treasury of the Public Debt, known by its French title of *Caisse de la Dette*, and commonly spoken of simply as "the Caisse." The duty of this body was to act as receivers of the revenues assigned to the service of the debt. To render their powers effective they were given the right to sue the Egyptian government in the Mixed Tribunals for any breach of engagement to the bondholders.

The Goschen-Joubert settlement was accompanied by guarantees against maladministration by the appointment of an Englishman and a Frenchman to superintend the revenue and expenditure—the "Dual Control"; The Law of Liquidation. while a commission was appointed in 1878 to investigate the condition of the country. The settlement of 1880 was effected on the basis of the proposals made by this commission, and was embodied in the Law of Liquidation of July 1880—after the deposition of Ismail. For the purposes of the new settlement the loans raised by Ismail on his private estates, those known as the Daïra (*i.e.* "administrations") and Domains loans, were brought into account. By the Law of Liquidation the floating debt was paid off, the whole debt being consolidated into four large loans, upon which the rate of interest was reduced to a figure which it was considered Egypt was able to bear. The Egyptian debt under this composition was:

Privileged debt	£22,609,000
Unified debt	58,018,000
Daïra Sanieh loan	9,513,000
Domains loan	8,500,000
	£98,640,000

The rate of interest was, on the Privileged debt and Domains loan, 5%; on the Unified debt and Daïra loan, 4%. Under this settlement the total annual charges on the country amounted to £4,500,000, about half the then revenue of Egypt. These charges included the services of the Privileged and Unified debts, the tribute to Turkey and the interest on the Suez Canal shares held by Great Britain, but excluded the interest on the Daïra and Domains loans, expected to be

defrayed by the revenues from the estates on which those loans were secured. The general revenue of Egypt was divided between the bondholders and the government, any surplus on the bondholders' share being devoted to the redemption of the capital.

The 1880 settlement proved little more lasting than that of 1876. After a brief period of prosperity, the Arabi rising, the riots at Alexandria, and the events generally which led to the British occupation of Egypt in 1882, followed by the losses incurred in the Sudan in the effort to prevent it falling into the hands of the Mahdi, brought Egypt once more to the verge of financial disaster. The situation was an anomalous one. While the revenue assigned to the service of the debt was more than sufficient for the payment of interest and the sinking fund was in full operation, the government found that their share of the revenue was altogether inadequate for the expenses of administration, and they were compelled to borrow on short loans at high rate of interest. Moreover, to make good the losses incurred at Alexandria, and to get money to pay the charges arising out of the Sudan War and the Arabi rebellion, a new loan was essential. On the initiative of Great Britain a conference between the representatives of the great powers and Turkey was held in London, and resulted in the signing of a convention in March 1885. The terms agreed upon in this instrument, known as the London Convention, were embodied in a khedivial decree, which, with some modification in detail, remained for twenty years the organic law under which the finances of Egypt were administered.

The principle of dividing the revenue of the country between the Caisse, as representing the bondholders, and the government was maintained by the London Convention. The revenue assigned to the service of the debt, namely, that derived from the railway, telegraphs, port of Alexandria, customs (including tobacco) and from four of the provinces, remained as before. It was recognized, however, that the non-assigned revenue was Provisions of the London Convention. insufficient to meet the necessary expenses of government, and a scale of administrative expenditure was drawn up. This was originally fixed at £E.5,237,000,6 but subsequently other items were allowed, and in 1904, the last year in which the system described existed, it was £E.6,300,600. The Caisse was authorized, after payment of the coupons on the debt, to make good out of their balance in hand the difference between the authorized expenditure and the non-assigned revenue. If a surplus remained to the Caisse after making good such deficit the surplus was to be divided equally between the Caisse and the government; the government to be free to spend its share as it pleased, while the Caisse had to devote its share to the reduction of the debt. This limitation of administrative expenditure was the cardinal feature and the leading defect of the convention. Those responsible for this arrangement—the most favourable for Egypt that Great Britain could secure—failed to recognize the complete change likely to result from the British occupation of Egypt, and probably regarded that occupation as temporary. The system devised might have been justifiable as a check on a retrograde government, but was wholly inapplicable to a reforming government and a serious obstacle to the attainment of national prosperity. In practice administrative expenditure always exceeded the amount fixed by the convention. Any excess could, however, only be met out of the half-share of the eventual surplus reached in the manner described. Consequently, in order to meet new expenditure necessitated by the growing wants of a country in process of development, just double the amount of revenue had to be raised.

To return to the provisions of the London Convention. The convention left the permanent rate of interest on the debt, as fixed by the Law of Liquidation, unchanged, but to afford temporary relief to the Egyptian exchequer a reduction of 5% on the interest of the debt was granted for two years, on condition that if at the end of that period payment, including the arrears of the two years, was not resumed in full, another international commission was to be appointed to examine into the whole financial situation. Lastly, the convention empowered Egypt to raise a loan of nine millions, guaranteed by all the powers, at a rate of interest of 3%. For the service of this loan—known as the Guaranteed loan—an annuity of £315,000 was provided in the Egyptian budget for interest and sinking fund. The £9,000,000 was sufficient to pay the Alexandria indemnities, to wipe out the deficits of the preceding years, to give the Egyptian treasury a working balance of £E.500,000 and thereby avoid the creation of a fresh floating debt, and to provide a million for new irrigation works. To the wise foresight which, at a moment when the country was sinking beneath a weight of debt, did not hesitate to add this million for expenditure on productive works, the present prosperity of Egypt is largely due.

The provisions of the London Convention did not exhaust the restrictions placed upon the Egyptian government in respect of financial autonomy. These restrictions were of two categories, (1) those independent of the London Convention, (2) those dependent upon that instrument. In the first category came (a) the prohibition to raise a loan without the consent of the Porte. The right to raise loans had been granted to the khedive Ismail in 1873, but was taken away in 1879 by the firman appointing Tewfik khedive. (b) Next came the inability to levy taxes on foreigners without the consent of their respective governments. This last obligation was, in virtue of the Capitulations, applicable to Egypt as part of the Ottoman empire. The only exception, resulting from the Ottoman law under which foreigners are allowed to acquire and hold real property, is the land tax. (All taxes formerly paid by natives and not by foreigners have been abolished in Egypt, but the immunity described constitutes a most serious obstacle to the redistribution of the burden of taxation in a more equitable manner.)

From the purely Egyptian point of view the most powerful restriction in this first category remains to be named. In 1883 the supervision exercised over the finances by French and British controllers was replaced by that of a British official called the financial adviser. The British government has declared that "no financial decision shall be taken without his

consent," a declaration never questioned by the Egyptian government. This restriction, therefore, is at the same time the chief safeguard for the purity of Egypt's finances.

In the second category of restrictions, namely, those dependent on the London Convention, were the various commissions or boards known as Mixed Administrations and having relations of a quasi-independent character with the ministry of finance. Of these boards by far the most important was the Caisse. As first constituted it consisted of a French, an Austrian, and an Italian member; a British member was added in 1877 and a German and a Russian member in 1885. The revenue assigned to the debt charges was paid direct to the Caisse without passing through the ministry of finance. The assent of the Caisse (as well as that of the sultan) was necessary before any new loan could be issued, and in the course of a few years from its creation this body acquired very extensive powers. Besides the Caisse there was the Railway Board, which administered the railways, telegraphs and port of Alexandria for the benefit of the bondholders, and the Daïra and Domains commissions, which administered the estates mortgaged to the holders of those loans. Each of the three boards last named consisted of an Englishman, a Frenchman and an Egyptian.

During the two years that followed the signing of the London Convention, the financial policy of the Egyptian government was directed to placing the country in a position to resume full payment of the interest on the debt in 1887, and The race against bankruptcy. thereby to avoid the appointment of an international commission. By the exercise of the most rigid economy in all branches this end was attained, though budgetary equilibrium was only secured by a variety of financial expedients, justified by the vital importance of saving Egypt from further international interference. By such means this additional complication was averted, but the struggle to put Egypt in a genuinely solvent position was by no means over. It was not until his report on the financial results of 1888 that Sir Evelyn Baring (afterwards Lord Cromer) was able to inform the British government that the situation was such that "it would take a series of untoward events seriously to endanger the stability of Egyptian finance and the solvency of the Egyptian government." From this moment the corner was turned, and the era of financial prosperity commenced. The results of the labours of the preceding six years began to manifest themselves with a rapidity which surprised the most sanguine observers. The principal feature of the successive Egyptian budgets of 1890-1894 was the fiscal relief afforded to the population. From 1894 onward more attention was paid than had hitherto been possible to the legitimate demands of the spending departments and to the prosecution of public works. Of these the most notable was the construction (1898-1902) of the Assuan dam, which by bringing more land under cultivation permanently increased the resources of the country and widened the area of taxation.

With the accumulating proofs of the financial stability of the country various changes were made in connexion with the debt charges. With the consent of the powers a General Reserve Fund was created by decree of the 12th of July Reserve funds. 1888, into which was paid the Caisse's half-share in the eventual surplus of revenue. This fund, primarily intended as a security for the bondholders, might be drawn upon for extraordinary expenditure with the consent of the commissioners of the Caisse. Large sums were so advanced for the purposes of drainage and irrigation and other public works, and in relief of taxation. The defect of this arrangement consisted in the necessity of obtaining the consent of the commissioners—a consent sometimes withheld on purely political grounds. At the same time it is believed that but for the faculty given by the decree of 1888 to spend the General Reserve Fund on public works, the financial system elaborated by the London Convention would have broken down altogether. Between 1888 and 1904 about £10,000,000 was devoted from this fund to public works.

In June 1890 the assent of the powers was obtained to the conversion of the Preference (Privileged), Domains and Daïra loans on the following conditions, imposed at the initiative of the French government:—

1. The employment of the economies resulting from the conversion was to be the subject of future agreement with the powers.

2. The Daïra loan was to be reimbursed at 85%, instead of 80%, as provided by the Law of Liquidation.

3. The sales of Domains and Daïra lands were to be restricted to £E.300,000 a year each, thus prolonging the period of liquidation of those estates.

The interest on the Preference stock was reduced from 5 to 3½%, and on the Domains from 5 to 4¼%. As regards the Daïra loan, there was no apparent reduction in the rate of interest, which remained at 4%, but the bondholders received £85 of the new stock for every £100 of the old. The capital of the debt was increased by £1,945,000 by these conversions, while the annual economy to the Egyptian government amounted at the time of the conversion to £E.348,000. Further, an engagement was entered into that there should be no reimbursement of the loans till 1905 for the Preference and Daïra, and 1908 for the Domains. By an arrangement concluded in June 1898, between the Egyptian government and a syndicate, the unsold balance of the Daïra estates was taken over by the syndicate in October 1905, for the amount of the debt remaining, when the Daïra loan ceased to exist. The fund formed by the accumulation of the economies resulting from the conversion of the Privileged, Daïra and Domains loan was known as the Conversion Economies Fund. The fund could not be used for any purpose without the consent of the powers, and the money paid into it was invested by the Caisse in Egyptian stock. The fund therefore acted as a very expensive sinking fund, the market price of the stock purchased being above par. Up to 1904 the consent of the powers to the employment of this fund for any purpose of public utility was withheld. On the 31st of December of that year the fund amounted to £E.6,031,000. It may be added that besides the General Reserve Fund and the Conversion Economies Fund, there existed another fund called the Special Reserve Fund. This was constituted in 1886 and was chiefly made up of the net savings of the Egyptian government on its share of the annual surpluses from revenue. Of the three funds this last-named was the only one at the absolute disposal of the government. The whole of the extraordinary expenditure of the Sudan campaigns of 1896-1898, with the exception of £800,000 granted by the British government, was paid out of this fund—a sum amounting in round figures to £1,500,000.

Notwithstanding all the hampering conditions stated, the prosperity of the country became more manifest each succeeding year. During the four years 1883-1886, both inclusive, the aggregate deficit amounted to £E.2,606,000. In An era of prosperity. 1887 there was practical equilibrium in the budget, in 1888 there was a deficit of £E.53,000. In 1889 there was a surplus of £E.218,000, and from that date onward every year has shown a surplus. In 1895 the surplus exceeded, for the first time, £E.1,000,000. The growth of revenue was no less marked. “In 1883—the first complete year after the British occupation—the revenue was slightly under 9 millions. This sum was collected with difficulty. The revenue steadily rose until, in 1890, the figure of 10 millions was exceeded. In 1897 a figure of over 11 millions was attained. Continuing to rise with ever-increasing rapidity, a revenue of close on 12 millions was collected in 1901 and 1902, in spite of the fact that during the latter of these two years the Nile flood was one of the lowest on record. In 1903 the revenue amounted to 12½ millions, and in 1904 the unprecedented figure of £E.13,906,000 was reached.”[7] Yet during this period the amount of direct taxation remitted reached £E.1,900,000 a year. Arrears of land tax to the extent of £E.1,245,000 were cancelled. In indirect taxation the salt tax had been reduced by 40%, the postal, railway and telegraph rates lowered, octroi duties and bridge and lock dues abolished. The only increase of taxation had been on tobacco, on which the duty was raised from P.T. 14 to P.T. 20 per kilogramme. At the same time the house duty, with the consent of the powers, had been imposed on European residents. The fact that during the period under review Egypt suffered very severely from the general fall in the price of commodities makes the prosperity of the country the more remarkable. Had it not been for the great increase of production as the result of improved irrigation and the fiscal relief afforded to landowners, the agricultural depression would have impaired the financial situation. In this connexion it should be stated that during 1899 the reassessment of the land tax, a much-needed reform, was seriously taken in hand. The existing assessment, made before the British occupation, had long been condemned by all competent authorities, but the inherent intricacies and difficulties of the problem had hitherto postponed a solution. After careful study and a preliminary examination of the land, a scheme was passed which has given satisfaction to the landowning community, and which distributes the tax equitably in proportion to the fertility of the soil. The reassessment was completed in 1907.

While the country thus prospered it also suffered greatly from the restrictions imposed by the system of international control. This system produced a great disproportion between the sums available for capital and those available for The cost of internationalism. administrative expenditure. Although the money for public works could be obtained out of grants from the General Reserve Fund, there was no fund from which to provide a sufficient sum to keep those works in order. Moreover, to avoid having to pay half the amount received into the General Reserve Fund the government was compelled to keep certain items of revenue and expenditure out of the accounts altogether—a violation of the principles of sound finance. Then there was the glaring anomaly of allowing the Conversion Economies to accumulate at compound interest in the hands of the commissioners of the Caisse, instead of using the money for remunerative purposes. The net result of internationalism was to impose an extra charge of about £1,750,000 a year on the Egyptian treasury.

All these cumbersome restrictions were swept away by the khedivial decree of the 28th of November 1904, a decree which received the assent of the powers and was the result of the Anglo-French agreement of April 1904 (see § History).Egypt gains financial liberty. The decree did not affect the inability of Egypt to tax foreigners without their consent nor remove the right of Turkey to veto the issue of new loans, but in other respects the financial changes made by it were of a radical character. The main effect was to give to the Egyptian government a free hand in the disposal of its own resources so long as the punctual payment of interest on the debt was assured. The plan devised by the London Convention of fixing a limit to administrative expenditure was abolished. The consent of the Caisse to the raising of a new loan was no longer required. The Caisse itself remained, but shorn of all political and administrative powers, its functions being strictly limited to receiving the assigned revenues and to ensuring the due payment of the coupon. The nature of the assigned revenue was altered, the land tax being substituted for those previously assigned, that tax being chosen as it had a greater character of stability than any other source of revenue. By this means Egypt gained complete control of its railways, telegraphs, the port of Alexandria and the customs, and as a consequence the mixed administration known as the Railway Board ceased to exist. Moreover, it was provided that when the Caisse had received from the land tax the amount needed for the service of the debt, the balance of the tax was to be paid direct to the Egyptian treasury. The Conversion Economies Fund was also placed at the free disposal of the Egyptian government. The General Reserve Fund ceased to exist, but for the better security of the bondholders a reserve fund of £1,800,000 was constituted and left in the hands of the Caisse to be used in the highly improbable event of the land tax being insufficient to meet the debt charges. Moreover, the Caisse started under the new arrangement with a cash balance of £1,250,000. The interest of the money lying in the hands of the Caisse goes towards meeting the debt charges and thus reduces the amount needed from the land tax. The bondholders gained a further material advantage by the consent of the Egyptian government to delay the conversion of the loans, which under previous arrangements they would have been free to do in 1905. It was agreed that there should be no conversion of the Guaranteed or Privileged debts before 1910 and no conversion of the Unified debt until 1912. Such were the chief provisions of the khedivial decree, and in 1905, for the first time, it was possible to draw up the Egyptian budget in accordance with the needs of the country and on perfectly sound principles.

In the system adopted in 1905 and since maintained, recurring and non-recurring expenditure were shown separately, the non-recurring expenditure being termed “special.” At the same time a new General Reserve Fund was created, made up chiefly of the surpluses of the old General Reserve, Special Reserve, and Conversion Economies funds. This new fund started with a capital of £13,376,000 and was replenished by the surpluses of subsequent years, by the interest earned by its temporary investment, and by the sums accruing by the liquidation of the Daïra and Domains loans. During 1905 and 1906 about £3,000,000 was paid into the fund through the liquidation of the Daïra loan. From this fund, which had a balance of over £12,000,000 in 1906, is taken capital expenditure on remunerative public works in Egypt and the Sudan, and while the fund lasts the necessity for any new loan is avoided. The greater freedom of action attained as the result of the Anglo-French declaration of 1904 enabled the Egyptian government to advance simultaneously along the lines of fiscal reform and increased administrative expenditure. Thus in 1906 the salt monopoly was abolished at a cost to the revenue of £175,000, while the reduction of import duties on coal and other fuels, live-stock, &c., involved a further loss of £118,000, and an increase of over £1,000,000 in expenditure was budgeted for. The accounts for 1907 showed a total revenue of £E.16,368,000 and a total expenditure of £E.14,280,000, a surplus of £E.2,088,000. The annual growth of revenue for the previous five years averaged over £E.500,000. About one-third of the annual revenue is derived from the land tax; customs and tobacco duties yield about £3,000,000, and an equal or larger amount is received from railways and other revenue-earning departments. The chief items of ordinary expenditure are tribute and debt charges, the expenses of the civil administration, of the Egyptian army (between £500,000 and £600,000 yearly), of the revenue-earning departments and of pensions.

It will be convenient here to summarize the position of the Egyptian debt at the close of 1905, that is at the period immediately following the liquidation of the Daïra loan. In a previous table it has been shown that under the Law of Liquidation of 1880 the total debt was £98,640,000. In 1883, the first complete year after the British occupation, the capital of the debt—then exclusively held by the public—was £96,457,000. In 1885 the Guaranteed loan, the nominal capital of which was £9,424,000, was issued, and in 1891 the debt reached its maximum figure of £106,802,000. At that period the charge for interest and sinking fund was £4,127,000. On the 31st of December 1905 the total capital of the debt was as follows:—

Guaranteed 3%	£7,849,000
Preference 3½%	31,128,000
Unified 4%	55,972,000
Domains 4¼%	1,535,000
Total	£96,484,000

The charge on account of interest and sinking fund was £3,709,000. Thus the capital of the debt in 1905 stood at almost the exact figure it did in 1883, although by borrowing and conversion operations nearly £17,000,000 had in the meantime

been added to the capital. This reduction was brought about by surplus revenue, and by the operation of the sinking fund in the case of the Guaranteed loan, while £15,729,000 had been wiped out by the sale of Daïra and Domains property. These figures do not, however, indicate fully the prosperity of the country, for although the nominal amount of the capital was practically identical in 1883 and 1905, in the latter year the Egyptian government or the Caisse held stock (bought with surplus revenue) to the value of £8,770,000. The amount of debt in the hands of the public was therefore only £87,714,000, that is to say £8,743,000 less than in 1883, while the interest charge to be borne by the taxpayer of Egypt was £3,378,000, being £890,000 less than in 1883. The charge amounts to about 40% of the national expenditure. On the other hand, Egypt is not now weighed down with a huge warlike expenditure. There is no navy to support, and the army costs but 7% of the total expenditure.

Authorities.—A concise view of the financial situation in 1877 will be found in J. C. McCoan's *Egypt as it is* (London n.d.). Mr Cave's report is printed in an appendix. The subsequent history of Egyptian finance is told in the following blue-books, &c.:—*Correspondence respecting the State Domains of Egypt* (1883); *Statement of the Revenue and Expenditure of Egypt, together with a List of the Egyptian Bonds and the Charges for their Services* (1885); *Reports on the Finances of Egypt*, by the British agent, yearly from 1888; *Convention ... relative to the Finance of Egypt, signed at London, March 18, 1885; Khedivial decree of the 28th November 1904; Compte général de l'administration des finances*, issued yearly at Cairo. Consult also the works of Lord Cromer, Lord Milner, and Sir A. Colvin cited under § History, last section.

(E. Go.; F. R. C.)

The Egyptian Army.

The fellah soldier has been aptly likened to a bicycle, which although incapable of standing up alone, is very useful while under the control of a skilful master. It is generally believed that the successes gained in the time of the Early history. Pharaohs were due to foreign legions; and from Cambyses to Alexander, from the Ptolemies to Antony (Cleopatra), from Augustus to the 7th century, throughout the Arab period, and from Saladin's dynasty down to the middle of the 13th century, the military power of Egypt was dependent on mercenaries. The Mamelukes (slaves), imported from the eastern borders of the Black Sea and then trained as soldiers, usurped the government of Egypt, and held it till 1517, when the Ottomans began to rule. This form of government, speaking generally, endured till the French invasion at the end of the 18th century. British and Turkish troops drove the French out after an occupation of two years, the British troops remaining till 1803. Then Mehemet Ali, a small tobacconist of Kavala, Macedonia, coming with Albanian mercenaries, made himself governor, and later (1811), by massacring the Mamelukes, became the actual master of the country, and after seven years' war brought Arabia under Egypt's rule. He subdued Nubia and Sennar in 1820-22; and then, requiring a larger army, he obtained instructors from France. To them were handed over 1000 Turks and Circassians to be trained as officers, who later took command of 30,000 Sudanese. These died so rapidly in Egypt from pneumonia[8] that Mehemet Ali conscripted over 250,000 fellahin, and in so arbitrary a fashion that many peasants mutilated themselves to avoid the much-dreaded service. The common practice was to place a small piece of nitrate of silver into the eye, which was then kept tightly bandaged till the sight was destroyed. Battalions were then formed of one-eyed men, and of soldiers who, having cut off their right-hand fingers, were made to shoot from the left shoulder. Every man who could not purchase exemption, with the exception of those living in Cairo, Alexandria and Suez, on becoming 19 years old was liable nominally to 12 years' service; but many men were kept for 30 or 40 years, in spite of constant appeals. Nevertheless the experiment succeeded. The docile, yet robust and hardy peasants, under their foreign leaders, gained an unbroken series of successes in the first Syrian War; and after the bloody battle of Konia (1832), where the raw Turkish army was routed and the grand vizier taken prisoner, it was only European intervention which prevented the Egyptian general, Ibrahim Pasha, from marching unopposed to the Bosphorus. The defeat of the Turkish army at Nizib (Nezeeb or Nisib), in the second Syrian War (1839), showed that it was possible to obtain favourable military results with Egyptians when stiffened by foreigners and well commanded. Ibrahim, the hero of Konia, declared, however, that no native Egyptian ought to rise higher than the rank of sergeant; and in the Syrian campaigns nearly all the officers were Turks or Circassians, as were several non-commissioned officers. In the cavalry and artillery many of the privates were foreigners, numbers of the janissaries who escaped the massacre at Stamboul (1832) having joined Mehemet Ali's army.

In the reign of Abbas, who succeeded Mehemet Ali, the Egyptian troops were driven from Nejd, and the Wahhabi state recovered its independence. The next viceroy, Said, began as an ardent soldier, but took to agriculture, and at his death (1863) 3000 men only were retained under arms. Ismail, on succeeding, immediately added 27,000 men, and in seven years was able to put 100,000 men, well equipped, in the field. He sent 10,000 men to help to suppress a rebellion in Crete, and conquered the greater part of the (Nile) Sudan; but an expedition of 11,000 men, sent to Abyssinia under Prince Hasan and Rateb Pasha, well equipped with guns and all essentials, was, in two successive disasters (1875 and 1876), practically destroyed. The education of Egyptians in continental cities had not produced the class of leaders who led the fellahin to victory at Konia.

Ismail's exactions from the Egyptian peasantry reacted on the army, causing discontent; and when he was tottering on the throne he instigated military demonstrations against his own government, and, by thus sapping the foundations of

discipline, assisted Arabi's revolution; the result was the battle of Tell el-Kebir, the British occupation, and the disbandment of the army, which at that time in Egypt proper consisted of 18,000 men. Ismail had collected 500 field-guns, 200 Armstrong cannon, and had created factories of warlike and other stores. These latter were conducted extravagantly, and badly administered.

In January 1883, Major-General Sir Evelyn Wood, V.C., was given £200,000, and directed to spend it in raising a fellahin force of 6000 men for the defence of Egypt. He was assisted at first by 26 officers, amongst whom were Reorganization. two who later became successively sirdars—Colonel F. Grenfell, commanding a brigade, and Lieutenant H. Kitchener, R.E., second in command of the cavalry regiment. There were four batteries, eight battalions, and a camel company. Each battalion of the 1st infantry brigade had three British mounted officers, Turks and Egyptians holding the corresponding positions in the battalions of the 2nd Brigade. The sirdar selected these native officers from those of Arabi's followers who had been the least prominent in the recent mutiny; non-commissioned officers who had been drill-instructors in the old army were recalled temporarily, but all the privates were conscripted from their villages. The earlier merciless practice had been in theory abolished by a decree based on the German system, published in 1880; but owing to defective organization, and internal disturbances induced by Khedive Ismail's follies, the law had not been applied, and the 6000 recruits collected at Cairo in January 1883 represented the biggest and strongest peasants who could not purchase exemption by bribing the officials concerned. The difficulties experienced in applying the 1880 decree were great, but the perseverance of British officers gave the oppressed peasants, in 1885, an equitable law, which has been since improved by the decree of 1900. General considerations later caused the sirdar to allow exemption by payment of (Badalia) £20 before ballot. This tax, which is popular amongst the peasantry, produced in 1906 £E.150,000, and over £250,000 in 1908. This is a marked indication of the increasing prosperity of the fellahin. A portion of the badalia is expended in the betterment of the soldier's position. He is no longer drafted into the police on completing his army service, but goes free at the end of five years with a gift of £E.20. The sirdar is allowed, moreover, to use £20,000 per annum of the badalia for the improvement of the education of the rank and file. As an experiment the police is now a voluntary service, except in Alexandria and Cairo, for which cities peasants are conscripted for the police under army conditions. The recruiting superintending committee, travelling through districts, supervise every ballot, and work under stringent rules which render systematic bribery difficult. The recruits who draw unlucky numbers at 19 years of age are seldom called up till they are 23, when they are summoned by name and escorted by a policeman to Cairo. To prevent substitution on the journey each recruit wears a string girdle sealed in lead. The periods of service are: with the colours, 5 years; in the reserve, 5 years, during which time they may be called up for police service, manœuvres, &c. The pay is £E.3, 14s. per annum for all services, and the liberal scale of rations of meat, bread and rice remains as before in theory, but in practice the value of pay and food received is greatly enhanced. So also with the pension and promotion regulations. They were in 1882 sufficiently liberal on paper, but had never been carried into effect.

The efforts of 48 American officers, who under Gen. C. P. Stone zealously served Ismail, had entirely failed to overcome Egyptian venality and intrigue; and in spite of the military schools, with a comprehensive syllabus, the only perceptible difference between the Egyptian officer and private in 1879 consisted, according to one of the Americans, in the fact that the first was the product of the harem, and the second of the field. Marshal Marmont, writing in 1839, mentions the capacity of the Egyptians for endurance; and it was tested in 1883, especially in the 2nd Brigade, since its officers (Turks and Egyptians), anxious to excel as drill-masters, worked their men not only from morn till eve, but also by lamplight in the corridors of the barracks. On the 31st March 1883, ten weeks after the arrival of the first draft of recruits, about 5600 men went through the ceremonial parade movements as practised by the British guards in Hyde Park, with unusual precision. The British officers had acquired the words of command in Turkish, as used in the old army, an attempt to substitute Egyptian words having failed owing to lack of crisp, sharp-sounding words. As the Egyptian brigadier, who had spent some years in Berlin, spoke German fluently, and it was also understood by the senior British officers, that language was used for all commands given by the sirdar on that special parade. The British drill-book, minus about one-third of the least serviceable movements, was translated by an English officer, and by 1900 every necessary British official book had been published in English and Arabic, except the new Recruiting Law (1885) and a manufacturing manual, for which French and Arabic editions are in use. The discipline of the old army had been regulated by a translation of part of the Code Napoleon, which was inadequate for an Eastern army, and the sirdar replaced it by the British Army Act of 1881, slightly modified, and printed in Arabic.

The task undertaken by the small body of British officers was difficult. There was not one point in the former administration of the army acceptable to English gentlemen. That there had been no adequate auxiliary departments, without which an army cannot move or be efficient, was comparatively a minor difficulty. To succeed, it was essential that the fellah should be taught that discipline might be strict without being oppressive, that pay and rations would be fairly distributed, that brutal usage by superiors would be checked, that complaints would be thoroughly investigated, and impartial justice meted out to soldiers of all ranks. An epidemic of cholera in the summer of 1883 gave the British officers their first chance of acquiring the esteem and confidence of their men, and the opportunity was nobly utilized. While the patient fellah, resigned to the decrees of the Almighty, saw the ruling Egyptian class hurry away from Cairo, he saw also those of his comrades who were stricken tenderly nursed, soothed in death's struggles, and in many cases actually washed, laid out and interred by their new self-sacrificing and determined masters. The regeneration of the fellahin army dates from that epidemic.

When the Egyptian Army of the Delta was dispersed at Tell el-Kebir, the khedive had 40,000 troops in the Sudan, scattered from Massawa on the Red Sea to 1200 m. towards the west, and from Wadi Halfa, 1500 m. southward to Wadelai, near Albert Nyanza. These were composed of Turks, Albanians, Circassians and some Sudanese. Ten thousand fellahin, collected in March 1883, mainly from Arabi's former forces, set out from Duem, 100 m. south of Khartum, in September 1883, under Hicks Pasha, a dauntless retired Indian Army officer, to vanquish the Mahdi. They disappeared in the deserts of Kordofan, where they were destroyed by the Mahdists about 50 m. south of El Obeid. In the wave of successful rebellion, except at Khartum, few of the Egyptian garrisons were killed when the posts fell, long residence and local family ties rendering easy their assimilation in the ranks of the Mahdists.

Baker Pasha, with about 4000 constabulary, who were old soldiers, attempted to relieve Tokar in February 1884. He was attacked by 1200 tribesmen and utterly routed, losing 4 Krupp guns, 2 machine guns and 3000 rifles. Only 1400 Egyptians escaped the slaughter.

The sirdar made an attempt to raise a battalion of Albanians, but the few men obtained mutinied when ordered to proceed to the Sudan, and it was deemed advisable, after the ringleaders had been executed, to abandon the idea, and rely on blacks to stiffen the fellahin. Then the 9th (Sudanese) Battalion was created for service at Suakin, and four others having been successively added, these (with one exception—at Gedaref) have since borne the brunt of all the fighting which has been done by the khedivial troops. The Egyptian troops in the operations near Suakin behaved well; and there were many instances of personal gallantry by individual soldiers. In the autumn of 1884, when a British expedition went up the Nile to endeavour to relieve the heroic Gordon, besieged in Khartum, the Egyptians did remarkably good work on the line of communication from Assiut to Korti, a distance of 800 m., and the training and experience thus gained were of great value in all subsequent operations. The honesty and discipline of the fellah were shown to be undoubtedly of a high order. When the crews of the whale-boats were conveying stores, the forwarding officers tried to keep brandy and such like medical comforts from the European crews, coffee and tea from Canadian voyageurs and sugar from Kroo boys. The only immaculate carrier was the Egyptian. A large sum of specie having failed under British escort to reach Dongola, an equivalent sum was handed to an Egyptian lieutenant of six months' service, with 10 men, and duly reached its destination.

Twelve years later the standard of honesty was unimpaired, and the British officers had imparted energy and activity into Egyptians of all ranks. The intelligent professional knowledge of the native officers, taught under British gentlemen, and the constant hard work cheerfully rendered by the fellah soldiers, were the main factors of the success achieved at Omdurman on the 2nd of September 1898. The large depots of stores at Assuan, Halfa and Dongola could only be cursorily supervised by British officers, and yet when the stores were received at the advance depot the losses were infinitesimal.

By nature the fellah is unwarlike. Born in the valley of a great river, he resembles in many respects the Bengali, who exists under similar conditions; but the Egyptian has proved capable of greater improvement. He is Character of Egyptian soldier. stronger in frame, and can undergo greater exertion. Singularly unemotional, he stood steady at Tell el-Kebir after Arabi Pasha and all his officers, from general to subaltern, had fled, and gave way only when decimated by the British field artillery firing case shot. At El Teb, however, in 1884 he allowed himself to be slaughtered by tribesmen formerly despised, and only about one-fourth of the force under General Valentine Baker escaped. Baker Pasha's force was termed constabulary, yet his men were all old soldiers, though new to their gallant leader and to the small band of their brave but strange British officers. Since that fatal day, however, many of the fellahin have shown they are capable of devoted conduct, and much has been done to raise in the soldiers a sense of self-respect, and, in spite of centuries of oppression, of veracity. The barrack-square drill was smart under the old system, but there was no fire discipline, and all individuality was crushed. Now both are encouraged, and the men, receiving their full rations, are unsurpassable in endurance at work and in marching. All the troops present in the surprise fight when the Dervish force was destroyed at Firket in June 1896 had covered long distances, and one battalion (the 10th Sudanese) accomplished 90 m. within 72 hours, including the march back to railhead immediately after the action. The troops under Colonel Parsons, Royal Artillery, who beat the Dervishes at Gedaref, were so short of British officers that all orders were necessarily given in Arabic and carried to commanders of units by Arabs. While an Egyptian battalion was attacking in line, it was halted to repel a rush from the rear, and front and rear ranks were simultaneously engaged, firing in opposite directions—yet the fellahin were absolutely steady; they shot well and showed no signs of trepidation. On the other hand, neither was there any exultation after their victory. It has been aptly said "the fellah would make an admirable soldier if he only wished to kill some one!" The fellahin furnish three squadrons, five batteries, three garrison artillery companies and nine battalions.

The well-educated Egyptian officer, with his natural aptitude for figures, does subordinate regimental routine carefully, and works well when supervised by men of stronger character. The ordinary Egyptian is not self-reliant or energetic by nature, and, like most Eastern people, finds it difficult to be impartial where duty and family or other personal relations are in the balance. The black soldier has, on the other hand, many of the finest fighting qualities. This was observed by British officers, from the time of the preliminary operations about Kosha and at the action near Ginnis in December 1885 down to the brilliant operations in the pursuit of the Mahdists on the Blue Nile after the action of Gedaref (subsequent to the battle of Omdurman), and the fighting in Kordofan in 1899, which resulted in the death of the khalifa and his amirs.

Black soldiers served in the army of Mehemet Ali, but their fighting value was not then duly appreciated. Prior to the death of the khalifa, many of his soldiers deserted to join their brethren who had been captured by the sirdar's troops, during the gradual advance up the Nile. After 1899 many more enlisted: the greater number were Shilluks and Dinkas coming from the country between Fashoda and the equatorial provinces, but a proportion came from the western borders of the Sudan, and some from Wadai and Bornu. Many were absolute savages, difficult to control, wayward and thoughtless like children. Sudanese are very excitable and apt to get out of hand; unlike the fellahs they are not fond of drill, and are slow to acquire it; but their dash, pugnacious instincts and desire to close with an enemy, are valuable military qualities. The Sudanese, moreover, shoot better than the fellahin, whose eyesight is often defective. The Sudanese captain can seldom read or write, and is therefore in the hands of the Egyptian-born company quartermaster-sergeant as regards pay and clothing accounts. He is slow, and as a rule has little knowledge of drill. Nevertheless he is self-reliant, much respected by his men, and can be trusted in the field to carry out any orders received from his British officer. The most efficient companies in the Sudanese battalions are apparently those in which the captain is a black and the lieutenants are Egyptians.

In 1908 the Egyptian army, with a total establishment of 18,000, consisted of three squadrons of cavalry (one composed of Sudanese) each numbering 116 men; four batteries of field artillery and a Maxim battery, horses and mules being used, with a total strength of 1257 of all ranks; the camel corps, 626 of all ranks (fellahin and Sudanese); and nine fellahin and six Sudanese infantry battalions, 10,631 of all ranks. Every battalion receives two additional companies on mobilization and takes the field with six companies.

The armament of the infantry is Martini-Henry rifle and bayonet; of the cavalry, lance, sword and carbine.

There are seven gunboats on the Nile.

The medical department (reorganized in 1883 by Surgeon-Major J. G. Rogers at the time of the cholera epidemic) controls in peace fourteen station hospitals, and in war furnishes a mobile field hospital to each brigade. There are also veterinary station hospitals. The supply department controls mills at Tura, Halfa and Khartum.

The stringent system of selecting British officers, originated by the first sirdar in 1883, is shown by the fact that of the 24 employed in creating the army, 14 rose to be generals. The competition for employment in the army is still severe. In 1908 there were 140 British warrant and non-commissioned officers. Four of the fellahin battalions were officered by Orientals; in the other five, British officers commanded. Seven officers were employed with the artillery, six with the camel corps. Each of the Sudanese battalions had four British officers, and each squadron of cavalry one. Twelve medical and two veterinary officers are also employed departmentally, as well as officers acting as directors of supply, &c. Since the assumption of command by the third sirdar, Colonel (afterwards Lord) Kitchener, the ordnance, supply and engineer services have been separately administered, and a financial secretary is charged with the duty of preparing the budget, making contracts, &c. The total annual expenditure is £500,000.

The reorganized military school system under British control, for supplying officers, dates from 1887. The course lasts for about two years, and two hundred students can be accommodated. After the reconquest of the Sudan one-fourth of the cadets in the military school of Cairo were Sudanese. Later, however, the Sudanese cadets were transferred to a branch school at Khartum.

The army raised by the first sirdar in January 1883 was highly commended for its work on the line of communication in 1884-1885, and its artillery and camelry distinguished themselves in the action at Kirbekan in February 1885. Colonel Sir Francis Grenfell succeeded General Sir Evelyn Wood in March 1885, and while under his command the army continued to improve, and fought successful actions at Gemaiza, Argin, Toski and Tokar. At Toski the Dervish force was nearly annihilated. In March 1892 Colonel Kitchener succeeded General Sir Francis Grenfell, and four years later began his successful reconquest of the Sudan. In June 1896, owing to the indefatigable exertions of Major Wingate, a perfected system of secret intelligence enabled the sirdar to bring an overwhelming force of 6 to 1 against the Dervish outpost at Firket and destroy it. In September 1896 a skirmish at Hafir, with similarly successful tactics, gave the British commander the possession of Dongola. On the 7th of August 1897 Colonel Hunter surprised and annihilated a weak Dervish garrison at Abu Hamed, to which place, by the 31st of October 1897, a railway had been laid across the Nubian desert from Wadi Halfa, a distance of 230 m., the "record" construction of 5300 yds surveyed, embanked and laid in one day having been attained. On the 26th of December 1897 the Italian troops handed over Kassala to Colonel Parsons, R.A. On the 8th of April 1898 a British division, with the Egyptian army, destroyed the Dervish force under the amir Mahmud Ahmed, on the Atbara river. On the 2nd of September the khalifa attacked the British-Egyptian troops at Kerreri (near Omdurman), and being routed, his men dispersed; Khartum was occupied, and on the 19th of September the Egyptian flag was rehoisted at Fashoda. On the 22nd of September 1898 Gedaref was taken from the amir Ahmed Fedil by Colonel Parsons, and on the 26th of December the army of Ahmed Fedil was finally defeated and dispersed near Roseires. The khalifa's army, reduced to an insignificant number, after several unsuccessful engagements withdrew to the west of the Nile, where it was attacked, on the 24th of November 1899, after a forced march by Colonel Wingate, and annihilated. The khalifa himself was killed; while the victor, who had joined the Egyptian army in 1883 as aide-de-camp to the first sirdar, in

December 1899 became the fourth sirdar, as Major-General Sir F. R. Wingate, K.C.B., K.C.M.G., D.S.O., &c.

(E. Wo.)

II. Ancient Egypt

A. *Exploration and Research.*—Owing to its early development of a high civilization with written records, its wealth, and its preservative climate, Egypt is the country which most amply repays archaeological research. It is especially those long ages during which Egypt was an independent centre of culture and government, before its absorption in the Persian empire in the 6th century b.c., that make the most powerful appeal to the imagination and can often justify this appeal by the splendour of the monuments representing them. Later, however, the history of Hellenism, the provincial history of the Roman empire, the rise of Christianity and the triumph of Islam successively receive brilliant illustration in Egypt.

As early as the 17th century travellers began to bring home specimens of ancient Egyptian handiwork: a valuable stele from Sakkara of the beginning of the Old Kingdom was presented to the Ashmolean Museum at Oxford in 1683. In the following century the Englishman R. Pococke (1704-1765), the Dane F. L. Norden (1708-1742), both travelling in 1737, and others later, planned, described or figured Egyptian ruins in a primitive way and identified many of the sites with cities named in classical authors. Napoleon's great military expedition in 1798 was accompanied by a scientific commission including artists and archaeologists, the results of whose labours fill several of the magnificent volumes of the *Description de l'Égypte*. The antiquities collected by the expedition, including the famous Rosetta stone, were ceded to the British government at the capitulation of Alexandria, in 1801. Thereafter Mehemet Ali threw Egypt freely open to Europeans, and a busy traffic in antiquities began, chiefly through the agency of the consuls of different powers. From the year 1820 onwards the growth of the European collections was rapid, and Champollion's decipherments (see below, § "Language and Writing") of the hieroglyphic inscriptions, dating from 1821, added fresh impetus to the fashion of collecting, in spite of doubts as to their trustworthiness. In 1827 a combined expedition led by Champollion and Rosellini was despatched by the governments of France and Tuscany, and accomplished a great deal of valuable work in copying scenes and inscriptions. But the greatest of such expeditions was that of Lepsius, under the auspices of the Prussian government, in 1842-1845. Its labours embraced not only Egypt and Nubia (as far as Khartum) but also the Egyptian monuments in Sinai and Syria; its immense harvest of material is of the highest value, the new device of taking paper impressions or "squeezes" giving Lepsius a great advantage over his predecessors, similar to that which was later conferred by the photographic camera.

A new period was opened in Egyptian exploration in 1858 when Mariette was appointed director of archaeological works in Egypt, his duties being to safeguard the monuments and prevent their exploitation by dealers. As early as 1835 Mehemet Ali had given orders for a museum to be formed; little however, was accomplished before the whole of the resulting collection was given away to the Archduke Maximilian of Austria in 1855. Mariette, who was appointed by the viceroy Said Pasha at the instance of the French government, succeeded in making his office effective and permanent, in spite of political intrigues and the whims of an Oriental ruler; he also secured a building on the island of Bulak (Bulaq) for a viceregal museum in which the results of his explorations could be permanently housed. Supported by the French interest, the established character of this work as a department of the Egyptian government (which also claims the ancient sites) has been fully recognized since the British occupation. The "Service of Antiquities" now boasts a large annual budget and employs a number of European and native officials—a director, curators of the museum, European inspectors and native sub-inspectors of provinces (at Luxor for Upper Egypt and Nubia, at Assiut for Middle Egypt and the Fayum, at Mansura for Lower Egypt, besides a European official in charge of the government excavations at Memphis). The museum, no longer the property of an individual, was removed in 1889 from the small building at Bulak to a disused palace at Giza, and since 1902 has been established at Kasr-en-Nil, Cairo, in a special building, of ample size and safe from fire and flood. In the year 1881 the directorship of the museum was temporarily undertaken by Prof. Maspero, who resumed it in 1899. The admirably conducted Archaeological Survey of the portion of Nubia threatened by the raising of the Assuan dam is in the charge of another department—the Survey department, directed for many years up to 1909 by Captain H. G. Lyons. Non-official agencies (supported by voluntary contributions) for exploration in Egypt comprise the Egypt Exploration Fund, started in London in 1881, with its two branches, *viz.* the Archaeological Survey (1890) for copying and publishing the monuments above ground, and the Graeco-Roman Branch (1897), well known through the brilliant work in Greek papyri of B. P. Grenfell and A. S. Hunt; and the separate Research Account founded by Professor W. M. Flinders Petrie in London (University College) in 1896, and since 1905 called the British School of Archaeology in Egypt (see especially Memphis). The *Mission archéologique française au Caire*, established as a school by the French government in 1881, was reorganized in 1901 on a lavish scale under the title *Institut français d'archéologie orientale du Caire*, and domiciled with printing-press and library in a fine building near the museum. As the result of an excellent bargain, it was afterwards removed to the Munira palace in the south-east part of the city. An archaeologist is attached to the German general consulate to look after the interests of German museums, and is director of the German Institute of Archaeology. The Orient-Gesellschaft (German Orient-Society) has worked in Egypt since 1901 with brilliant results. Excavations and explorations are also conducted annually by the agents of universities and museums in England, America and Germany, and by private explorers, concessions being granted generally on the terms that the Egyptian government shall retain half of the antiquities discovered, while the other half remains for the finders.

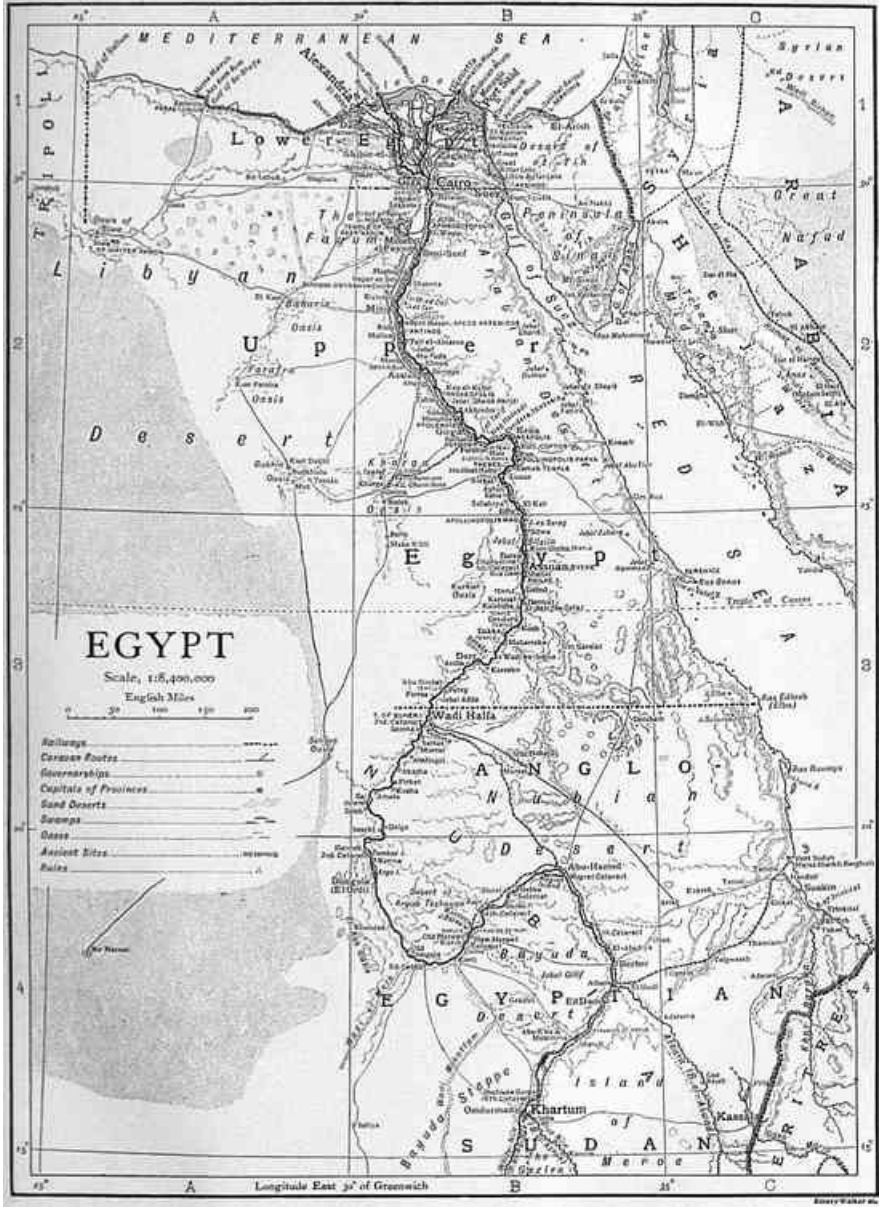
The era of scientific excavation began with Flinders Petrie's work at Tanis in 1883. Previous explorers kept scientific aims in view, but the idea of scientific archaeology was not realized by them. The procedure in scientific excavation is directed to collecting and interpreting all the information that can be obtained from the excavation as to the history and nature of the site explored, be it town, temple, house, cemetery or individual grave, wasting no evidence that results from it touching the endless problems which scientific archaeology affords—whether in regard to arts and crafts, manners and customs, language, history or beliefs. This is a totally different thing from mere hunting for inscriptions, statues or other portable objects which will present a greater or less value in themselves even when torn from their context. Such may, of course, form the greater part of the harvest and working material of a scientific excavator; their presence is most welcome to him, but their complete absence need be no bar to his attainment of important historical results. The absence of scientific excavation in Egypt was deplored by the Scottish archaeologist Alexander Henry Rhind (1833-1863), as early as 1862. Since Flinders Petrie began, the general level of research has gradually risen, and, while much is shamefully bad and destructive, there is a certain proportion that fully realizes the requirements of scientific archaeology.

Antiquities, Sites, &c.—The remains for archaeological investigation in Egypt may be roughly classified as material and literary: to the latter belong the texts on papyri and the inscriptions, to the former the sites of ancient towns with the temples, fortifications and houses; remains of roads, canals, quarries and other matters falling within the domain of ancient topography; the larger monuments, as obelisks, statues, stelae, &c.; and finally the small antiquities—utensils, clothes, weapons, amulets, &c. Where moisture can reach the antiquities their preservation is no better in Egypt than it would have been in other countries; for this reason all the papyri in the Delta have perished unless they happen to have been charred by fire. A terrible pest is a kind of termite which is locally abundant and has probably visited most parts of Egypt at one time or another, destroying all dead vegetable or animal material in the soil that was not specially protected.

In Lower Egypt the cities built of crude brick were very numerous, especially after the 7th century b.c., but owing to the value of stone very few of their monuments have escaped destruction: even the mounds of rubbish which marked their sites furnish a valuable manure for the fields and in consequence are rapidly disappearing. Granite and other hard stones, having but a limited use (for millstones and the like), have the best chance of survival. At Bubastis, Tanis, Behbeit (Iseum) and Heliopolis considerable stone remains have been discovered. In the north of the Delta wherever salt marshes have prevented cultivation in modern times, the mounds, such as those of Pelusium, still stand to their full height, and the more important are covered with ruins of brick structures of Byzantine and Arab date.

Middle and Upper Egypt were less busy and prosperous in the later ages than Lower Egypt. There was consequently somewhat less consumption of the old stone-work. Moreover, in many places equally good material could be obtained without much difficulty from the cliffs on both sides of the Nile. Yet even the buried portions of limestone buildings have seldom been permitted to survive on the cultivated land; the Nubian sandstone of Upper Egypt was of comparatively little value, and, generally speaking, buildings in that material have fallen into decay rather than been destroyed by quarrying.

Starting from Cairo and going southward we have first the great pyramid-field, with the necropolis of Memphis as its centre; stretching from Abū Roāsh on the north to Lisht on the south, it is followed by the pyramid group of Dahshūr, the more isolated pyramids of Medūm and Illahūn, and that of Hawāra in the Fayūm. On the east bank are the limestone quarries of Turra and Masāra opposite Memphis. South of the Fayūm on the western border of the desert are the tombs of Deshāsha, Meir and Assiūt, and on the east bank those of Beni Hasan, the rock-cut temple of Speos Artemidos, the tombs of El Bersha and Sheikh Said, the tombs and stelae of El Amarna with the alabaster quarries of Hanub in the desert behind them, and the tombs of Deir el Gebrāwi. Beyond Assiūt are the tombs of Dronka and Rīfa, the temples of Abydos and Dendera, and the tombs, &c., at Akhmīm and Kasr es Saiyād. Farther south are the stupendous ruins of Thebes on both sides of the river, the temple of Esna, the ruins and tombs of El Kāb, the temple of Edfū, the quarries of Silsila and the temple of Ombos, followed by the inscribed rocks of the First Cataract, the tombs and quarries of Assuan and the temples of Philae.



(Click to enlarge.)

In Nubia, owing to the poverty of the country and its scanty population, the proportion of monuments surviving is infinitely greater than in Egypt. Here are the temples of Debōd, the temple and quarries of Kertassi, the temples of Kalabsha, Bēt el Wali, Dendūr, Gerf Husēn, Dakka, Maharaka, Es-Sebū'a, 'Amāda and Derr, the grottos of Elles ya, the tombs of Anība, the temple of Ibrīm, the great rock-temples of Abū-Simbel, the temples at Jebel Adda and Wadi Halfa, the forts and temples of Semna, the temples of Amāra (Meroitic) and Sōleb. Beyond are the Ethiopian temples and pyramids of Jebel Barkal and the other pyramids of Napata at Tangassi, &c., the still later pyramids of Meroe at Begerawīa, and the temples of Mesauwarāt and Nāga reaching to within 50 m. of Khartūm.

Outside the Nile valley on the west are temples in the Great and Little Oases and the Oasis of Ammon: on the east quarries and stelae on the Hammamāt road to the Red Sea, and mines and other remains at Wadi Maghāra and Serābīt el Khādim in the Sinai peninsula. In Syria there are tablets of conquest on the rocks at the mouth of the Nahr el Kelb.

Of the collections of Egyptian antiquities in public museums, those of the British Museum, Leiden, Berlin, the Louvre, Turin were already very important in the first half of the 19th century, also in a less degree those of Florence, Bologna and the Vatican. Most of these have since been greatly increased and many others have been created. By far the largest collection in the world is that at Cairo. In America the museums and universities of Boston, Chicago, Philadelphia, San Francisco and New York have collections of greater or less interest. Besides these the museums of Edinburgh, Liverpool, Manchester and Oxford are noteworthy in Great Britain for their Egyptian antiquities, as are those of St Petersburg, Vienna, Marseilles, Munich, Copenhagen, Palermo and Athens; there are also collections in most of the British colonies. Private collections are numerous.

Literary Records.—In estimating the sources of information regarding pre-Christian Egypt, the native sources, first opened to us by Champollion, are infinitely the most important. With very few exceptions they are contemporary with the events which they record. Of the composition of history and the description of their own manners and customs by the Egyptians for posterity, few traces have reached our day. Consequently the information derived from their monuments, in

spite of their great abundance, is of a fortuitous character. For one early papyrus that survives, many millions must have perished. If the journals of accounts, the letters and business documents, had come down to us *en masse*, they would no doubt have yielded to research the history and life of Egypt day by day; but those that now represent a thousand years of the Old Kingdom and Middle Kingdom together would not half fill an ordinary muniment chest. A larger proportion of the records on stone have survived, but that an event should be inscribed on stone depends on a variety of circumstances and not necessarily on its importance. There may seem to be a great abundance of Egyptian monuments, but they have to cover an enormous space of time, and even in the periods which are best represented, gravestones recording the names of private persons with a prayer or two are scarcely material for history. A scrap of annals has been found extending from the earliest times to the Vth Dynasty, as well as a very fragmentary list of kings reaching nearly to the end of the Middle Kingdom, to help out the scattered data of the other monuments. As to manners and customs, although we possess no systematic descriptions of them from a native source, the native artists and scribes have presented us with exceptionally rich materials in the painted and sculptured scenes of the tombs from the Old and Middle Kingdoms and the New Empire. For the Deltaic dynasties these sources fail absolutely, the scenes being then either purely religious or conventional imitations of the earlier ones.

Fortunately the native records are largely supplemented by others: valuable information comes from cuneiform literature, belonging to two widely separated periods. The first group is contemporary with the XVIIIth and XIXth Dynasties and consists in the first place of the Tell el Amarna tablets with others related to them, containing the reports of governors of the Syrian possessions of Egypt, and the correspondence of the kings of Babylon, Assur, Mitanni and Khatti (the Hittites) with the Pharaohs. The sequel to this is furnished by Winckler's discovery of documents relating to Rameses II. of the XIXth Dynasty in the Hittite capital at Boghaz Keui (see also Hittites and Pteria). The other group comprises the annals and inscriptions of the Assyrian kings Esarhaddon and Assur-bani-pal, recording their invasions of Egypt under the XXVth Dynasty. There are also a few references to Egypt of later date down to the reign of Darius. In Hebrew literature the Pentateuch, the historical books and the prophets alike contain scanty but precious information regarding Egypt. Aramaic papyri written principally by Jews of the Persian period (5th century b.c.) have been found at Syene and Memphis.

Of all the external sources the literary accounts written in Greek are the most valuable. They comprise fragments of the native historian Manetho, the descriptions of Egypt in Herodotus and Diodorus, the geographical accounts of Strabo and Ptolemy, the treatise of Plutarch on Isis and Osiris and other monographs or scattered notices of less importance. Our knowledge of the history of Alexander's conquest, of the Ptolemies and of the Roman occupation is almost entirely derived from Greek sources, and in fact almost the same might be said of the history of Egypt as far back as the beginning of the XXVIth Dynasty. The non-literary Greek remains in papyri and inscriptions which are being found in great abundance throw a flood of light on life in Egypt and the administration of the country from the time of Ptolemy Philadelphus to the Arab conquest. On the other hand, papyri and inscriptions in Latin are of the greatest rarity, and the literary remains in that language are of small importance for Egypt.

Arabic literature appears to be entirely barren of authentic information regarding the earlier condition of the country. Two centuries of unchallenged Christianity had broken almost completely the traditions of paganism, even if the Moslems had been willing to consider them, either in their fanciful accounts of the origins of cities, &c., or elsewhere.

B. *The Country in Ancient Times.*—The native name of Egypt was Kēmi (KM·T), clearly meaning "the black land," Egypt being so called from the blackness of its alluvial soil (cf. Plut. *De Is. et Os.* cap. 33): in poetical inscriptions *Kēmi* is often opposed to *Toshri*, "the red land," referring to the sandy deserts around, which however, would probably be included in the term Kēmi in its widest sense. Egypt is called in Hebrew Mizraim, מִצְרַיִם, possibly a dual form describing the country in reference to its two great natural and historical divisions of Upper Egypt and Lower Egypt: but Mizraim (poetically sometimes Māzōr) often means Lower Egypt, Upper Egypt being named Pathros, "the south land." In Assyrian the name was Muṣri, Miṣri: in Arabic it is Miṣr, مِصْر, pronounced Maṣr in the vulgar dialect of Egypt. These names are certainly of Semitic origin and perhaps derive from the Assyrian with the meaning "frontier-land" (see Mizraim). Winckler's theory of a separate Muṣri immediately south of Palestine is now generally rejected (see, for instance, Ed. Meyer, *Die Israeliten und ihre Nachbarstämme*, 455). The Greek Αἴγυπτος (Aegyptus) occurs as early as Homer; in the *Odyssey* it is the name of the Nile (masc.) as well as of the country (fem.): later it was confined to the country. Its origin is very obscure (see Pietschmann in Pauly-Wissowa, *Realencyclopädie*, s.v. "Aigyptos"). Brugsch's derivation from Hakeptah, a name of the northern capital, Memphis, though attractive, is unconfirmed.

Egypt normally included the whole of the Nile valley from the First Cataract to the sea; pure Egyptians, however, formed the population of Lower Nubia above the Cataract in prehistoric times; at some periods also the land was divided into separate kingdoms, while at others Egypt stretched southward into Nubia, and it generally claimed the neighbouring Libyan deserts and oases on the west and the Arabian deserts on the east to the shore of the Red Sea, with Sinai and the Mediterranean coast as far as Rhinocorura (El Arīsh). The physical features in ancient times were essentially the same as at the present day. The bed of the Nile was lower: it appears to have risen by its own deposits at a rate of about 4 in. in a century. In the north of the Delta, however, there was a sinking of the land, in consequence of which the accumulations on some of the ancient sites there extend below the present sea-level. On the other hand at the south end

of the Suez canal the land may have risen bodily, since the head of the Gulf of Suez has been cut off by a bank of rock from the Bitter lakes, which were probably joined to it in former days. The banks of the Nile and the islands in it are subject to gradual but constant alteration—indeed, several ancient sites have been much eroded or destroyed—and the main volume of the stream may in course of time be diverted into what has previously been a secondary channel. According to the classical writers, the mouths or branches of the Nile in the Delta were five in number (seven including two that were artificial): now there are only two. In Upper Egypt the main stream tended as now to flow along the eastern edge of the valley, while to the west was a parallel stream corresponding to the Bahr Yusuf. From the latter a canal or branch led to the Lake of Moeris, which, until the 3rd century b.c., filled the deep depression of the Fayum, but is now represented only by the strongly brackish waters of the Birket el Kerūn, left in the deepest part. The area of alluvial land has probably not changed greatly in historic times. The principal changes that have occurred are due to the grip which civilization has taken upon the land in the course of thousands of years, often weakening but now firmer than ever. In early days no doubt the soil was cultivated in patches, but gradually a great system of canals was organized under the control of the central government, both for irrigation and for transport. The wild flora of the alluvial valley was probably always restricted and eventually was reduced almost to the “weeds of cultivation,” when every acre of soil, at one period of the year under water, and at another roasted under the burning heat of a semi-tropical sun, was carefully tilled. The acacia abounded on the borders of the valley, but the groves were gradually cut down for the use of the carpenter and the charcoal-burner. The desert was full of wild life, the balance of nature being preserved by the carnivorous animals preying on the herbivorous; trees watered by soakage from the Nile protected the undergrowth and encouraged occasional rainfall. But this balance was upset by the early introduction of the goat and later of the camel, which destroyed the sapling trees, while the grown ones fell to the axe of the woodcutter. Thus in all probability the Egyptian deserts have become far poorer in animals and trees than they were in primitive times. Much of Lower Egypt was left in a wilder state than Upper Egypt. The marshy lands in the north were the resort of fishermen and fowlers, and the papyrus, the cultivation of which was a regular industry, protected an abundance of wild life. The abandonment of papyrus culture in the 8th century a.d., the neglect of the canals, and the inroads of the sea, have converted much of that country into barren salt marsh, which only years of draining and washing can restore to fertility.

The rich alluvial deposits of the Nile which respond so readily to the efforts of the cultivator ensured the wealth of the country. Moulded into brick, without burning, this black clay also supplied the common wants of the builder, and even the palaces of the greatest kings were constructed of crude brick. For more lasting and ambitious work in temples and tombs the materials could be obtained from the rocks and deserts of the Nile valley. The chief of these was limestone of varying degrees of fineness, composing the cliffs which lined the valley from the apex of the Delta to the neighbourhood of El Kāb; the best quality was obtained on the east side opposite Memphis from the quarries of Turra and Masāra. From El Kāb southward its place was taken by Libyan sandstone, soft and easily worked, but unsuitable for fine sculpture. These two were the ordinary building stones. In the limestone was found the flint or chert used for weapons and instruments in early times. For alabaster the principal quarry was that of Hanub in the desert 10 m. behind El Amarna, but it was obtained elsewhere in the limestone region, including a spot near Alexandria. A hard and fine-grained quartzite sandstone was quarried at Jebel Ahmar behind Heliopolis, and basalt was found thence along the eastern edge of the Delta to near the Wadi Tumilāt. Red granite was obtained from the First Cataract, breccia and diorite were quarried from very early times in the Wadi Hammamāt, on the road from Coptos to the Red Sea, and porphyry was brought, chiefly in Roman times but also in the prehistoric age, from the same region at Jebel Dokhān.

Egypt was poor in metals. Gold was obtained chiefly from Nubia: iron was found in small quantities in the country and at one time was worked in the neighbourhood of Assuān. Some copper was obtained in Sinai. Of stones that were accounted precious Sinai produced turquoise and the Egyptian deserts garnet, carnelian and jasper.

The native supply of wood for industrial purposes was exceedingly bad: there was no native wood long enough and straight enough to be used in joiners’ work or sculpture without fitting and patching: palm trees were abundant, and if the trees could be spared, their split stems could be used for roofing. For boatbuilding papyrus stems and acacia wood were employed, and for the best work cedar-wood was imported from Lebanon.

Egypt was isolated by the deserts and the sea. The Nile valley afforded a passage by ship or on foot into Nubia, where, however, little wealth was to be sought, though gold and rarities from the Sudan, such as ivory and ebony, came that way and an armed raid could yield a good spoil in slaves and cattle. The poverty-stricken and barbarous Nubians were strong and courageous, and gladly served in Egypt as mercenary soldiers and police. Through the oases also ran paths to the Sudan by which the raw merchandise of the southern countries could be brought to Egypt. Eastward, roads led through the Arabian mountains to the Red Sea, whence ships made voyages to the incense-bearing land of Puoni (Punt) on the Somali coast of Africa, rich also in gold and ivory. The mines of Sinai could be reached either by sea or by land along the route of the Exodus. The roads to Syria skirted the east border of the Delta and then followed the coast from near Pelusium through El Arīsh and Gaza. A secondary road branched off through the Wadi Tumilāt, whence the ways ran northwards to Syria and southwards to Sinai. On the Libyan side the oasis of Sīwa could be reached from the Lake of Moeris or from Terrana (Terenuthis), or by the coast route which also led to the Cyrenaica. The Egyptians had some traffic on the Mediterranean from very remote times, especially with Byblus in Phoenicia, the port for cedar-wood.

Of the populations surrounding Egypt the negroes (Nehsi) in the south (Cush) were the lowest in the scale of civilization: the people of Puoni and of Libya (the Tehen, &c.) were pale in colour and superior to the negroes, but still show no sign of a high culture. The Syrians and the Keftiu, the latter now identified with the Cretans and other representatives of the Aegean civilization, are the only peoples who by their elaborate clothing and artistic products reveal themselves upon the ancient Egyptian monuments as the equals in culture of the Egyptian nation.

The Egyptians seem to have applied no distinctive name to themselves in early times: they called themselves proudly *rōmi* (RMTW), *i.e.* simply "men," "people," while the despised races around them, collectively Ḫ'SWT, "desert-peoples," were distinguished by special appellations. The races of mankind, including the Egyptians, were often called the Nine Archers. Ultimately the Egyptians, when their insularity disappeared under the successive dominations of Ethiopia, Assyria and Persia, described themselves as *rem-n-Kēmi*, "men of Egypt." Whence the population of Egypt as we trace it in prehistoric and historic times came, is not certain. The early civilization of Egypt shows remarkable coincidences with that of Babylonia, the language is of a Semitic type, the religion may well be a compound of a lower African and a higher Asiatic order of ideas. According to the evidence of the mummies, the Egyptians were of slender build, with dark hair and of Caucasian type. Dr Elliott Smith, who has examined thousands of skeletons and mummies of all periods, finds that the prehistoric population of Upper Egypt, a branch of the North African-Mediterranean-Arabian race, changed with the advent of the dynasties to a stronger type, better developed than before in skull and muscle. This was apparently due to admixture with the Lower Egyptians, who themselves had been affected by Syrian immigration. Thereafter little further change is observable, although the rich lands of Egypt must have attracted foreigners from all parts. The Egyptian artists of the New Empire assigned distinctive types of feature as well as of dress to the different races with which they came into contact, Hittites, Syrians, Libyans, Bedouins, negroes, &c.

The people of Egypt were not naturally fierce or cruel. Intellectually, too, they were somewhat sluggish, careless and unbusinesslike. In the mass they were a body of patient labourers, tilling a rich soil, and hating all foreign lands and ways. The wealth of their country gave scope for ability within the population and also attracted it from outside: it enabled the kings to organize great monumental enterprises as well as to arm irresistible raids upon the inferior tribes around. Urged on by necessity and opportunity, the Egyptians possessed sufficient enterprise and originating power to keep ahead of their neighbours in most departments of civilization, until the more warlike empires of Assyria and Persia overwhelmed them and the keener intellects of the Greeks outshone them in almost every department. The debt of civilization to Egypt as a pioneer must be considerable, above all perhaps in religious thought. The moral ideals of its nameless teachers were high from an early date: their conception of an after-life was exceedingly vivid: the piety of the Egyptians in the later days was a matter of wonder and scoffing to their contemporaries; it is generally agreed that certain features in the development of Christianity are to be traced to Egypt as their birthplace and nidus.

For researches into the ethnography of Egypt and the neighbouring countries, see W. Max Müller, *Asien und Europa nach den altäg. Inschriften* (Leipzig, 1893), *Egyptological Researches* (Washington, 1906); for measurements of Egyptian skulls, Miss Fawcett in *Biometrika* (1902); A. Thomson and D. Randall-MacIver, *The Ancient Races of the Thebaid* (Oxford, 1905) (cf. criticisms in *Man*, 1905; and for comparisons with modern measurements, C. S. Myers, *Journ. Anthropological Institute*, 1905, 80). W. Flinders Petrie has collected and discussed a series of facial types shown in prehistoric and early Egyptian sculpture, *Journal Anthropological Institute*, 1901, 248. For Elliott Smith's results see *The Cairo Scientific Journal*, No. 30, vol. iii., March 1909.

Divisions.—In ancient times Egypt was divided into two regions, representing the kingdoms that existed before Menes. Lower Egypt, comprising the Delta and its borders, formed the "North Land," *To-meh*, and reached up the valley to include Memphis and its province or "nome," while the remainder of the Egyptian Nile valley was "the South," *Shema* (ŠM'W ). The south, if only as the abode of the sun, always had the precedence over the north in Egypt, and the west over the east. Later the two regions were known respectively as P-to-rēs (Pathros), "the south land," and P-to-meh, "the north land." In practical administration this historic distinction was sometimes observed, at others ignored, but in religious tradition it had a firm hold. In Roman times a different system marked off a third region, namely Middle Egypt, from the point of the Delta southward. Theoretically, as its name Heptanomis implies, this division contained seven nomes, actually from the Hermopolite on the south to the Memphite on the north (excluding the Arsinoite according to the papyri). Some tendency to this existed earlier. Egypt to the south of the Heptanomis was the Thebais, called P-tesh-en-Ne, "the province of Thebes," as early as the XXVIth Dynasty. The Thebais was much under the influence of the Ethiopian kingdom, and was separated politically in the troubled times of the XXIIIrd Dynasty, though the old division into Upper and Lower Egypt was resumed in the XXVIth Dynasty.

If Upper and Lower Egypt represented ancient kingdoms, the nomes have been thought to carry on the traditions of tribal settlements. They are found in inscriptions as early as the end of the IIIrd Dynasty, and the very name of Thoth, and that of another very ancient god, are derived from those of two contiguous nomes in Lower Egypt. The names are written by special emblems placed on standards, such as an ibis,  , a jackal  , a hare  , a feathered crown  , a sistrum  , a blade  , &c., suggesting tribal badges. Some nomes having a common badge but distinguished as "nearer" or "further," *i.e.* "northern" or "southern," have simply been split, as they are contiguous: in one case, however, corresponding "eastern" and "western" Harpoon nomes are widely separated on opposite sides of the Delta. In a few cases, such as "the West," "the Beginning of the East," it is obvious that the names are derived solely from their geographical situation. It is quite possible that the divisions are geographical in the main, but it seems likely that there were also religious, tribal and other historical reasons for them. How their boundaries were determined is not certain: in Upper Egypt in many cases a single nome embraced both sides of the river. The number and nomenclature of the nomes were never absolutely fixed. In temples of Ptolemaic and Roman age the full series is figured presenting their tribute to the god, and this series approximately agrees with the scattered data of early monuments. The normal number of the nomes in the sacred lists appears to be 42, of which 22 belonged to Upper Egypt and 20 to Lower Egypt. In reality again these nome-divisions were treated with considerable freedom, being split or reunited and their boundaries readjusted. Each nome had its metropolis, normally the seat of a governor or nomarch and the centre of its religious observances. During the New Empire, except at the beginning, the nomes seem to have been almost entirely ignored: under the Deltaic dynasties (except of course in the traditions of the sacred writing) they were named after the metropolis, as "the province (*tosh*) of Busiris," "the province of Sais," &c.: hence the Greek names Βουσιρίτης νομός, &c. The Arsinoite nome was added by the Ptolemies after the draining of the Lake of Moeris (*q.v.*), and in the later Ptolemaic and the Roman times many changes and additions to the list must have been made. In Christian texts the "provinces" appear to have been very numerous.

See H. Brugsch, *Geographische Inschriften altägyptischer Denkmäler* (3 vols., Leipzig, 1857-1860), and for the nomes on monuments of the Old Kingdom, N. de G. Davies, *Mastaba of Ptahhetep and Akhethetep* (London, 1901), p. 24 et sqq.

King and Government.—The government of Egypt was monarchical. The king (for titles see Pharaoh) was the head of the hierarchy: he was himself divine and is often styled "the good god," and was the proper mediator between gods and men. He was also the dispenser of office, confirmer of hereditary titles and estates and the fountain of justice. Oaths were generally sworn by the "life" of the king. The king wore special headdresses and costumes, including the crowns of Upper  and Lower Egypt  (often united ), and the cobra upon his forehead. Females were admitted to the succession, but very few instances occur before the Cleopatras. The most notable Pharaonic queen in her own right was Hatshepsut in the XVIIIth Dynasty, but her reign was ignored by the later rulers even of her own family. A certain Nitōcris

of about the VIIIth Dynasty and Scēmiophris of the XIIth Dynasty are in the lists, but are quite obscure. Yet inheritance through the female line was fully recognized, and marriage with the heiress princess was sought by usurpers to legitimate the claims of their offspring. Often, especially in the XIIth Dynasty, the king associated his heir on the throne with him to ensure the succession.

From time to time feudal conditions prevailed: the great landowners and local princes had establishments of their own on the model of the royal court, and were with difficulty kept in order by the monarch. In rare cases during the Middle Kingdom (inscriptions in the tomb of Ameni at Beni Hasan, graffiti in the quarries of Hanub) documents were dated in the years of reign of these feudatory nobles. Under the Empire all power was again centralized in the hands of the Pharaoh. The apportionment of duties amongst the swarm of officials varied from age to age, as did their titles. Members of the royal family generally held high office. Under the Empire Egypt was administered by a vast bureaucracy, at the head of which, responsible to the king, was the vizier, or sometimes two viziers, one for Upper Egypt, the other for Lower Egypt (in which case the former, stationed at Thebes, had the precedence). The duties of the vizier and the procedure in his court are detailed in a long inscription which is repeated in three tombs of the XVIIIth Dynasty at Thebes (Breasted, *Records*, ii. § 663 et seqq.). The strictest impartiality was enjoined upon him, and he was advised to hold aloof from the people in order to preserve his authority. The office of vizier was by no means a sinecure. All the business of the country was overlooked by him—treasury, taxation, army, law-courts, expeditions of every kind. Egypt was the vast estate of Pharaoh, and the vizier was the steward of it.

Army.—The youth of Egypt was liable to be called upon for service in the field under the local chiefs. Their training consisted of gymnastic and warlike exercises which developed strength and discipline that would be as useful in executing public works and in dragging large monuments as in strictly military service. They were armed in separate companies with bows and arrows, spears, daggers and shields, and the officers carried battle-axes and maces. The army, commanded in chief by Una under the VIth Dynasty for raids in Sinai or Palestine, comprised levies from every part of Egypt and from Nubia, each under its own leader. Under the New Empire, when Egypt was almost a military state, the army was a more specialized institution, the art of war in siege and strategy had developed, divisions were formed with special standards, there were regiments armed with battle-axes and scimitars, and chariots formed an essential part of the host. Egyptian cavalry are not represented upon the monuments, and we hear little of such at any time. Herodotus divides the army into two classes, the Calasiries and the Hermotybies; these names, although he was not aware of it, mean respectively horse-and foot-soldiers, but it is possible that the former name was only traditional and had characterized those who fought from chariots, a mode of warfare that was obsolete in Herodotus's own day: as a matter of fact both classes are said to have served on the warships of Xerxes' fleet.

Arms and Armour.—From the contents of graves and other remains, and the sculptured and painted scenes, an approximate idea can be obtained of the weapons of the Egyptians at all periods from the prehistoric age onwards. Only a few points are here noted. Stone mace-heads are found in the earliest cemeteries, together with flint implements that may be the heads of lances, &c., and thin leaf-shaped daggers of bronze. Stone arrow-heads are common on the surface of the desert. Thin bronze arrow-heads appear at an early date; under the Empire they are stouter and furnished with a tang, and later still, towards the Greek period, they are socketed (often three-sided), or, if of iron, still tanged. The wooden club, a somewhat primitive weapon, seems to have been considered characteristic of foreigners from very early times, and, in scenes dating from the Middle Kingdom, belong principally to the levies from the surrounding barbarians. The dagger grew longer and stouter, but the sword made its appearance late, probably first in the hands of the *Sherdana* (Sardinian?), mercenaries of the time of Rameses II. A peculiar scimitar, *khopsh*  , is characteristic of the Empire. Slings are first heard of in Egyptian warfare in the 8th century b.c. The chariot was doubtless introduced with the horse in the Hyksos period; several examples have been discovered in the tombs of the New Kingdom. Shields were covered with ox-hide and furnished with round sighting-holes above the middle. Cuirasses of bronze scales were worn by the kings and other leaders. The linen corslets of the Egyptian soldiery at a later time were famous, and were adopted by the Persian army. According to the paintings of the Middle Kingdom in the tombs of Beni Hasan, the battlements of brick fortresses were attacked and wrenched away with long and massive spears. No siege engines are depicted, even in the time of the Empire, and the absence of original representations after the XXth Dynasty renders it difficult to judge the advances made in the art of war during the first half of the last millennium b.c. The inscription of Pankhi, however, proves that in the 8th century approaches and towers were raised against the walls of besieged cities.

Priesthood.—The priesthood was in a great degree hereditary, though perhaps not essentially so. In each temple the priests were divided into four orders (until Ptolemy Euergetes added a fifth), each of which served in turn for a lunar month under the chief priest or prophet. They received shares of the annual revenues of the temple in kind, consisting of linen, oil, flesh, bread, vegetables, wine, beer, &c. The "divine servants" or "prophets" had residences assigned them in the temple area. In late times the priests were always shaven, and paid the greatest attention to cleanliness and ceremonial purity already implied in their ancient name. Fish and beans then were abhorred by them. Among the priests were the most learned men of Egypt, but probably many were illiterate. For the Hellenistic period see W. Otto, *Priester und Tempel im hellenistichen Ägypten* (Leipzig, 1905 foll.).

For ancient Egyptian life and civilization in all departments, the principal work is Ad. Erman, *Life in Ancient Egypt*, translated by H. M. Tirard (London, 1894), (the original *Ägypten und ägyptisches Leben im Altertum*, 2 vols., was published in 1885 at Tübingen); G. Maspero, *Life in Ancient Egypt and Assyria*, translated by A. P. Morton (London, 1892), (*Lectures historiques*, Paris, 1890); also J. G. Wilkinson, *Manners and Customs of the Ancient Egyptians*, new ed. by S. Birch (3 vols., London, 1878). The annual *Archaeological Reports* of the Egypt Exploration Fund contain summaries of the work done each year in the several departments of research.

Of the innumerable publications of Egyptian monuments, scenes and inscriptions, C. R. Lepsius, *Denkmäler aus Ägypten und Äthiopien* (Berlin, 1849-1859), and Memoirs of the *Archaeological Survey* of the Egypt Exploration Fund, may be specified. For antiquities in museums there is the sumptuous *Catalogue général des antiquités égyptiennes du musée de Caire*; for excavations the Memoirs of the Egypt Exploration Fund, of the Research Account, of the British School of Archaeology, of the Liverpool School of Archaeology, of the Deutsche Orient-Gesellschaft, of the Hearst Egyptian Expedition, of the Theodore M. Davis excavations (Tombs of the Kings).

Trade and Money.—There is little evidence to show how buying and selling were carried on in ancient Egypt. A unique scene in a tomb of the IVth Dynasty, however, shows men and women exchanging commodities against each other—fish, fish-hooks, fans, necklaces, &c. Probably this was a market in the open air such as is held weekly at the present time in every considerable village. Rings of metal, gold, silver and bronze played some part in exchange, and from the Hyksos period onwards formed the usual standards by which articles of all kinds might be valued. In the XVIIIth Dynasty the value of meat, &c., was reckoned in gold; somewhat later copper seems the commonest standard, and under the Deltaic dynasties silver. But barter must have prevailed much longer. The precious metals were kept in the temples under the tutelage of the deities. During the XXVth and XXVIth Dynasties silver of the treasury of Harshafe (at Heracleopolis Magna) was commonly prescribed in contracts, and in the reign of Darius we hear of silver of the treasury of Ptah (at Memphis). Aryandes, satrap of Egypt, is said by Herodotus to have been punished by Darius for coining money of equal fineness with that of the king in Persia: thus coinage had then begun in Egypt. But the early coins that have been found there are mainly Greek, and especially Athenian, and it was not until the introduction of a regular currency in the three metals under the Ptolemies that much use was made of coined money.

Corn was the staple produce of Egypt and may have been exported regularly, and especially when there was famine in other countries. In the Tell el-Amarna letters the friendly kings ask Pharaoh for “much gold.” Papyrus rolls and fine linen were good merchandise in Phoenicia in the 10th century b.c. From the earliest times Egypt was dependent on foreign countries to supply its wants in some degree. Vessels were fashioned in foreign stone as early as the Ist Dynasty. All silver must have been imported, and all copper except a little that the Pharaohs obtained from the mines of Sinai. Cedar wood was brought from the forests of Lebanon, ivory, leopard skins and gold from the south, all kinds of spices and ingredients of incense from Somaliland and Arabia, fine linen and beautifully worked vessels from Syria and the islands. Such supplies might be obtained by forcible raiding or as tribute of conquered countries, or perhaps as the free offerings of simple savages awed by the arrival of ships and civilized well-armed crews, or again by royal missions in which rich gifts on both sides were exchanged, or lastly by private trading. For deciding how large a share was due to trade, there is almost no evidence. But there are records of expeditions sent out by the king to obtain the rarities of different countries, and the hero of the Story of the Shipwrecked Sailor was upon this quest. Egyptian objects of the age of the XVIIIth Dynasty are found in the Greek islands and on the mainland among remains of the Mycenaean epoch, and on the other hand the products of the workshops of Crete and other centres of that culture are found in Egypt and are figured as “tribute of the Keftiu” in the tomb-paintings, though we have no information of any war with or conquest of that people. It must be a case of trade rather than tribute here and in like instances. According to the papyrus of Unamun at the end of the weak XXth Dynasty payment for cedar was insisted on by the king of Byblus from the Egyptian commissioner, and proofs were shown to him of payment having been made even in the more glorious times of Egypt. Trade both internal and external must have been largely in the hands of foreigners. It is impossible to say at what period Phoenician traffic by sea with Egypt began, but it existed as early as the IIIrd Dynasty. In the time of Herodotus much wine was imported from Syria and Greece. Amasis II. (c. 570 b.c.) established Naucratis as the centre of Greek trade in Egypt. Financial transactions by Jews settled at the southern extremity of Egypt, at Assuan, are found as early as the reign of Artaxerxes.

Hunting, Fishing, &c.—In the desert hunting was carried on by hunters with bows and arrows, dogs and nets to check the game. Here in ancient times were found the oryx, addax, ibex, gazelle, bubale, ostrich, hyena and porcupine, more rarely the wild ox and wild sheep (*O. tragelaphus*). All of these were considered fit for the table. The lion, leopard and jackal were not eaten. Pigeons and other birds were caught in traps, and quails were netted in the fields and on the sea-shore. In the papyrus marshes the hippopotamus was slain with harpoons, the wild boar, too, was probably hunted, and the sportsman brought down wild-fowl with the boomerang, or speared or angled for fish. Enormous quantities of wild-fowl of many sorts were taken in clap-nets, to be preserved in jars with salt. Fish were taken sometimes in hand-nets, but the professional fishermen with their draw-nets caught them in shoals. The fishing industry was of great importance: the annual catch in the Lake of Moeris and its canal formed an important part of the Egyptian revenue. The fish of the Nile, which were of many kinds (including mullets, &c., which came up from the sea), were split and dried in the sun: others were salted and so preserved. A supply of sea fish would be obtained off the coast of the Delta and at the mouth of the Lake Serbonis.

Farming, Horticulture, &c.—The wealth of Egypt lay in its agriculture. The regular inundations, the ease of irrigating the rich alluvial flats, and the great heat of the sun in a cloudless sky, while limiting the natural flora, gave immense opportunities to the industrious farmer. The normal rise of the Nile was sixteen cubits at the island of Roda, and two cubits more or less caused a failure of the harvest. In the paintings we see gardens irrigated by handbuckets and *shadufs*; the latter (buckets hung on a lever-pole) were probably the usual means of raising water for the fields in ancient times, and still are common in Egypt and Nubia, although water-wheels have been known since the Ptolemaic age, if not earlier. Probably a certain amount of cultivation was possible all the year round, and there was perhaps a succession of harvests; but there was a pause after the main harvests were gathered in by the end of April, and from then till June was the period in which taxes were collected and loans were repaid. Under the Ptolemaic régime the records show a great variety of crops, wheat and barley being probably the largest (see B. P. Grenfell and A. S. Hunt, *Tebtunis Papyri*, i. 560; J. P. Mahaffy and J. G. Smyly, *Petrie Papyri*, iii. p. 205). Earlier the *bōti*, in Greek ὀλύρα (spelt? or durra?) was the main crop, and earlier again inferior varieties of wheat and barley took the lead, with *bōti* apparently in the second place. The bread was mainly made of *bōti*, the beer of barley. There were green crops such as clover, and lentils, peas, beans, radishes, onions, lettuces (as a vegetable and for oil), castor oil and flax were grown. The principal fruit trees were the date palm, useful also for its wood and fibre, the pomegranate, fig and fig-sycamore. The vine was much cultivated in early times, and the vintage is a subject frequently depicted. Later the wine of the Mareotic region near Alexandria was celebrated even amongst Roman epicures. Papyrus, which grew wild in the marshes, was also cultivated, at least in the later ages: its stems were used for boat-building, and according to the classical authors for rope-making, as well as for the famous writing material. About the 8th century a.d. paper drove the latter out of use, and the papyrus plant quickly became extinct. The Indian lotus described by Herodotus is found in deposits of the Roman age. Native lotuses, blue and white, were much used for decoration in garlands, &c., also the chrysanthemum and the corn-flower.

See chapters on plant remains by Newberry in W. M. F. Petrie, *Hawara, Biahmu, and Arsinoe* (London, 1889); *Kahun, Gurob and Hawara* (1890); V. Loret, *La Flore pharaonique* (2nd ed., Paris, 1892), and the authorities there cited.

Domestic Animals and Birds.—The farmer kept up a large stock of animals: in the houses there were pets and in the temples sacred creatures of many kinds. Goats browsed on the trees and herbage at the edge of the desert. Sheep of a peculiar breed with horizontal twisted horns and hairy coat are figured on the earliest monuments: a more valuable variety, woolly with curved horns, made its appearance in the Middle Kingdom and pushed out the older form: sheep were driven into the ploughed fields to break the clods and trample in the seed. The oxen were long-horned, short-horned and polled. They drew the plough, trampled the corn sheaves round the circular threshing floor, and were sometimes employed to drag heavy weights. The pig is rarely figured and was less and less tolerated as the Egyptians grew in ceremonial purity. A variety of wild animals caught in the chase were kept alive and fed for slaughter. Geese and ducks of different sorts were bred in countless numbers by the farmers, also pigeons and quails, and in the early ages cranes. The domestic fowl was unknown in Egypt before the Deltaic dynasties, but Diodorus in the first century b.c. describes how its eggs were hatched artificially, as they are at the present day. Bee-keeping, too, must have been a considerable industry, though dates furnished a supply of sweetening material.

The farm lands were generally held at a rent from an overlord, who might according to times and circumstances be the king, a feudal prince, or a temple-corporation. The stock also might be similarly held, or might belong to the farmers. The ordinary beast of burden, even in the desert, was the ass. The horse seems to have been introduced with the chariot during the Hyksos period. It is thought that the camel is shown in rude figures of the earliest age, but it is scarcely traceable again before the XXVIth Dynasty. In the Ptolemaic period it was used for desert transport and gradually became common. Strange to say, it is only very rarely that men are depicted riding on animals, and never before the New Kingdom.

The dog was of many varieties as early as the XIIth Dynasty, when the greyhound and turnspit and other well-marked forms are seen. The cat was sometimes trained by the sportsman to catch birds. Monkeys were commonly kept as pets. The sacred beasts in the various temples, tame as far as possible, were of almost every conceivable variety, from the vulture to the swallow or the goose, from the lion to the shrew-mouse, from the hippopotamus to the sheep and the monkey, from the crocodile to the tortoise and the cobra, from the carp to the eel; the scorpion and the scarab beetle were perhaps the strangest in this strange company of deities.

For agriculture see J. J. Tylor and F. Ll. Griffith, *The Tomb of Paheri* at El Kab, in the XIth Memoir of the Egypt Exploration Fund. Together with hunting and fishing it is illustrated in many of the Memoirs of the *Archaeological Survey* of the same society. See also Lortet and M. C. Gaillard, *La Faune momifiée de l'ancienne Égypte* (Lyons, 1905).

Law.—No code of Egyptian laws has come down to us. Diodorus names a series of Egyptian kings who were law-givers, ending with Amasis (Ahmosi II.) and Darius. Frequent reference is made in inscriptions to customs and laws which were traditional, and perhaps had been codified in the sacred books. From time to time regulations on special points were issued by royal decree: a fragment of such a decree, directed by Horemheb of the XVIIIth Dynasty against oppression of the peasantry by officials and prescribing penalties, is preserved on a stela in the temple of Karnak, and enactments of Ptolemy Philadelphus and Euergetes II. are known from papyri. In the Ptolemaic age matters arising out of native

contracts were decided according to native law by λαοκριταί, while travelling courts of χρηματισταί representing the king settled litigation on Greek contracts and most other disputes. Affairs were decided in accordance with the code of the country, τῆς χώρας νόμοι, the Greek code, πολιτικοὶ νόμοι, modelled, it would seem, on Athenian law or royal decrees, προστάγματα. "Native" law was still quoted in Roman times, but the significance of the expression remains to be ascertained. In ancient Egypt petitions were sent to the king or the great feudal landowners in whose territory the petitioner or his adversary dwelt or the injury was committed: courts were composed of royal or feudal officials, or in the New Kingdom of officials or responsible citizens. The right of appeal to the king probably existed at all times. The statement of the case and the evidence were frequently ordered to be put in writing. The evidence was supported by oath: in criminal cases, such as the harem conspiracy against Rameses III., torture of the accused was resorted to to extract evidence, the bastinado being applied on the hands and the feet. Penalties in the New Kingdom were death (by starvation or self-inflicted), fines, beating with a certain number of blows so as to open a specified number of wounds on as many different parts of the body (*e.g.* five wounds, *i.e.* on hands, feet and back?), also cutting off the nose with banishment to Nubia or the Syrian frontier. In the times of the Old Kingdom decapitation was in use, and a decree exists of the Middle Kingdom degrading a nomarch of Coptos and his family for ever from his office and from the priesthood on account of services to a rival pretender.

As to legal instruments: contracts agreed to in public or before witnesses and written on papyrus are found as early as the Middle Kingdom and perhaps belong to all historic times, but are very scarce until the XXVth Dynasty. Two wills exist on papyrus of the XIIth Dynasty, but they are isolated, and such are not again found among native documents, though they occur in Greek in the Ptolemaic age. The virtual will of a high priest of Ammon under the XXIInd Dynasty is put in the form of a decree of the god himself.

From the time of the XXVth Dynasty there is a great increase in written documents of a legal character, sales, loans, &c., apparently due to a change in law and custom; but after the reign of Darius I. there is again almost a complete cessation until the reign of Alexander, probably only because of the disturbed condition of the country. Under Ptolemy Philadelphus Greek documents begin to be numerous: under Euergetes II. (Physcon) demotic contracts are particularly abundant, but they cease entirely after the first century of Roman rule.

Marriage contracts are not found earlier than the XXVIth Dynasty. Women had full powers of inheritance (though not of dealing with their property), and succession through the mother was of importance. In the royal line there are almost certain instances of the marriage of a brother with an heiress-sister in Pharaonic times: this was perhaps helped by the analogy of Osiris and Isis: in the Ptolemaic dynasty it was an established custom, and one of the stories of Khamois, written in the Ptolemaic age, assumes its frequency at a very remote date. It would be no surprise to find examples of the practice in other ranks also at an early period, as it certainly was prevalent in the Hellenistic age, but as yet it is very difficult to prove its occurrence. The native contracts with the wife gave to her child all the husband's property, and divorce or separation was provided for, entailing forfeiture of the dowry. The "native law" of Roman times allowed a man to take his daughter away from her husband if the last quarrelled with him.

Slavery is traceable from an early date. Private ownership of slaves, captured in war and given by the king to their captor or otherwise, is certainly seen at the beginning of the XVIIIth Dynasty. Sales of slaves occur in the XXVth Dynasty, and contracts of servitude are found in the XXVIth Dynasty and in the reign of Darius, appearing as if the consent of the slave was then required. Presumably at this late period there were eunuchs in Egypt, though adequate evidence of their existence there is not yet forthcoming. They must have originated among a more cruel people. That circumcision (though perhaps not till puberty) was regularly practised is proved by the mummies (agreeing with the testimony of Herodotus and the indications of the early tomb sculptures) until an edict of Hadrian forbade it: after that, only priests were circumcised.

See A. H. Gardiner, *The Inscription of Mes* (from Sethe's *Untersuchungen zur Geschichte und Altertumskunde Ägyptens*, iv.); J. H. Breasted, *Ancient Records*, Egypt, passim, esp. i. § 190, 535 et seqq., 773, ii. 54, 671, iii. 45, 367, iv. 416, 499, 795; F. Ll. Griffith, *Catalogue of the John Rylands Demotic Papyri*; B. P. Grenfell and J. P. Mahaffy, *Revenue Laws of Philadelphus* (Oxford, 1896); B. P. Grenfell and A. S. Hunt, *Tebtunis Papyri*, part i. (London, 1902); Bouché-Leclercq, *Histoire des Lagides*, tome iv. (Paris, 1907).

Science.—The Egyptians sought little after knowledge for its own sake: they might indulge in religious speculation, but their science was no more than the knowledge of practical methods. Undoubtedly the Egyptians acquired great skill in the application of simple means to the fulfilment of the most difficult tasks. But the books that have come down to us prove how greatly their written theoretical knowledge fell short of their practical accomplishment. The explanation of the fact may partly be that the mechanical and other discoveries of the most ingenious minds among them, when not in constant requisition by later generations, were misunderstood or forgotten, and even in other cases were preserved only as rules of thumb by the craftsmen and experts, who would jealously hide them as secrets of trade. Men of genius were not wanting in the long history of Egypt; two doctors, Imhōtp (Imuthes), the architect of Zoser, in the IIIrd Dynasty, and Amenōphis (Amenhotp), son of Hap, the wise scribe under Amenōphis III. in the XVIIIth, eventually received the honours of deification; and Hardadf under Cheops of the IVth Dynasty was little behind these two in the estimation of posterity.

Such men, who, capable in every field, designed the Great Pyramids and bestowed the highest monumental fame on their masters, must surely have had an insight into scientific principles that would hardly be credited to the Egyptians from the written documents alone.

Mathematics.—The Egyptian notation for whole numbers was decimal, each power of 10 up to 100,000 being represented by a different figure, on much the same principle as the Roman numerals. Fractions except 2/3 were all primary, *i.e.* with the numerator unity: in order to express such an idea as 9/13 the Egyptians were obliged to reduce it to a series of primary fractions through double fractions 2/13 + 2/13 + 2/13 + 2/13 + 1/13 = 4(1/8 + 1/52 + 1/104) + 1/13 = ½ + 2/13 + 1/26 = ½ + 1/8 + 1/26 + 1/52 + 1/104; this operation was performed in the head, only the result being written down, and to facilitate it tables were drawn up of the division of 2 by odd numbers. With integers, besides adding and subtracting, it was easy to double and to multiply by 10: multiplying and dividing by 5 and finding the 1½ value were also among the fundamental instruments of calculation, and all multiplication proceeded by repetitions of these processes with addition, *e.g.* 9 × 7 = (9 × 2 × 2) + (9 × 2) + 9. Division was accomplished by multiplying the divisor until the dividend was reached; the answer being the number of times the divisor was so multiplied. Weights and measures proceeded generally on either a decimal or a doubling system or a combination of the two. Apart from a few calculations and accounts, practically all the materials for our knowledge of Egyptian mathematics before the Hellenistic period date from the Middle Kingdom.

The principal text is the Rhind Mathematical Papyrus in the British Museum, written under a Hyksos king c. 1600 b.c.; unfortunately it is full of gross errors. Its contents fall roughly into the following scheme, but the main headings are not shown in the original:—

I. *Arithmetic.*—A. Tables and rule to facilitate the employment of fractions.

(a) Table of the divisions of 2 by odd numbers from 3 to 99 (*e.g.* 2 ÷ 11 = 1/6 + 1/66), see above.

(b) Conversions of compound fractions (*e.g.* 2/3 × 1/3 = 1/6 + 1/18), with rule for finding 2/3 of a fraction.

B. The "bread" calculation—a division by 10 of the units 1 to 9.

C. "Completing" calculations.

(a) Adding multiples of a fraction to produce a more convenient fraction (perhaps connected with the use of palms and cubits in decoration in a proportion based on the number 8).

(b) Finding the difference between a given fraction and a given whole number.

D. *Ahe*9 or "mass"-problems (of the form x + x/n = a, to find the *ahe* x).

E. *Tooun*-problems (*tooun*, "rising," seems to be the difference between the shares of two sets of persons dividing an amount between them on a lower and a higher scale).

II. *Geometry.*—A. Measurement of volume (amounts of grain in cylindrical and rectangular spaces of different dimensions and vice versa).

B. Measurement of area (areas of square, circular, triangular, &c., fields).

C. Proportions of pyramids and other monuments with sloping sides.

III. *Miscellaneous problems* (and tables) such as are met with in bread-making, beer-making, food of live-stock, &c. &c.

The method of estimating the area of irregular fields and the cubic contents of granaries, &c., is very faulty. It would be interesting to find material of later date, such as Pythagoras is reported to have studied.

See A. Eisenlohr, *Ein mathematisches Handbuch der alten Ägypter* (Leipzig, 1877); F. Ll. Griffith, "The Rhind Mathematical Papyrus" in *Proceedings of the Soc. of Biblical Archaeology*, Nov. 1891, March, May and June 1894.

Astronomy.—The brilliant skies of day and night in Egypt favoured the development of astronomy. A papyrus of the Roman period in the British Museum attributes the invention of horoscopes to the Egyptians, but no early instance is known. Professor Petrie has indeed suggested, chiefly on chronological grounds, that a table of stars on the ceiling of the Ramesseum temple and another in the tomb of Rameses VI. (repeated in that of Rameses IX. without alteration) were horoscopes of Rameses II. and VI.; but Mahler's interpretation of the tables on which this would rest appears to be false. Astronomy played a considerable part in religious matters for fixing the dates of festivals and determining the hours of the night. The titles of several temple books are preserved recording the movements and phases of the sun, moon and stars. The rising of Sothis (Sirius) at the beginning of the inundation was a particularly important point to fix in the yearly

calendar (see below, § "Chronology"). The primitive clock[10] of the temple time-keeper (horoscopus), consisting of a ὡρολόγιον καὶ φοίνικα (Clemens Alex. *Strom.*, vi. 4. 35), has been identified with two inscribed objects in the Berlin Museum; these are a palm branch with a sight-slit in the broader end, and a short handle from which a plummet line was hung. The former was held close to the eye, the latter in the other hand, perhaps at arm's length. From the above-mentioned tables of culmination in the tombs of Rameses VI. and IX. it seems that for fixing the hours of the night a man seated on the ground faced the horoscopus in such a position that the line of observation of the Pole-star passed over the middle of his head. On the different days of the year each hour was determined by a fixed star culminating or nearly culminating in it, and the position of these stars at the time is given in the tables as "in the centre," "on the left eye," "on the right shoulder," &c. According to the texts, in founding or rebuilding temples the north axis was determined by the same apparatus, and we may conclude that it was the usual one for astronomical observations. It is conceivable that in ingenious and careful hands it might give results of a high degree of accuracy.

See L. Borchardt, "Ein altägyptisches astronomisches Instrument" in *Zeitschrift für ägyptische Sprache*, xxxvii. (1899), p. 10; Ed. Meyer, *Ägyptische Chronologie*, p. 36. Besides the sun and moon, five planets, thirty-six dekans, and constellations to which animal and other forms are given, appear in the early astronomical texts and paintings. The zodiacal signs were not introduced till the Ptolemaic period. See H. Brugsch, *Die Ägyptologie* (Leipzig, 1891), pp. 315 et seqq., for a full account of all these.

Medicine.—Except, that splints are sometimes found on the limbs of bodies of all periods, at present nothing is known, from texts or otherwise, of the existence of Egyptian surgery or dentistry. For historical pathology the examination of mummies and skeletons is yielding good results. There is little sign of the existence of gout or of syphilitic diseases until late times (see Mummy). A number of papyri have been discovered containing medical prescriptions. The earliest are of the XIIth Dynasty from Kahūn, one being veterinary, the other gynaecological. The finest non-religious papyrus known, the Ebers Papyrus, is a vast collection of receipts. One section, giving us some of "the mysteries of the physician," shows how lamentably crude were his notions of the constitution of the body. It teaches little more than that the pulse is felt in every part of the body, that there are vessels leading from the heart to the eyes, ears, nose and all the other members, and that "the breath entering the nose goes to the heart and the lungs." The prescriptions are for a great variety of ailments and afflictions—diseases of the eye and the stomach, sores and broken bones, to make the hair grow, to keep away snakes, fleas, &c. Purgatives and diuretics are particularly numerous, and the medicines take the form of pillules, draughts, liniments, fumigations, &c. The prescriptions are often fanciful and may thus bear some absurd relation to the disease to be cured, but generally they would be to some extent effective. Their action was assisted by spells, for general use in the preparation or application, or for special diseases. In most cases several ingredients are prescribed together: when the amounts are indicated it is by measure not by weight, and evidently no very potent drugs were employed, for the smallest measure specified is equal to about half of a cubic inch. Little has yet been accomplished in identifying the diseases and the substances named in the medical papyri.

See G. A. Reisner, *The Hearst Medical Papyrus* (Leipzig, 1905), (XVIIIth Dynasty), and for a great magical text of the Roman period (3rd century a.d.) with some prescriptions, F. Ll. Griffith and H. Thompson, *The Demotic Magical Papyrus of London and Leiden* (London, 1904).

Literature.—The vast mass of writing which has come down to us from the ancient Egyptians comprises documents of almost every conceivable kind, business documents and correspondence, legal documents, memorial inscriptions, historical, scientific, didactic, magical and religious literature; also tales and lyrics and other compositions in poetical language. Most of these classes are dealt with in this article under special headings. In addition there should be mentioned the abundant explanatory inscriptions attached to wall-scenes as a secondary element in those compositions. As early as the Middle Kingdom, papyri are found containing classified lists of words, titles, names of cities, &c., and of nomes with their capitals, festivals, deities and sacred things, calendars, &c.

To a great extent the standard works in all classes date from an early age, not later than the Middle Kingdom, and subsequent works of religion and learning like the later additions were largely written in the same style. Several books of proverbs or "instructions" were put in circulation during the Middle Kingdom. Kagemni and Ptahhotp of the Old Kingdom were nominally or really the instructors in manners: King Amenemhē I. laid down the principles of conduct in government for his son Senwosri I., preaching on the text of beneficence rewarded by treachery; Kheti points out in detail to his schoolboy son Pepi the advantages enjoyed by scribes and the miseries of all other careers. Some of these books are known only in copies of the New Kingdom. The instructions of Ani to his son Khenshotp are of later date. In demotic the most notable of such works is a papyrus of the first century a.d. at Leiden.

A number of Egyptian tales are known, dating from the Middle Kingdom and later. Some are so sober and realistic as to make it doubtful whether they are not true biographies and narratives of actual events. Such are the story of Sinūhi, a fugitive to Syria in the reign of Sesostris [Senwosri] I., and perhaps the narrative of Unamun of his expedition in quest of cedar wood for the bark of the Theban Ammon in the XXIst Dynasty. Others are highly imaginative or with miraculous incidents, like the story of the Predestined Prince and the story of the Two Brothers, which begins with a pleasing picture of the industrious farmer, and, in demotic of the Ptolemaic and Roman periods, two stories of the learned Sethon

Khamois, son of Rameses II. and high priest of Ptah, with his rather tragical experiences at the hands of magicians. The stories of the Middle Kingdom were in choice diction, large portions of them being rhetorical or poetical compositions attributed to the principal characters. The story of Sinūhi is of this description and was much read during the New Kingdom. Another, of the Eloquent Peasant whose ass had been stolen, was only a framework to the rhetoric of endless petitions. The tale of the Shipwrecked Sailor in the Red Sea was a piece of simpler writing, not unpicturesque, of the marvellous type of a Sindbad story. If all these are deficient in literary merit, they are deeply interesting as revelations of primitive mind and manners. Of New Kingdom tales, the story of the Two Brothers is frankly in the simplest speech of everyday life, while others are more stilted. The demotic stories of Khamois are simple, but the "Rape of Inarōs' Cuirass" (at Vienna) is told in a stiff and high-flown style.

In general it may be said of Egyptian literary compositions that apart from their interest as anthropological documents they possess no merit which would entitle them to survive. They are more or less touched by artificiality, but so far as we are able to appreciate them at present they very seldom attain to any degree of literary beauty. Most of the compositions in the literary language, whether old or archaistic, are in a stilted style and often with parallelisms of phrase like those of Hebrew poetry. Simple prose narrative is here quite exceptional. Some few hymns contain stanzas of ten lines, each line with a break in the middle. There is no sign of rhyming in Egyptian poetry, and the rhythm is not yet recognizable owing to our ignorance of the ancient vocalization. In old Egyptian tales the narrative portions are frequently in prose; New Egyptian and demotic contain as a rule little else. Hymns exist in both of these later forms of the language, and a few love songs in Late Egyptian.

See W. M. F. Petrie, *Egyptian Tales* (2 vols., London, 1895); G. Maspero, *Les Contes populaires de l'Égypte ancienne* (3rd edition, Paris, 1906); W. Max Müller, *Die Liebespoesie der alten Ägypter* (Leipzig, 1899).

(F. Ll. G.)

C. *Religion.*—1. *Introductory.*—Copious as are the sources of information from which our knowledge of the Egyptian religion is drawn, there is nevertheless no aspect of the ancient civilization of Egypt that we really so little understand. While the youth of Egyptological research is in part responsible for this, the reason lies still more in the nature of the religion itself and the character of the testimony bearing upon it. For a true appreciation of the chaotic polytheism that reveals itself even in the earliest texts it would be necessary to be able to trace its development, stage by stage, out of a number of naive primitive cults; but the period of growth lies behind recorded history, and we are here reduced to hypotheses and *a posteriori* reconstructions. The same criticism applies, no doubt, to other religions, like those of Greece and Rome. In Egypt, however, the difficulty is much aggravated by the poor quality of the evidence. The religious books are textually very corrupt, one-sided in their subject-matter, and distributed over a period of more than two thousand years. The greatest defect of all is their relative silence with regard to the myths. For the story of Isis and Osiris we have indeed the late treatise ascribed to Plutarch, and a few fragments of other myths may be culled from earlier native sources. But in general the tales that passed current about the gods are referred to only in mysterious and recondite allusions; as Herodotus for his own times explicitly testifies, a reticence in such matters seems to have been encouraged by the priests. Thus with regard to Egyptian theology we are very imperfectly informed, and the account that is here given of it must be looked upon as merely provisional. The actual practices of the cult, both funerary and divine, are better known, and we are tolerably familiar with the doctrines as to the future state of the dead. There is good material, too, for the study of Egyptian magic, though this branch has been somewhat neglected hitherto.

2. *Main Sources.*—(a) *The Pyramid texts,* a vast collection of incantations inscribed on the inner walls of five royal tombs of the Vth and VIth Dynasties at Sakkāra, discovered and first published by Maspero. Much of these texts is of extreme antiquity; one incantation at least has been proved to belong to an age anterior to the unification of the Northern and Southern kingdoms. Later copies also exist, but possess little independent critical value. The subject-matter is funerary, *i.e.* it deals with the fate of the dead king in the next life. Some chapters describe the manner in which he passes from earth to heaven and becomes a star in the firmament, others deal with the food and drink necessary for his continued existence after death, and others again with the royal prerogatives which he hopes still to enjoy; many are directed against the bites of snakes and stings of scorpions. It is possible that these incantations were recited as part of the funerary ritual, but there is no doubt that their mere presence in the tombs was supposed to be magically effective for the welfare of the dead. Originally these texts had an application to the king alone, but before the beginning of the XIIth Dynasty private individuals had begun to employ them on their own behalf. They seem to be relatively free from textual corruption, but the vocabulary still occasions much difficulty to the translator.

(b) *The Book of the Dead* is the somewhat inappropriate name applied to a large similar collection of texts of various dates, certain chapters of which show a tendency to become welded together into a book of fixed content and uniform order. A number of chapters contained in the later recensions are already found on the sarcophagi of the Middle Kingdom, together with a host of funereal texts not usually reckoned as belonging to the Book of the Dead; these have been published by Lepsius and Lacau. The above-mentioned nucleus, combined with other chapters of more recent origin, is found in the papyri of the XVIIIth-XXth Dynasties, and forms the so-called Theban recension, which has been edited by Naville in an important work. Here already more or less rigid groups of chapters may be noted, but individual manuscripts differ greatly in what they include and exclude. In the Saite period a sort of standard edition was drawn up, consisting of 165 chapters in a fixed order and with a common title "the book of going forth in the day"; this recension was published by Lepsius in 1842 from a Turin papyrus. Like the Pyramid texts, the Book of the Dead served a funerary purpose, but its contents are far more heterogeneous; besides chapters enabling the dead man to assume what shape he will, or to issue triumphant from the last judgment, there are lists of gates to be passed and demons to be encountered in the nether world, formulae such as are inscribed on sepulchral figures and amulets, and even hymns to the sun-god. These texts are for the most part excessively corrupt, and despite the translations of Pierret, Renouf and Budge, much labour must yet be expended upon them before they can rank as a first-rate source.

(c) The texts of the *Tombs of the Kings at Thebes* (XVIIIth-XXth Dyn.) consist of a series of theological books compiled at an uncertain date; they have been edited by Naville and Lefébure. The chief of these, extant in a longer and a shorter version, is called *The book of that which is in the Nether World* (familiarly known as the *Am Duat*) and deals with the journey of the sun during the twelve hours of the night. *The Book of Gates* treats of the same topic from a more theological standpoint. *The Litanies of the Sun* contain the acclamations with which the sun-god Re was greeted, when at eventide his bark reached the entrance of the nether world. Another treatise relates the destruction of mankind, and the circumstances that led to the creation of the heavens in the form of a cow.

(d) Among the *later religious books* one or two deserve a special mention, such as *The Overthrowing of Apophis*, the serpent enemy of the sun-god; *The Lamentations of Isis and Nephthys* over their murdered brother Osiris; *The Book of*

Breathings, a favourite book among the later Theban priests. Several of these books were used in the ritual of feast days, but all have received a secondary funerary employment, and are therefore found buried with the dead in their tombs.

(e) The *Ritual texts* have survived only in copies not earlier than the New Kingdom. The temple ritual employed in the daily cult is illustrated by the scenes depicted on the inner walls of the great temples: the formulae recited during the performance of the ceremonies are recorded at length in the temple of Seti I. (XIXth Dyn.) at Abydos, as well as in some later papyri in Berlin. The whole material has been collected and studied by Moret. The funerary ritual is known from texts in the Theban tombs (XVIIIth-XXth Dyn.) and papyri and sarcophagi of later date; older versions are contained in the Pyramid texts and *The Book of the Dead*. Schiaparelli has done much towards gathering together this scattered material. The ritual observed during the process of embalmment is preserved in late papyri in Paris and Cairo published by Maspero.

(f) The *magical* documents have been comparatively little studied, in spite of their great interest. They deal for the most part with the hearing of diseases, the bites of snakes and scorpions, &c., but incidentally cast many sidelights on the mythology and superstitious beliefs. The best-known of these books is the *Papyrus Harris* published by F. J. Chabas, but other papyri of as great or greater importance are to be found in the Leiden, Turin and other collections. A curious book published by A. Erman contains spells to be used by mothers for the protection of their children. A papyrus in London contains a calendar of lucky and unlucky days. A late class of stelae, of which the best specimen has been published by Golenischeff, consists of spells of various kinds originally intended for the use of the living, but later employed for funerary purposes.

(g) Under the heading *Miscellaneous* we must mention a number of sources of great value: the grave-stones, or stelae, especially those from Abydos, which throw much light on funerary beliefs; the great *Papyrus Harris*, the longest of all papyri, which enumerates the gifts of Rameses III. (XXth Dyn.) to the various temples of Egypt; the hymns to the gods preserved in Cairo and Leiden papyri; and the inscriptions of the Ptolemaic temples (Dendera, Edfu, &c.), which teem with good religious material. Nor can any attempt here be made to summarize the remaining native Egyptian sources, literary and archaeological, that deserve notice.

(h) Among the classical writers, Plutarch in his treatise *Concerning Isis and Osiris* is the most important. Diodorus also is useful. Herodotus, owing to his religious awe and dread of divulging sacred mysteries, is only a second-rate source.

3. *The Gods.*—The end of the predynastic period, in which we dimly descry a number of independent tribes in constant warfare with one another, was marked by the rise of a united Egyptian state with a single Pharaonic ruler at its head. The era of peace thus inaugurated brought with it a rapid progress in all branches of civilization; and there soon emerged not only a national art and a condition of material prosperity shared by the entire land in common, but also a state religion, which gathered up the ancient tribal cults and floating cosmical conceptions, and combining them as best it could, imposed them on the people as a whole. By the time that the Pyramid texts were put into writing, doubtless long before the Vth Dynasty, this religion had assumed a stereotyped appearance that clung to it for ever afterwards. But the multitude of the deities and the variety of the myths that it strove to incorporate prevented the development of a uniform theological system, and the heterogeneous origin of the religion remained irretrievably stamped upon its face. Written records were few at the time when the pantheon was built up, so that the process of construction cannot be followed historically from stage to stage; but it is possible by arguing backwards from the later facts to discern the main tendencies at work, and the principal elementary cults that served as the materials.

The gods of the predynastic period may be divided into two chief groups, the tribal or local divinities and the cosmic or explanatory deities. At the beginning each tribe had its own particular god, who in essence was nothing Classification of predynastic gods. but the articulate expression of the inner cohesion and of the outward independence of the tribe itself, but who outwardly manifested himself in the form of some animal or took up his abode in some fetish of wood or stone. In times of peace this visible emblem of the god's presence was housed in a rude shrine, but in war-time it was taken thence and carried into the battlefield on a standard. We find such divine standards  often depicted on the earliest monuments, and among the symbols placed upon them may be detected the images of many deities destined to play an important part in the later national pantheon, such as the falcon Horus  , the wolf Wepwawet (Ophois)  , the goddess Neith  , symbolized by a shield transfixed with arrows, and the god Min  , the nature of whose fetish is obscure. In course of time the tribes became localized in particular districts, under the influence of a growing central authority, and their gods then passed from tribal into local deities. Hence it came about that the provincial districts or nomes, as they were called, often derived their names from the gods of tribes that settled in them, these names being hieroglyphically written with the sign for "district" surmounted by standards of the type above described, *e.g.*  , "the nome of the dog Anubis," the 17th or Cynopolite nome of Upper Egypt. In this way a large number of deities came to

enjoy special reverence in restricted territories, *e.g.* the ram  Khnum in Elephantine, the jerboa or okapi (?) 

Seth in Ombos, the ibis  Thoth in Hermopolis Magna, and of the gods named above, Horus in Hieraconpolis, Wepwawet in Assiut, Neith in Sais, and Min in Coptos. As towns and villages gradually sprang up, they too adopted as their patron some one or other of the original tribal gods, so that these came to have different seats of worship all over Egypt. For this reason it is often hard to tell where the primitive cult-centre of a particular deity is to be sought; thus Horus seems equally at home both at Buto in the Delta and at Hieraconpolis in Upper Egypt, and the earliest worship of Seth appears to have been claimed no less by Tanis in the north than by Ombos in the south. The effect of the localization of gods in many different places was to give them a double aspect; so, for instance, Khnum the god of Elephantine could in one minute be regarded as identical with Khnum the god of Esna, while in the next minute and without any conscious sense of contradiction the two might be looked upon as entirely separate beings. In order that there might be no ambiguity as to what divinity was meant, it became usual, in speaking of any local deity, to specify the place of which he was “lord.” The tendency to create new forms of a god by instituting his worship in new local centres persisted throughout the whole course of Egyptian history, unhindered by the opposite tendency which made national out of local gods. Some of the cosmic gods, like the sun-god Re of Heliopolis and of Hermonthis, early acquired a local in addition to their cosmic aspect.

In the innermost principle of their existence, as patrons and protectors of restricted communities, the primitive tribal gods did not differ from one another. But externally they were distinguishable by the various shapes that their worshippers ascribed to them; and there can be little doubt that even in the beginning each had his own special attributes and particular mythical traits. These, however, may have borne little resemblance to the later conceptions of the same gods with which we are made familiar by the Pyramid texts. Thus we have no means of ascertaining what the earliest people of Sais thought about their goddess Neith, though her fetish would seem to point to her warlike nature. Nor are we much wiser in respect of those primitive tribal gods that are represented on the oldest monuments in animal form. For though we may be sure that the shape of an animal was that in which these gods were literally visible to their worshippers, yet it is impossible to tell whether some one living animal was chosen to be the earthly tenement of the deity, or whether he revealed himself in every individual of a species, or whether merely the cult-image was roughly hewn into the shape of an animal. Not too much weight must be attached to later evidence on this point; for the New Kingdom and still more the Graeco-Roman period witnessed a strange recrudescence of supposed primitive cults, to which they gave a form that may or may not have been historically exact. In some places whole classes of animals came to be deemed sacred. Thus at Bubastis, where the cat-headed Bast (Ubasti) was worshipped, vast cemeteries of mummified cats have been found; and elsewhere similar funerary cults were accorded to crocodiles, lizards, ibises and many other animals. In Elephantine Khnum was supposed to become incarnate in a ram, at whose death the divinity left him and took up his abode in another. So too the bull of Apis (a black animal with white spots) was during its lifetime regarded as a reincarnation of Ptah, the local god of Memphis, and similarly the Mnevis and Bacis bulls were accounted to be “the living souls” of Etom of Heliopolis and of Re of Hermonthis respectively; these latter cults are certainly secondary, for Ptah himself was never, either early or late, depicted otherwise than in human form, as a mummy or as a dwarf; and Etom and Re are but different names of the sun-god. The form of a snake, attributed to many local goddesses, especially in later times (*e.g.* Meresger of the Theban necropolis), was borrowed from the very ancient deity Outo (Buto); the semblance of a snake became so characteristic of female divinities that even the word “goddess” was written with the hieroglyph of a snake. Other animal shapes particularly affected by goddesses were those of a lioness (Sakhmi, Pakhe) or a cow (Hathor, Isis). The primitive animal gods are not to be confused with the animal forms ascribed to many cosmic deities; thus when the sun-god Re was pictured as a scarabaeus, or dung-beetle, rolling its ball of dung behind it, this was certainly mere poetical imagery. Or else a cosmic god might assume an animal shape through assimilation with some tribal god, as when Re was identified with Horus and therefore depicted as a falcon.

With the advance of civilization and the transformation of the tribal gods into national divinities, the beliefs held about them must have become less crude. At a very early date the anthropomorphizing tendency caused the animal deities to be represented with human bodies, though as a rule they retained their animal heads; so in the case of Seth as early as the IInd Dynasty. The other gods carry their primitive fetishes in their hands (like Neith, who is depicted holding arrows) or on their heads (so Nefertem [Iphthimis] with his lotus-flower). At the same time the gods began to acquire human personalities. In a few instances this may have come about by the emphasizing of a really primitive trait; as when the wolf Ophois, in consonance with the predatory nature of that animal, developed into a god of war. In other cases the transitional steps are shrouded in mystery; we do not know, for example, why the ibis Thoth subsequently became the patron of the fine arts, the inventor of writing, and the scribe of the gods. But the main factor in this evolutionary process was undoubtedly the formation of myths, which brought gods of independent origin into relation with one another, and thus imbued them with human passions and virtues. Here dim historic recollections often determined the features of the story, and in one famous legend that knits together a group of gods all seemingly local in origin we can still faintly trace how the tale arose, was added to, and finally crystallized in a coherent form.

Osiris was a wise and beneficent king, who reclaimed the Egyptians from savagery, gave them laws and taught them handicrafts. The prosperous reign of Osiris was brought to a premature close by the machinations of his wicked brother

Seth, who with seventy-two fellow-conspirators invited him to a banquet, induced him to enter a cunningly-wrought coffin made exactly to his measure, then shut down the lid and cast the chest into the Nile. Isis, the faithful wife of Osiris, set forth in search of her dead husband's body, and after long and adventure-fraught wanderings, succeeded in recovering it and bringing it back to Egypt. Then while she was absent visiting her son Horus in the city of Buto, Seth once more gained possession of the corpse, cut it into fourteen pieces, and scattered them all over Egypt. But Isis collected the fragments, and wherever one was found, buried it with due honour; or, according to a different account, she joined the limbs together by virtue of her magical powers, and the slain Osiris, thus resurrected, henceforth reigned as king of the dead in the nether world. When Horus grew up he set out to avenge his father's murder, and after terrible struggles finally conquered and dispossessed his wicked uncle; or, as another version relates, the combatants were separated by Thoth, and Egypt divided between them, the northern part falling to Horus and the southern to Seth. Such is the story as told by Plutarch, with certain additions and modifications from older native sources. There existed, however, a very ancient tradition according to which Horus and Seth were hostile brothers, not nephew and uncle; and many considerations may be urged in support of the thesis which regards their struggles as reminiscences of wars between two prominent tribes or confederations of tribes, one of which worshipped the falcon Horus while the other had the okapi (?) Seth as its patron and champion. The Horus-tribes were the victors, and it was from them that the dynastic line sprang; hence the Pharaoh always bore the name of Horus, and represented in his own hallowed person the ancient tribal deity. Of Osiris we can only state that he was originally the local god of Busiris, whatever further characteristics he primitively possessed being quite obscure. Isis was perhaps the local goddess of Buto, a town not far distant from Busiris; this geographical proximity would suffice to explain her connexion with Osiris in the tale. A legend now arose, we know not how or why, which made Seth the brother and murderer of Osiris; and this led to a fusion of the Horus-Seth and the Seth-Isis-Osiris *motifs*. The relationships had now to be readjusted, and the most popular view recognized Horus as the son and avenger of Osiris. The more ancient account survived, however, in the myth that Osiris, Horus, Seth, Isis and Nephthys (a goddess who plays but a minor part in the Osiris cycle) were all children of the earth-god Keb and the sky-goddess Nut, born on the five consecutive days added on at the end of the year (the so-called epagomenal days). Later generations reconciled these contradictions by assuming the existence of two Horuses, one, the brother of Osiris, Seth and Isis, being named Haroeris, *i.e.* Horus the elder, while the other, the child of Isis and Osiris, was called Harpocrates, *i.e.* Horus the child.

The second main class of divinities that entered into the composition of the Egyptian pantheon was due to that innate and universal speculative bent which seeks, and never fails to find, an explanation of the facts of the external Cosmic deities. world. Behind the great natural phenomena that they perceived all around them, the Egyptians, like other primitive folk, postulated the existence of divine wills not dissimilar in kind to their own, though vastly superior in power. Chief among these cosmic deities was the sun-god Re, whose supremacy seemed predestined under the cloudless sky of Egypt. The oldest conceptions represented Re as sailing across the heavens in a ship called "Manzet," "the bark of the dawn"; at sunset he stepped aboard another vessel named "Mesenktet," "the bark of the dusk," which bore him back from west to east during the night. Later theories symbolized Re in many different ways. For some he was identical with Horus, and then he was falcon-headed and was called Hor-akhti, the Horus of the horizons. Others pictured him to themselves as a tiny infant in the early dawn, as full-grown at noon, and as an infirm old man in the evening. When the sky was imagined as a cow, he was a calf born anew every morning. The moon was a male deity, who likewise fared across the heavens in a boat; hence he was often named Chons, "the sailor." The ibis-god Thoth was early identified with the moon. The stars and planets were likewise gods. Among them the bright star Sirius was held in special esteem; it was a goddess Sothis (Sopde), often identified by the Egyptians with Isis. The constellations that seemed unceasingly to speed across the sky were named "the never-resting ones," and the circumpolar stars, which never sink beneath the horizon, were known as "the imperishables." Concerning earth and sky there were many different opinions. Some thought that the sky was a goddess Nut, whom the god Show held aloof from her husband Keb the earth, on whose back the plants and trees grew. Others believed in a celestial ocean, personified under the name of Nun, over which the heavenly bodies sailed in boats. At a later date the sky was held to be a cow (Hathor) whose four feet stood firm upon the soil; or else a vast face, in which the right eye was the sun and the left eye the moon. Alongside these fanciful conceptions there existed a more sober view, according to which the earth was a long oval plain, and the sky an iron roof supported by the tops of mountains or by four pillars  at the cardinal points. Beneath the ground lay a dark and mysterious region, now conceived as an inverse heaven (Nenet), now as a vast series of caverns whose gates were guarded by demons. This nether world was known as the Duat (Dat, Têi), and through it passed the sun on his journey during the hours of night; here too, as many thought, dwelt the dead and their king Osiris. That great natural feature of Egypt, the Nile, was of course one of the gods; his name was Hapi, and as a sign of his fecundity he had long pendulous breasts like a woman. In contradistinction to the tribal gods, it rarely happened that the cosmic deities enjoyed a cult. But there are a few important exceptions: Re in Heliopolis (here identified with a local god Etom) and in Hermonthis; Hathor at Dendera and elsewhere. Certain of the tribal gods early became identified with cosmic divinities, and the latter thus became the objects of a cult; so, for instance, the Horus of Edfu was a sun-god, and Thoth in Hermopolis Magna was held to be the moon.

An extension of the principle that created the cosmic gods gave rise to a large number of minor deities and demons. Day and night, the year, the seasons, eternity, and many similar conceptions were each represented by a god Minor deities

and demons. or goddess of their own, who nevertheless possessed but a shadowy and doubtful existence. Human attributes like Taste, Knowledge, Joy and so forth were likewise personified, no less than abstract ideas such as Fate, Destiny and others; rather more clearly defined than the rest was Maat, the goddess of Truth and Right, who was fabled to be the daughter of Re and may even have had a cult. Certain gods were purely functional, that is to say, they appeared at special times to perform some appointed task, at the completion of which they vanished. Such were Nepri, the god of the corn-harvest; Meskhonit, the goddess who attended every child-bed; Tait, the goddess of weaving. Numberless semi-divine beings had no other purpose than to fill out the myths, as, for instance, the chattering apes that greeted the sun-god Re as he rose above the eastern horizon, and the demons who opened the gates of the nether world at the approach of the setting sun.

We take this opportunity of mentioning sundry other divinities who were later introduced to swell the already overcrowded ranks of the pantheon. Contact with foreign lands brought with it several new deities, Baal, Anat and Foreign deities. Resheph from Syria, and the misshapen dwarf Bes from the south; earlier than these, the Astarte of Byblus, whom the Egyptians identified with Hathor. In Thebes Amenophis I. and his spouse Nefertari were worshipped as patron gods of the necropolis many centuries after their death. Two men of exceptional wisdom received divine honours, and had temples of their own in the Ptolemaic period; these were Imouthes, who had lived under Zoser of the IIIrd Dynasty, and Amenophis son of Hapu, a contemporary of the third king of the same name (XVIIIth Dyn.). The hill of Sheikh Abd-el-gurna at Thebes was looked upon as a particularly holy place, and was revered as a goddess. Almost anything that was regarded with awe, any object used in the divine ritual could at a given moment be envisaged as a deity. Thus the boat of Osiris (Neshemet) and those of the sun-god were goddesses; and various wands and sceptres belonging to certain gods were imagined as harbouring the divine being. Truly it might have been said in ancient Egypt: of the making of gods there is no end!

For such order as can be discerned in the mythological conceptions of the Egyptians the priesthood was largely responsible. At a very early date the theological school of Heliopolis undertook the task of systematizing the gods and the Theological combinations. myths, and it is mainly to them that is due the Egyptian religion as we find it in the Pyramid texts. Their influence is particularly conspicuous in the prominent place accorded to the sun-god Re, and in the creation-legend that made him the father of gods and men. First of all living things was Re; legend told how he arose as a naked babe from a lotus-flower that floated on the primeval ocean Nun. Others held the view that he crept from an egg that lay on a hill in the midst of a lake called Desdes; and a third, more barbarous, tale related his obscene act of self-procreation. Re became the father of the pair of gods Show and Tefnut (Tphenis), who emanated from his spittle. They again gave birth to Keb and Nut, from whom in their turn sprang Osiris and Seth, Isis and Nephthys. These nine gods were together known as the great Ennead or cycle of nine. A second series of nine deities, with Horus as its first member, was invented at the same time or not long afterwards, and was called the Lesser Ennead. In later times the theory of the Ennead became very popular and was adopted by most of the local priesthoods, who substituted their own favourite god for Re, sometimes retaining and sometimes changing the names of the other eight deities. Thus locally many different gods came to be viewed as the creators of the world. Only in two instances, however, did a local god ever obtain wide acceptance in the capacity of demiurge: Ptah of Memphis, who was famed as an artist and master-builder, and Khnum of Elephantine, who was said to have moulded mankind on the potter's wheel.

Already in the Pyramid texts the importance of Osiris almost rivals that of Re. His worship does not seem to have been due to Heliopolitan influence, and may possibly have been propagated by active missionary effort. It is apparently through the funeral cult that Osiris so early took a firm hold on the imagination of the people; for at a very ancient date he was identified with every dead king, and it needed but a slight extension of this idea to make him into a king of the dead. In later times the moral aspect of his tale was doubtless the main cause of its continued popularity; Osiris was named Onnophris, "the good Being" *par excellence*, and Seth was contrasted with him as the author and the root of all evil. Still the Egyptians themselves seem to have been somewhat at a loss to account for the great veneration that they paid to Osiris. Successive theories interpreted him as the god of the earth, as the god of the Nile, as a god of vegetation, as a moon-god and as a sun-god; and nearly every one of these theories has been claimed to be the primitive truth by some scholar or another.

Nowhere is the conservatism of the Egyptians more clearly displayed than in the tenacity with which they clung to the old forms of the theology, such as we have essayed to describe. Neither the influx of new deities nor the diligence of the priestly authors and commentators availed to break down the cast-iron traditions with which the compilers of the Pyramid texts were already familiar. It is true that with the displacement of the capital town certain local deities attained a degree of power that, superficially regarded, seems to alter the entire perspective of the religion. Thus Ammon, originally the obscure local god of Thebes, was raised by the Theban monarchs of the XIIth and of the XVIIIth to XXIst Dynasties to a predominant position never equalled by any other divinity; and, by similar means, Suchos of the Fayum, Ubasti of Bubastis, and Neith of Sais, each enjoyed for a short space of time a consideration that no other cause would have secured to them. But precisely the example of Ammon proves the hopelessness of any attempt to change the time-honoured religious creed; his priests identified him with the sun-god Re, whose cult-centre was thus merely transferred a few hundred miles to the South. Nor could even the violent religious revolution of Akhenaton (Amenophis IV.), of which we shall later have occasion to speak, sweep away for ever beliefs that had persisted for so many generations.

But if the facts of the religion, broadly viewed, never underwent a change, the interpretation of those facts did so in no small degree. The religious books were for the most part written in archaic language, which was only imperfectly understood by the priests of later times; and hence great scope was given to them to exercise their ingenuity as commentators. By the time of the XVIIIth Dynasty some early chapters of the Book of the Dead had been provided with a triple commentary. Unfortunately the methods pursued were as little reasonable as those adopted by the medieval Jewish Rabbis; instead of the context being studied as a whole, with a view to the recovery of its literal sense, each single verse was considered separately, and explained as an allusion to some obscure myth or as embodying some mystical meaning. Thus so far from simplifying or really elucidating the religion, these priestly labours tended rather to confuse one legend with another and to efface the personality of individual gods. The ease with which one god could be identified with another is perhaps the most striking characteristic of later Egyptian theology. There are but few of the greater deities who were not at some time or another identified with the solar god Re. His fusion with Horus and Etom has already been noted; further we find an Ammon-Re, a Sobk-Re, a Khnum-Re; and Month, Onouris, Show and Osiris are all described as possessing the attributes of the sun. Ptah was early assimilated to the sepulchral gods Sokaris and Osiris. Pairs of deities whose personalities are often blended or interchanged are Hathor and Nut, Sakhmi and Pakhe, Seth and Apophis. So too in Abydos, his later home, Osiris was identified with Khante-Amentiu (Khentamenti, Khentamenthes), “the chief of those who are in the West,” a name that was given to a vaguely-conceived but widely-venerated divinity ruler of the dead. Many factors helped in the process of assimilation. The unity of the state was largely influential in bringing about the suppression of local differences of belief. The less important priesthoods were glad to enhance the reputation of the deity they served by identifying him with some more important god. And the mystical bent of the Egyptians found satisfaction in the multiplicity of forms that their gods could assume; among the favourite epithets which the hymns apply to divinities are such as “mysterious of shapes,” “multiple of faces.”

The goal towards which these tendencies verged was monotheism; and though this goal was only once, and then quite ephemerally, reached, still the monotheistic idea was at most periods, so to speak, in the air. Sometimes the qualities common to all the gods were abstracted, and the resultant notion Monotheistic tendency. spoken of as “the god.” At other times, and especially in the hymns addressed to some divinity, all other gods were momentarily forgotten, and he was eulogized as “the only one,” “the supreme,” and so forth. Or else several of the chief deities were consciously combined and regarded as different emanations or aspects of a Sole Being; thus a Ramesside hymn begins with the words “Three are all the gods, Ammon, Re and Ptah,” and then it is shown how these three gods, each in his own particular way, gave expression and effect to a single divine purpose.

For a brief period at the end of the XVIIIth Dynasty a real monotheism, as exclusive as that of Judaism or of Islam, was adopted as the state religion of Egypt. The young Pharaoh Amenophis IV. seems to have been fired by Akhenaton. genuine fanatical enthusiasm, though political motives, as well as doctrinal considerations, may have prompted him in the planning of his religious revolution (see also § History). The Theban god Ammon-Re was then supreme, and the ever-growing power of his priesthood may well have inflamed the jealousy of their Heliopolitan rivals. Amenophis began his reign in Thebes as an adherent of the traditional faith, but after a few years he abandoned that town and built a new capital for his god Aton 200 m. farther north, at a place now called El Amarna. The new deity was a personification of the sun’s disk. The name Re was suppressed, as too intimately associated with that of Ammon; and Ammon, together with all the other gods, was put to the ban. Amenophis even changed his own name, of which the name of Ammon formed an element, to Akhenaton, “the brilliancy of the Aton,” and the capital was called Khitaton, “The Horizon of the Aton.” The new dogmas were known as “the Teaching,” and their tenets, as revealed in the poems composed in honour of the Aton, breathe the purest and most exalted monotheistic spirit. The movement had, no doubt, met with serious opposition from the very start, and the reaction soon set in. The immediate successors of Akhenaton strove to follow in his footsteps, but the conservative nature of Egypt quickly asserted itself. Not sixty years after the accession of Akhenaton, his city was abandoned, its rulers branded as heretics, and the old religion restored in Thebes as completely as if the Aton had never existed.

Having thus failed to become rational, Egyptian theology took refuge in learning. The need for a more spiritual and intellectual interpretation of the pantheon still remained, and gave rise to a number of theological sciences. The names of the gods and the places of their worship were catalogued and classified, and manuals were devoted to the topography of mythological regions. Much ingenuity was expended on the development of a history of the gods, the groundwork of which had been laid in much earlier times. Re was not only the creator of the world, but he was also the first king of Egypt. He was followed on the throne by the other eight members of his Ennead, then by the lesser Ennead and by other gods, and finally by the so-called “worshippers of Horus.” The latter were not wholly mythical personages, though they were regarded as demigods (Manetho calls them “the dead,” νέκυες); they have been shown to be none other than the dim rulers of the predynastic age. The Pharaohs of the historic period were thus divine, not only by virtue of their connexion with Horus (see above), but also as descendants of Re; and the king of Egypt was called “the good god” during his lifetime, and “the great god” after his death. The later religious literature is much taken up with the mythical and semi-mythical dynasties of kings, and the priests compiled, with many newly-invented details, the chronicles of the wars they were supposed to have waged.

In a similar manner, the ethical and allegorical methods of interpretation came into much greater prominence towards the

end of the New Kingdom. The Osirian legend, as we have already seen, was early accepted as symbolizing the conflict between good and evil. So too the victories of Re over the serpent named Apophis were more or less clearly understood as a simile of the antithetical nature of light and darkness. In one text at least as ancient as the XVIIIth Dynasty (the copy that we have dates Later developments. only from the Ethiopian period) an ingenious attempt is made to represent Ptah as the source of all life: from him, it is said, emanated Horus as "heart" or "mind" and Thoth as "tongue," and through the conjoint action of these two, the mind conceiving the design and the tongue uttering the creative command, all gods and men and beasts obtained their being. Of this kind of speculation much more must have existed than has reached us. It is doubtless such explanations as these that the Greeks had in view when they praised the wisdom of the ancient Egyptians; and in the classical period similar semi-philosophical interpretations altogether supplanted, among the learned at least, the naive literal beliefs of earlier times. Plutarch in his treatise on Isis and Osiris well exemplifies this standpoint: for him every god and every rite is symbolic of some natural or moral truth.

The final stages of the Egyptian religion are marked by a renewed popularity of all its more barbarous elements. Despairing, as it would seem, of discovering the higher wisdom that the more philosophic of the priests supposed that religion to conceal, the simpler-minded sought to work out their own salvation by restoring the worship of the gods to its most primitive forms. Hence came the fanatical revival of animal-worship which led to feud and bloodshed between neighbouring towns—a feature of Egyptian religion that at once amused and scandalized contemporary Greek and Latin authors (Plut. De Iside, 72; Juv. xv. 33). Nevertheless Egyptian cults, and particularly those of Serapis and Isis, found welcome acceptance on European soil; and the shrines of Egyptian deities were established in all the great cities of the Roman Empire. Serapis was a god imported by the first Ptolemy from Sinope on the Black Sea, who soon lost his own identity by assimilation with Osiris-Apis, the bull revered in Memphis. Far down into the Roman age the worship of Serapis persisted and flourished, and it was only when the Serapeum of Alexandria was razed to the ground by order of Theodosius the Great (a.d. 391) that the death-blow of the old Egyptian religion was struck.

Notes are here added on some divinities who have received inadequate or no attention in the preceding pages. For information as to Ammon, Anubis, Apis, Bes, Bubastis, Buto, Isis and Thoth, reference must be made to the special articles on these gods.

Arsaphes, in Egyptian *Harshafe*, "he who is upon his lake," the ram-headed god of Heracleopolis Magna, gained an ephemeral importance during the IXth Dynasty, which arose from his town. Outwardly, he resembles Khnum. Little is known about him, and he is seldom mentioned. The burial-place of his priests in later times was in 1904 discovered at Abusir el Meleq.

Chons, "he who travels by boat," perhaps originally a mere epithet of the moon-god Ioh or Thoth, is chiefly familiar as the third member of the Theban triad. As such he is represented as a youthful god, wearing a skull-cap surmounted by the moon. His cult was revived and became popular in Ptolemaic times. A curious story about the sending of his statue to Mesopotamia to heal a daughter of the king of Bakhtan is related upon a stele that purports to date from the Ramesside period: it has been proved to be a pious fraud invented by the priests not earlier than the Greek period.

Hathor, whose name means "house of Horus," was at all times a very important deity. She is depicted as a cow, or with a broad human countenance, the cow's ears just showing from under a massive wig. Probably at first a goddess of the sky, she is early mentioned in connexion with Re. Later she was often identified with Isis, and her name was used to designate foreign goddesses like those of Puoni and Byblus. Unlike most cosmic deities, she was worshipped in many localities, chief among which was Dendera, where her magnificent temple, of Ptolemaic date, still stands. "The seven Hathors" is a name given to certain fairies, who appeared shortly after the birth of an infant, and predicted his future.

Khnum or Khnoum, a ram-headed god, whose principal place of worship was the island of Elephantine (there associated with Satis and Anukis), but also revered elsewhere, *e.g.* together with Nebtu in Esna. He enjoyed great repute as a creator, and was supposed to use the potter's wheel for the purpose. In this capacity he is sometimes accompanied by the frog-headed goddess Heket.

Month, a hawk-headed god of the Thebaid: in Thebes itself his cult was superseded by that of Ammon, but it persisted in Hermonthis. He was often given the solar attributes, and was credited as a great warrior.

Min, the god of Coptos and Panopolis (Akhmim), seems to have been early looked upon as a deity of the harvest and crops. His cult dates from the earliest times. Represented as ithyphallic, with two tall plumes on his head, the right arm upraised and bearing a scourge. In old times he is identified with Horus: later Ammon was confused with him, and depicted in his image.

Nechbet (Nekhbi, Nekhebi), the vulture-goddess of El Kab, called Eileithyia by the Greeks. She gained an ascendancy as patroness of the south at the time when the two kingdoms were striving for the mastery. It is as such, in opposition to Buto the goddess of the north, that she is most often named on the monuments.

Neith, the very ancient and important goddess of Sais, the Greek Athene. On the earliest monuments she is represented

by a shield transfixed by arrows. Later she wears the crown of Lower Egypt, and carries in her hands a bow and arrows, a sign of her warlike character. In the XXVIth Dynasty, when a line of Pharaohs sprang from Sais, she regained a prominent position, and was given many cosmogonic attributes, including the title of mother of Re.

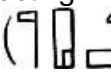
Nephthys, the sister of Osiris and wife of Seth, daughter of Keb and Nut, plays a considerable rôle in the Osiris story. She sided with Isis and aided her to bring Osiris back to life. Isis and Nephthys are often mentioned together as protectresses of the dead.

Onouris, Egyptian *En-hūri*, "sky-bearer," the god of Thinis. Later identified with Shu (Show), who holds heaven and earth apart.

Ptah, the Hephaestus of the Greeks, a demiurgic and creative god, special patron of hand-workers and artisans. Worshipped in Memphis, he perhaps owed his importance more to the political prominence of that town than to anything else. He was early identified with an ancient but obscure god Tenen, and further with the sepulchral deity Sokaris. He is represented either as a closely enshrouded figure whose protruding hands grasp a composite sceptre, the whole standing on a pedestal within a shrine; or else as a misshapen dwarf.

Sakhmi, a lion-headed goddess of war and strife, whose name signifies the mighty. She was worshipped at Latopolis (Esna), but also at a late date as a member of the Memphite triad, with Ptah as husband and Nefertem (Iphthimis) as son: often, too, confounded with Ubasti.

Seth (Egyptian Sēt, Stḫ or Stš), by the Greeks called Typhon, was depicted as an animal  that has been compared with the jerboa by some, and with the okapi by others, but which the Egyptians themselves occasionally conceived to be nothing but a badly drawn ass. In historic times his cult was celebrated at Tanis and Ombos. He regained a certain prestige as god of the Hyksos rulers, and two Pharaohs of the XIXth Dynasty derived their name Sethos (Seti) from him. But, generally speaking, he was abominated as a power of evil, and his figure was often obliterated on the monuments. He is named in similes as a great warrior, and as such and "son of Nut" he is identified with the Syrian Baal.

4. *The Divine Cult.*—In the midst of every town rose the temple of the local god, a stately building of stone, strongly contrasting with the mud and plaster houses in which even the wealthiest Egyptians dwelt. It was called the "house of the god"  , and in it the deity was supposed to reside, attended by his "servants"  the priests. There was indeed a certain justification for this contention, even when a contrary theory assigned to the divinity a place in the sky, as in the case of the lunar divinity Thoth; for in the inmost sanctuary stood a statue of the god, which served as his representative for the purposes of the cult. Originally each temple was dedicated to one god only; but it early became usual to associate with him a mate of the opposite sex, besides a third deity who might be represented either as a second wife or as a child. As examples of such triads, as they are called, may be mentioned that of Thebes, consisting of Ammon, Mut and Chons, father, mother and child; and as typical of the other kind, where a god was accompanied by two goddesses, that of Elephantine, consisting of Khnum, Satis and Anukis. The needs of the god were much the same as those of mortals; no more than they could he dispense with food and drink, clothes for his apparel, ointment for his limbs, and music and dancing to rejoice his heart. The only difference was that the divine statue was half-consciously recognized as a lifeless thing that required carefully regulated rites and ceremonies to enable it to enjoy the good things offered to it. Early every morning the officiating priest proceeded to the holy of holies, after the preliminaries of purification had cleansed him from any miasma that might interfere with the efficacy of the rites. Then with the prescribed gestures, and reciting appropriate formulae all the while, he broke the seal upon the door of the shrine, loosed the bolts, and at last stood face to face with the god. There followed a series of prostrations and adorations, culminating in the offering of a small image of Maat, the goddess of Truth. This seems to have been the psychological moment of the entire service: hitherto the statue had been at best a god in *posse*; now the symbolical act placed him in possession of all his faculties, he was a god in truth, and could participate like any mortal in the food and luxuries that his servants put before him. The daily ceremony closed with ablutions, anointings and a bountiful feast of bread, geese, beer and oxen; having taken his fill of these, the god returned to his shrine until the next morning, when the ritual was renewed. The words that accompanied the manual gestures are, in the rituals that have come down to us, wholly dominated by the myth of Osiris: it is often hard to discern much connexion between the acts and the formulae recited, but the main thought is clearly that the priest represents Horus, the pious son of the dead divinity Osiris. That this conception is very old is proved by the fact that even in the Pyramid texts "the eye of Horus" is a synonym for all offerings: an ancient tale of which only shreds have reached us related how Seth had torn the eye of Horus from him, though not before he himself had suffered a still more serious mutilation; and by some means, we know not how, the restoration of the eye was instrumental in bringing about the vindication of Osiris. As to the manual rites of the daily cult, all that can here be said is that incense, purifications and anointings with various oils played a large part; the sacrifices consisted chiefly of slaughtered oxen and geese; burnt offerings were a very late innovation.

At an early date the rites practised in the various temples were conformed to a common pattern. This holds good not only

for the daily ritual, but also for many festivals that were celebrated on the same day throughout the whole length of the land. Such were the calendrical feasts, called “the beginnings of the seasons,” and including, for example, the monthly and half-monthly festivals, that of the New Year and that of the rising of Sirius (Sothis). But there were also local feast days like that of Neith in Sais (Hdt. ii. 62) or that of Ammon in southern Opi (Luxor). These doubtless had a more individual character, and often celebrated some incident supposed to have occurred in the lifetime of the god. Sometimes, as in the case of the feast of Osiris in Abydos, a veritable drama would be enacted, in which the whole history of the god, his sufferings and final triumph were represented in mimic form. At other times the ceremonial was more mysterious and symbolical, as in the feast of the raising of the Ded-column  when a column of the kind was drawn by cords into an upright position. But the most common feature of these holy days was the procession of the god, when he was carried on the shoulders of the priests in his divine boat far beyond the precincts of his temple; sometimes, indeed, even to another town, where he paid a visit to the god of the place. These occasions were public holidays, and passed amid great rejoicings. The climax was reached when at a given moment the curtains of the shrine placed on the boat were withdrawn, and the god was revealed to the eyes of the awe-struck multitude. Music and dancing formed part of the festival rites.

As with the rites and ceremonies, so also the temples were early modelled upon a common type. Lofty enclosure walls, adorned with scenes from the victorious campaigns of the Pharaoh, shut off the sacred buildings from the Temples. surrounding streets. A small gateway between two massive towers or pylons gave admittance to a spacious forecourt open to the sky, into which the people were allowed to enter at least on feast days. Farther on, separated from the forecourt by smaller though still massive pylons, lay a hypostyle hall, so called from its covered colonnades; this hall was used for all kinds of processions. Behind the hypostyle hall, to which a second similar one might or might not be added, came the holy of holies, a dark narrow chamber where the god dwelt; none but the priests were admitted to it. All around lay the storehouses that contained the treasures of the god and the appurtenances of the divine ritual. The temples of the earliest times were of course far more primitive than this: from the pictures that are all that is now left to indicate their nature, they seem to have been little more than huts or sheds in which the image of the god was kept. One temple of a type different from that above described has survived at Abusir, where it has been excavated by German explorers. It was a splendid edifice dedicated to the sun-god Re by a king of the Vth Dynasty, and was probably a close copy of the famous temple of Heliopolis. The most conspicuous feature was a huge obelisk on a broad superstructure  : the obelisk always remained closely connected with the solar worship, and probably took the place of the innermost shrine and statue of other temples. The greater part of the sanctuary was left uncovered, as best befitted a dwelling-place of the sun. Outside its walls there was a huge brick model of the solar bark in which the god daily traversed the heavens.

As the power of the Pharaohs increased, the maintenance of the cult became one of the most important affairs of state. The most illustrious monarchs prided themselves no less on the buildings they raised in honour of the gods than on the successful wars they waged: indeed the wars won a religious significance through the gradual elevation of the god of the capital to god of the nation, and a large part of the spoils was considered the rightful perquisite of the latter. Countless were the riches that the kings heaped upon the gods in the hope of being requited with long life and prosperity on the throne of the living. It became the theory that the temples were the gifts of the Pharaoh to his fathers the gods, and therefore in the scenes of the cult that adorn the inner walls it is always he who is depicted as performing the ceremonies. As a matter of fact the priesthoods Power of the priests. were much more independent than was allowed to appear. Successive grants of land placed no small portion of the entire country in their hands, and the administration of the temple estates gave employment to a large number of officials and serfs. In the New Kingdom the might of the Theban god Ammon gradually became a serious menace to the throne: in the reign of Rameses III. he could boast of more than 80,000 dependants, and more than 400,000 cattle. It is not surprising that a few generations later the high priests of Ammon supplanted the Pharaohs altogether and founded a dynasty of their own.

At no period did the priests form a caste that was quite distinctly separated from the laity. In early times the feudal lords were themselves the chief priests of the local temples. Under them stood a number of subordinate priests, both professional and lay. Among the former were the *kher-heb*, a learned man entrusted with the conduct of the ceremonies, and the “divine fathers,” whose functions are obscure. The lay priests were divided into four classes that undertook the management of the temple in alternate months; their collective name was the “hour-priesthood.” Perhaps it was to them that the often recurring title *oueb*, “the pure,” should properly be restricted, though strict rules as to personal purity, dress and diet were demanded of all priests. The personnel of the temple was completed by various subordinate officials, doorkeepers, attendants and slaves. In the New Kingdom the leading priests were more frequently mere clerics than theretofore, though for instance the high priest of Ammon was often at the same time the vizier of southern Egypt. In some places the highest priests bore special names, such as the *Ouer maa*, “the Great Seer,” of Re in Heliopolis, or the *Khorp himet*, “chief artificer,” of the Memphite Ptah. Women could also hold priestly rank, though apparently in early times only in the service of goddesses; “priestess of Hathor” is a frequent title of well-born ladies in the Old Kingdom. At a later date many wealthy dames held the office of “musicians” (*shemat*) in the various temples. In the service of the Theban Ammon two priestesses called “the Adorer of the God” and the “Wife of the God” occupied very influential positions, and towards the Saite period it was by no means unusual for the king to secure these offices for his daughters

and so to strengthen his own royal title.

5. *The Dead and their Cult.*—While the worship of the gods tended more and more to become a monopoly of the state and the priests, and provided no adequate outlet for the religious cravings of the people themselves, this deficiency was amply supplied by the care which they bestowed upon their dead: the Egyptians stand alone among the nations of the world in the elaborate precautions which they took to secure their own welfare beyond the tomb. The belief in immortality, or perhaps rather the incapacity to grasp the notion of complete annihilation, is traceable from the very earliest times: the simplest graves of the prehistoric period, when the corpses were committed to the earth in sheepskins and reed mats, seldom lack at least a few poor vases or articles of toilet for use in the hereafter. In proportion as the prosperity of the land increased, and the advance of civilization afforded the technical means, so did these primitive burials give place to a more lavish funereal equipment. Tombs of brick with a single chamber were succeeded by tombs of stone with several chambers, until they really merited the name of "houses of eternity" that the Egyptians gave to them. The conception of the tomb as the residence of the dead is the fundamental notion that underlies all the ritual observances in connexion with the dead, just as the idea of the temple as the dwelling-place of the god is the basis of the divine cult. The parallelism between the attitude of the Egyptians towards the dead and their attitude towards the gods is so striking that it ought never to be lost sight of: nothing can illustrate it better than the manner in which the Osirian doctrines came to permeate both kinds of cult.

The general scheme of Egyptian tombs remained the same throughout the whole of the dynastic period, though there were many variations of detail. By preference they were built in the Western desert, the Amente, near the Tombs. place where the sun was seen to go to rest, and which seemed the natural entrance to the nether world. A deep pit led down to the sepulchral chamber where the dead man was deposited amid the funereal furniture destined for his use; and no device was neglected that might enable him to rest here undisturbed. This aim is particularly conspicuous in the pyramids, the gigantic tombs which the Pharaohs of the Old Kingdom constructed for themselves: the passages that lead to the burial chamber were barred at intervals by vast granite blocks, and the narrow opening that gave access to them was hidden from view beneath the stone casing of the pyramid sides. Quite separate from this part of the tomb lay the rooms employed for the cult of the dead: their walls were often adorned with pictures from the earthly life of the deceased, which it was hoped he might still continue to enjoy after death. The innermost chamber was the chapel proper: on its western side was sculptured an imitation door for the dead man to pass through, when he wished to participate in the offerings brought by pious relatives. It was of course only the few who could afford elaborate tombs of the kind: the poor had to make shift with an unpretentious grave, in which the corpse was placed enveloped only by a few rags or enclosed in a rough wooden coffin.

The utmost care was taken to preserve the body itself from decay. Before the time of the Middle Kingdom it became usual for the rich to have their bodies embalmed. The intestines were removed and placed in four vases (the Embalming and burial. so-called Canopic jars) in which they were supposed to enjoy the protection of the four sons of Horus, the man-headed Mesti, the ape-headed Hapi, the jackal Duamutef and the falcon Kebhsenuf. The corpse was treated with natron and asphalt, and wound in a copious swathing of linen bandage, with a mask of linen and stucco on the face. The "mummy" thus prepared was then laid on its side like a sleeper, the head supported by a head-rest, in a sarcophagus of wood or stone. The operations in connexion with the mummy grow more and more elaborate towards the end of the Pharaonic period: already in the New Kingdom the wealthiest persons had their mummies laid in several coffins, each of which was gaudily painted with mythological scenes and inscriptions. The costliest process of embalmment lasted no less than seventy days. Many superstitious rites had to be observed in the course of the process: a late book has preserved to us the magical formulae that were repeated by the wise *kher-heb* priest (who in the necropolis performed the functions of taricheutes, "embalmer"), as each bandage was applied.

A large number of utensils, articles of furniture and the like were placed in the burial-chamber for the use of the dead—jars, weapons, mirrors, and even chairs, musical instruments and wigs. In the early times statuettes of servants, representing them as engaged in their various functions (brewers, bakers, &c.), were included for the same purpose; they were supposed to perform their menial functions for their deceased lord in the future life. In the Middle Kingdom these are gradually replaced by small models of the mummy itself, and the belief arose that when their owner was called upon to perform any distasteful work in the nether world, they would answer to his name and do the task for him. The later *ushebti*-figures, little statuettes of wood, stone or faience, of which several hundreds are often found in a single tomb, are confused survivals of both of the earlier classes of statuettes. Still more important than all such funereal objects are the books that were placed in the grave for the use of the dead: in the pyramids they are written on the walls of the sepulchral chamber and the passages leading to it; in the Middle Kingdom usually inscribed on the inner sides of the sarcophagus; in later times contained in rolls of papyrus. The Pyramid texts and the *Book of the Dead* are the most important of these, and teach us much about the dangers and needs that attended the dead man beyond the tomb, and about the manner in which it was thought they could be counteracted.

The burial ceremony itself must have been an imposing spectacle. In many cases the mummy had to be conveyed across the Nile, and boats were gaily decked out for this purpose. On the western bank a stately procession conducted the deceased to his last resting-place. At the door of the tomb the final ceremonies were performed; they demanded a

considerable number of actors, chief among whom were the *sem*-priest and the *kher-heb* priest. It was a veritable drama that was here enacted, and recalled in its incidents the story of Osiris, the divine prototype of all successive generations of the Egyptian dead.

However carefully the preliminary rites of embalmment and burial might have been performed, however sumptuous the tomb wherein the dead man reposed, he was nevertheless almost entirely at the mercy of the living for The soul. his welfare in the other world: he was as dependent on a continued cult on the part of the surviving members of his family as the gods were dependent on the constant attendance of their priests. That portion of a man's individuality which required, even after death, food and drink, and the satisfaction of sensuous needs, was called by the Egyptians the *ka*, and represented in hieroglyphs by the uplifted hands  . This *ka* was supposed to be born together with the person to whom it belonged, and on the very rare occasions when it is depicted, wears his exact semblance. The conception of this psychical entity is too vaguely formulated by the Egyptians and too foreign to modern thought to admit of exact translation: of the many renderings that have been proposed, perhaps "double" is the most suitable. At all events the *ka* has to be distinguished from the soul, the *bai* (in hieroglyphs  or ), which was of more tangible nature, and might be descried hovering around the tomb in the form of a bird or in some other shape; for it was thought that the soul might assume what shape it would, if the funerary rites had been duly attended to. The gods had their *ka* and *bai*, and the forms attributed to the latter are surprising; thus we read that the soul of the sky Nun is Re, that of Osiris the Goat of Mendes, the souls of Sobk are crocodiles, and those "of all the gods are snakes"; similarly the soul of Ptah was thought to dwell in the Apis bull, so that each successive Apis was during its lifetime the reincarnation of the god. Other parts of a man's being to which at given moments and in particular contexts the Egyptians assigned a certain degree of separate existence are the "name"  *ran*, the "shadow"  , *khaibet*, and the "corpse"  , *khat*.

It was, however, the *ka* alone to which the cult of the dead was directly addressed. This cult was a positive duty binding on the children of a dead man, and doubtless as a rule discharged by them with some regularity and conscientiousness; at least, on feast-days offerings would be brought to the tomb, and the ceremonies of purification and opening the mouth of the deceased would be enacted. But there could be little guarantee that later generations would perpetuate the cult. It therefore became usual under the Old Kingdom for the wealthiest persons to make testamentary dispositions by which certain other persons agreed for a consideration to observe the required rites at stated periods: they received the name of "servants of the *ka*," and stood in the same relation to the deceased as the priests to the gods. Or again, contracts might be made with a neighbouring temple, the priesthood of which bound itself to reserve for the contracting party some portion of the offerings that had already been used for the divine cult. There is probably a superstitious reason for the preference shown by the dead for offerings of this kind; no wish is commoner than that one may receive "bread and beer that had gone up on to the altar of the local god," or "with which the god had been sated"; something of the divine sanctity still clung about such offerings and made them particularly desirable. In spite of all the precautions they took and the contracts they made, the Egyptians could never quite rid themselves of the dread that their tombs might decay and their cult be neglected; and they sought therefore to obtain by prayers and threats what they feared they might lose altogether. The occasional visitor to the tomb is reminded by its inscriptions of the many virtues of the dead man while he yet lived, and is charged, if he be come with empty hands, at least to pronounce the funerary formula; it will indeed cost him nothing but "the breath of his mouth"! Against the would-be desecrator the wrath of the gods is invoked: "with him shall the great god reckon there where a reckoning is made."

The funerary customs that have been described are meaningless except on the supposition that the tomb was the regular dwelling-place of the dead. But just as the Egyptians found no contradiction between the view of the temple as the residence of the god and the conception of him as a cosmic deity, so too they often attributed to the dead a continued existence quite apart from the tomb. According to a widely-spread doctrine of great age the deceased Egyptian was translated to the heavens, where he lived on in the form of a star. This theme is elaborated with great detail in the Pyramid texts, where it is the dead king to whom this destiny is promised. It was perhaps only a restricted aristocracy who could aspire to such high honour: the  *ikh*, or "glorified being," who has his place in the sky seems often to hold an intermediate position between the gods and the rank and file of the dead. But in a few early passages the required qualification appears to be rather moral integrity than exalted station. The life of the dead man in the sky is variously envisaged in different texts: at one moment he is spoken of as accompanying the sun-god in his celestial bark, at another as a mighty king more powerful than Re himself; the crudest fancy of all pictures him as a hunter who catches the stars and gods, and cooks and eats them. According to another conception that persisted in the imagination of the Egyptians longer than any of the ideas just mentioned, the home of the dead in the heavens was a fertile region not very different from Egypt itself, intersected by canals and abounding in corn and fruit; this place was called the Sokhet Earu or "field of Reeds."

Even in the oldest texts these beliefs are blended inextricably with the Osirian doctrines. It is not so much as king of the dead that Osiris here appears, but every deceased Egyptian was regarded as himself an Osiris, as having undergone all

the indignities inflicted upon the god, but finally triumphant over the powers of death and evil impersonated by Seth. This notion became so popular, that beside it all other views of the dead sink into insignificance; it permeates the funerary cult in all its stages, and from the Middle Kingdom onwards the dead man is regularly called "the Osiris so-and-so," just as though he were completely identical with the god. One incident of the tale of Osiris acquired a deep ethical meaning in connexion with the dead. It was related how Seth had brought an accusation against Osiris in the great judgment hall of Heliopolis, and how the latter, helped by the skilful speaker Thoth, had emerged from the ordeal acquitted and triumphant. The belief gradually grew up that every dead man would have to face a similar trial before he could be admitted to a life of bliss in the other world. A well-known vignette in the *Book of the Dead* depicts the scene. In a shrine sits Osiris, the ruler and judge of the dead, accompanied by forty-two assessors; and before him stands the balance on which the heart of the deceased man is to be weighed against Truth; Thoth stands behind and registers the result. The words that accompany this picture are still more remarkable: they form a long negative confession, in which the dead man declares that he has sinned neither against man nor against the gods. Not all the sins named are equally heinous according to modern conceptions; many of them deal with petty offences against religious usages that seem to us but trifling. But it is clear that by the time this chapter was penned it was believed that no man could attain to happiness in the hereafter if he had not been upright, just and charitable in his earthly existence. The date at which these conceptions became general is not quite certain, but it can hardly be later than the Middle Kingdom, when the dead man has the epithet "justified" appended to his name in the inscriptions of his tomb.

It was but a natural wish on the part of the Egyptians that they should desire to place their tombs near the traditional burying-place of Osiris. By the time of the XIIth Dynasty it was thought that this lay in Abydos, the town where the kings of the earliest times had been interred. But it was only in a few cases that such a wish could be literally fulfilled. It therefore became customary for those who possessed the means to dedicate at least a tombstone in the neighbourhood of "the staircase of the great god," as the sacred spot was called. And those who had found occasion to visit Abydos in their lifetime took pleasure in recalling the part that they had there taken in the ceremonies of Osiris. Such pilgrims doubtless believed that the pious act would stand to their credit when the day of death arrived.

6. *Magic.*—Among the rites that were celebrated in the temples or before the statues of the dead were many the mystical meaning of which was but imperfectly understood, though their efficacy was never doubted. Symbolical or imitative acts, accompanied by spoken formulae of set form and obscure content, accomplished, by some peculiar virtues of their own, results that were beyond the power of human hands and brain. The priests and certain wise men were the depositaries of this mysterious but highly useful art, that was called *hik* or "magic"; and one of the chief differences between gods and men was the superior degree in which the former were endowed with magical powers. It was but natural that the Egyptians should wish to employ magic for their own benefit or self-gratification, and since religion put no veto on the practice so long as it was exercised within legal bounds, it was put to a widespread use among them. When magicians made figures of wax representing men whom they desired to injure, this was of course an illegal act like any other, and the law stepped in to prevent it: one papyrus that has been preserved records the judicial proceedings taken in such a case in connexion with the harem conspiracy against Rameses III.

One of the chief purposes for which magic was employed was to avert diseases. Among the Egyptians, as in other lands, illnesses were supposed to be due to evil spirits or the ghosts of dead men who had taken up their abode in the body of the sufferer, and they could only be driven thence by charms and spells. But out of these primitive notions arose a real medical science: when the ailment could be located and its nature roughly determined, a more materialistic view was taken of it; and many herbs and drugs that were originally used for some superstitious reason, when once they had been found to be actually effective, easily lost their magical significance and were looked upon as natural specifics. It is extremely hard to draw any fixed line in Egypt between magic and medicine; but it is curious to note that simple diagnoses and prescriptions were employed for the more curable diseases, while magical formulae and amulets are reserved for those that are harder to cope with, such as the bites of snakes and the stings of scorpions.

The formulae recited for such purposes are not purely cabalistic, though inasmuch as mystery is of the very essence of magic, foreign words and outlandish names occur in them by preference. Often the magician relates some mythical case where a god had been afflicted with a disease similar to that of the patient, but had finally recovered: a number of such tales were told of Horus, who was usually healed by some device of his mother Isis, she being accounted as a great enchantress. The mere recitation of such similar cases with their happy issue was supposed to be magically effective; for almost unlimited power was supposed to be inherent in mere words. Often the demon is directly invoked, and commanded to come forth. At other times the gods are threatened with privations or even destruction if they refuse to aid the magician: the Egyptians seem to have found little impiety in such a use of the divine name, though to us it would seem the utmost degree of profanity when, for instance, a magician declares that if his spell prove ineffective, he "will cast fire into Mendes and burn up Osiris."

The verbal spells were always accompanied by some manual performance, the tying of magical knots or the preparation of an amulet. In these acts particular significance was attached to certain numbers: a sevenfold knot, for example, was more efficacious than others. Often the formula was written on a strip of rag or a scrap of papyrus and tied round the neck of the person for whom it was intended. Beads and all kinds of amulets could be infused with magical power so as to be potent phylacteries to those who wore them.

In conclusion, it must be emphasized that in Egypt magic stands in no contrast or opposition to religion, at least as long as it was legitimately used. The religious rites and ceremonies are full of it. When a pretence was made of opening, with an iron instrument, the mouth of the divine statue, to the accompaniment of recited formulae, this can hardly be termed anything but magic. Similarly, the potency attributed to *ushebti*-figures and the copies of the *Book of the Dead* deposited in the tombs is magical in quality. What has been considered under this heading, however, is the use that the same principles of magic were put to by men in their own practical life and for their own advantage.

Authorities.—An excellent list of books and articles on the various topics connected with Egyptian Religion will be found in H. O. Lange's article on the subject in P. D. Chantepie de la Saussaye, *Lehrbuch der Religionsgeschichte* (Tübingen, 1905), vol. i. pp. 172-245. Among general works may be especially recommended A. Erman, *Die ägyptische Religion* (Berlin, 1905); and chapters 2 and 3 in G. Maspero, *Histoire ancienne des peuples de l'Orient, les origines*, vol. i. (Paris, 1895).

(A. H. G.)

D. *Egyptian Language and Writing.—Decipherment.*—Although attempts were made to read Egyptian hieroglyphs so far back as the 17th century, no promise of success appeared until the discovery of the Rosetta stone in 1799 by the French engineers attached to Napoleon's expedition to Egypt. This tablet was inscribed with three versions, in hieroglyphic, demotic and Greek, of a long decree of the Egyptian priests in honour of Ptolemy V., Epiphanes and his wife Cleopatra. The Greek and demotic versions were still almost perfect, but most of the hieroglyphic text had been broken away with the top of the tablet; portions of about half of the lines remained, but no single line was complete. In 1802 J. D. Akerblad, a Swedish orientalist attached to the embassy in Paris, identified the proper names of persons which occurred in the demotic text, being guided to them by the position of their equivalents in the Greek. These names, all of them foreign, were written in an alphabet of a limited number of characters, and were therefore analysed with comparative ease.

The hieroglyphic text upon the Rosetta stone was too fragmentary to furnish of itself the key to the decipherment. But the study of this with the other scanty monuments and imperfect copies of inscriptions that were available enabled the celebrated physicist Thomas Young (1773-1829) to make a beginning. In an article completed in 1819 and printed (over the initials I. J.) in the supplement to the 4th, 5th and 6th editions of the *Encyclopaedia Britannica* (vol. iv., 1824), he published a brief account of Egyptian research, with five plates containing the "rudiments of an Egyptian vocabulary." It appears that Young could place the hieroglyphic, demotic and Greek texts of the Rosetta stone very correctly parallel; but he could not accurately break up the Egyptian sentences into words, much less could he attribute to the words their proper sounds. Yet he recognized correctly the names of Apis and Re, with many groups for words such as "assembly," "good," "name," and important signs such as those which distinguish feminine words. In a bad copy of another monument he rightly guessed the royal name of Berenice in its cartouche by the side of that of Ptolemy, which was already known from its occurrence on the Rosetta stone. He considered that these names must be written in phonetic

characters in the hieroglyphic as in demotic, but he failed to analyse them correctly. It was clear, however, that with more materials and perseverance such efforts after decipherment must eventually succeed.

Meanwhile J. F. Champollion "le Jeune" (see Champollion; and Hartleben, *Champollion, sein Leben und sein Werk*, Berlin, 1906) had devoted his energies whole-heartedly since 1802, when he was only eleven years old, to preparing himself for the solution of the Egyptian problem, by wide linguistic and historical studies, and above all by familiarizing himself with every scrap of Egyptian writing which he could find. By 1818 he made many equations between the demotic and the hieroglyphic characters, and was able to transcribe the demotic names of Ptolemy and Cleopatra into hieroglyphics. At length, in January 1822, a copy of the hieroglyphic inscription on the Bankes obelisk, which had long been fruitlessly in the hands of Young, reached the French savant. On the base of this obelisk was engraved a Greek inscription in honour of Ptolemy Euergetes II. and Cleopatra; of the two cartouches on the obelisk one was of Ptolemy, the other was easily recognized as that of Cleopatra, spelt nearly as in Champollion's experimental transcript of the demotic name, only more fully. This discovery, and the recognition of the name Alexander, gave fourteen alphabetic signs, including homophones, with ascertained values. Starting from these, by the beginning of September Champollion had analysed a long series of Ptolemaic and Roman cartouches. His next triumph was on the 14th of September, when he read the names of the ancient Pharaohs Rameses and Tethmosis in some drawings just arrived from Egypt, proving that his alphabetic characters were employed, in conjunction with syllabic signs, for spelling native names; this gave him the assurance that his discovery touched the essential nature of the Egyptian writing and not merely, as had been contended, a special cipher for the foreign words which might be quite inapplicable to the rest of the inscriptions. His progress continued unchecked, and before the end of the year the connexion of ancient Egyptian and Coptic was clearly established. Subsequently visits to the museums of Italy and an expedition to Egypt in 1828-1829 furnished Champollion with ample materials. The *Précis du système hiéroglyphique* (1st ed. 1823, 2nd ed. 1828) contained the philological results of his decipherments down to a certain point. But his MS. collections were vast, and his illness after the strenuous labours of the expedition and his early death in 1832 left all in confusion. The *Grammaire égyptienne* and *Dictionnaire égyptien*, edited from these MSS. by his brother, precious as they were, must be a very imperfect register of the height of his attainments. In his last years he was able to translate long texts in hieroglyphic and in hieratic of the New Kingdom and of the later periods with some accuracy, and his comprehension of demotic was considerable. Champollion outdistanced all his competitors from the first, and had practically nothing to thank them for except material to work on, and too often that had been intentionally withheld from him. In eleven years he broke ground in all directions; if the ordinary span of life had been allowed him, with twenty or thirty more years of labour he might have brought order into the chaos of different ages and styles of language and writing; but, as it was, the task of co-ordination remained to be done by others. For one year, before his illness incapacitated him, Champollion held a professorship in Paris; but of his pupils and fellow-workers, F. P. Salvolini, insincere and self-seeking, died young, and Ippolito Rosellini (1800-1843) showed little original power. From 1832 to 1837 there was a pause in the march of Egyptology, and it seemed as if the young science might be overwhelmed by the storm of doubts and detraction that was poured upon it by the enemies of Champollion. Then, however, Lepsius in Germany and Samuel Birch in England took up the thread where the master had dropped it, and E. de Rougé, H. Brugsch, François Joseph Chabas and a number of lesser lights quickly followed. Brugsch (*q.v.*) was the author of a hieroglyphic and demotic dictionary which still holds the field, and from time to time carried forward the study of demotic by a giant's stride. De Rougé (d. 1872) in France was a brilliant translator of hieroglyphic texts and the author of an important grammatical work. Chabas (1817-1882) especially addressed himself to the reading of the hieratic texts of the New Kingdom. By such labours after forty years the results attained by Champollion in decipherment were entirely superseded. Yet, while the values of the signs were for the most part well ascertained, and the meanings of most works fixed with some degree of accuracy, few grammatical rules had as yet been established, the varieties of the language at different periods had not been defined, and the origins of the hieroglyphs and of their values had not been investigated beyond the most obvious points. At this time a rare translator of Egyptian texts in all branches was arising in G. Maspero (*q.v.*), while E. Revillout addressed himself with success to the task of interpreting the legal documents of demotic which had been almost entirely neglected for thirty years. But the honour of inaugurating an epoch marked by greater precision belongs to Germany. The study of Coptic had begun in Europe early in the 17th century, and reached a high level in the work of the Dane Georg Zoega (1755-1809) at the end of the 18th century. In 1835, too late for Champollion to use it, Amadeo Peyron (1785-1870) of Turin published a Coptic lexicon of great merit which is still standard, though far from satisfying the needs of scholars of the present day. In 1880 Ludwig Stern (*Koptische Grammatik*) admirably classified the grammatical forms of Coptic. The much more difficult task of recovering the grammar of Egyptian has occupied thirty years of special study by Adolf Erman and his school at Berlin, and has now reached an advanced stage. The greater part of Egyptian texts after the Middle Kingdom having been written in what was even then practically a dead language, as dead as Latin was to the medieval monks in Italy who wrote and spoke it, Erman selected for special investigation those texts which really represented the growth of the language at different periods, and, as he passed from one epoch to another, compared and consolidated his results.

The *Neuägyptische Grammatik* (1880) dealt with texts written in the vulgar dialect of the New Kingdom (Dyns. XVIII. to XX.). Next followed, in the *Zeitschrift für ägyptische Sprache und Alterthumskunde*, studies on the Old Kingdom inscription of Una, and the Middle Kingdom contracts of Assiut, as well as on an "Old Coptic" text of the 3rd century a.d. At this point a papyrus of stories written in the popular language of the Middle Kingdom provided Erman with a stepping-stone from Old Egyptian to the Late Egyptian of the *Neuägyptische Grammatik*, and gave the connexions that would

bind solidly together the whole structure of Egyptian grammar (see *Sprache des Papyrus Westcar*, 1889). The very archaic pyramid texts enabled him to sketch the grammar of the earliest known form of Egyptian (*Zeitschrift d. Deutsch. Morgenl. Gesellschaft*, 1892), and in 1894 he was able to write a little manual of Egyptian for beginners (*Ägyptische Grammatik*, 2nd ed., 1902), centring on the language of the standard inscriptions of the Middle and New Kingdoms, but accompanying the main sketch with references to earlier and later forms. Of the work of Erman's pupils we may mention G. Steindorff's little *Koptische Grammatik* (1894, ed. 1904), improving greatly on Stern's standard work in regard to phonology and the relationship of Coptic forms to Egyptian, and K. Sethe's *Das Ägyptische Verbum* (1899). The latter is an extensive monograph on the verb in Egyptian and Coptic by a brilliant and laborious philologist. Owing to the very imperfect notation of sound in the writing, the highly important subject of the verbal roots and verbal forms was perhaps the obscurest branch of Egyptian grammar when Sethe first attacked it in 1895. The subject has been reviewed by Erman, *Die Flexion des ägyptischen Verbums* in the *Sitzungsberichte* of the Berlin Academy, 1900. The Berlin school, having settled the main lines of the grammar, next turned its attention to lexicography. It has devised a scheme, founded on that for the Latin Thesaurus of the Berlin Academy, which almost mechanically sorts the whole number of occurrences of every word in any text examined. Scholars in England, America and Denmark, as well as in Germany, have taken part in this great enterprise, and though the completion of it may be far off, the collections of classified material already made are very valuable for consultation.11 At present Egyptologists depend on Heinrich Brugsch's admirable but somewhat antiquated *Wörterbuch* and on Levi's useful but entirely uncritical *Vocabolario*. Though demotic has not yet received serious attention at Berlin, the influence of that great school has made itself felt amongst demotists, especially in Switzerland, Germany, America and England. The death of Heinrich Brugsch in 1895 was a very severe blow to demotic studies; but it must be admitted that his brilliant gifts lay in other directions than exact grammatical analysis. Apart from their philological interest, as giving the history of a remarkable language during a period of several thousand years, the grammatical studies of the last quarter of the 19th century and afterwards are beginning to bear fruit in regard to the exact interpretation of historical documents on Egyptian monuments and papyri. Not long ago the supposed meaning of these was extracted chiefly by brilliant guessing, and the published translations of even the best scholars could carry no guarantee of more than approximate exactitude, where the sense depended at all on correct recognition of the syntax. Now the translator proceeds in Egyptian with some of the sureness with which he would deal with Latin or Greek. The meaning of many words may be still unknown, and many constructions are still obscure; but at least he can distinguish fairly between a correct text and a corrupt text. Egyptian writing lent itself only too easily to misunderstanding, and the writings of one period were but half intelligible to the learned scribes of another. The mistaken readings of the old inscriptions by the priests at Abydos (Table of Abydos), when attempting to record the names of the kings of the 1st Dynasty on the walls of the temple of Seti I., are now admitted on all sides; and no palaeographer, whether his field be Greek, Latin, Arabic, Persian or any other class of MSS., will be surprised to hear that the Egyptian papyri and inscriptions abound in corruptions and mistakes. The translator of to-day can, if he wishes, mark where certainty ends and mere conjecture begins, and it is to be hoped that advantage will be taken more widely of this new power. The Egyptologist who has long lived in the realm of conjecture is too prone to consider any series of guesses good enough to serve as a translation, and forgets to insert the notes of interrogation which would warn workers in other fields from implicit trust.

Language and Writing.—The history of the Egyptian language is evidenced by documents extending over a very long range of time. They begin with the primitive inscriptions of the Ist Dynasty (not later than 3300 b.c.) and end with the latest Coptic compositions of about the 14th century a.d. The bulk of the hieroglyphic inscriptions are written in a more or less artificial literary language; but in business documents, letters, popular tales, &c., the scribes often adhered closely to the living form of the tongue, and thus reveal its progressive changes.

The stages of the language are now distinguished as follows:—

Old Egyptian.—This is properly the language of the Old Kingdom. In it we have (a) the recently discovered inscriptions of the Ist Dynasty, too brief and concise to throw much light on the language of that time; and the great collections of spells and ritual texts found inscribed in the Pyramids of the Vth and VIth Dynasties, which must even then have been of high antiquity, though they contain later additions made in the same style. (b) A few historical texts and an abundance of short inscriptions representing the language of the IVth, Vth and VIth Dynasties. The ordinary *literary language* of the later monuments is modelled on Old Egyptian. It is often much affected by contemporary speech, but preserves in the main the characteristics of the language of the Old Kingdom.

Middle and Late Egyptian.—These represent the vulgar speech of the Middle and New Kingdoms respectively. The former is found chiefly in tales, letters, &c., written in hieratic on papyri of the XIIIth Dynasty to the end of the Middle Kingdom; also in some inscriptions of the XVIIIth Dynasty. Late Egyptian is seen in hieratic papyri of the XVIIIth to the XXIst Dynasties. The spelling of Late Egyptian is very extraordinary, full of false etymologies, otiose signs, &c., the old orthography being quite unable to adapt itself neatly to the profoundly modified language; nevertheless, this clumsy spelling is expressive, and the very mistakes are instructive as to the pronunciation.

Demotic.—Demotic Egyptian seems to represent approximately the vulgar speech of the Saite period, and is written in the "demotic" character, which may be traced back to the XXVIth Dynasty, if not to a still earlier time. With progressive

changes, this form of the language is found in documents reaching down to the fall of Paganism in the 4th century a.d.[12] Under the later Ptolemies and the Roman rule documents in Greek are more abundant than in demotic, and the language of the ruling classes must have begun to penetrate the masses deeply.

Coptic.—This, in the main, represents the popular language of early Christian Egypt from the 3rd to perhaps the 10th century a.d., when the growth of Coptic as a literary language must have ceased. The Greek alphabet, reinforced by a few signs borrowed from demotic, rendered the spoken tongue so accurately that four distinct, though closely allied, dialects are readily distinguishable in Coptic MSS.; ample remains are found of renderings of the Scriptures into all these dialects. The distinctions between the dialects consist largely in pronunciation, but extend also to the vocabulary, word-formation and syntax. Such interchanges are found as *l* for *r*, ϭ (*k*, *ch*) for ϫ (*dj*), final *i* for final *e*, *a* for *e*, *a* for *o*. Early in the 2nd century a.d., pagan Egyptians, or perhaps foreigners settled in Egypt, essayed, as yet unskilfully, to write the native language in Greek letters. This *Old Coptic*, as it is termed, was still almost entirely free from Greek loan-words, and its strong archaisms are doubtless accounted for by the literary language, even in its most "vulgar" forms, having moved more slowly than the speech of the people. Christian Coptic, though probably at first contemporary with some documents of Old Coptic, contrasts strongly with the latter. The monks whose task it was to perfect the adaptation of the alphabet to the dialects of Egypt and translate the Scriptures out of the Greek, flung away all pagan traditions. It is clear that the basis which they chose for the new literature was the simplest language of daily life in the monasteries, charged as it was with expressions taken from Greek, pre-eminently the language of patristic Christianity. There is evidence that the amount of stress on syllables, and the consequent length of vowels, varied greatly in spoken Coptic, and that the variation gave much trouble to the scribes; the early Christian writers must have taken as a model for each dialect the deliberate speech of grave elders or preachers, and so secured a uniform system of accentuation. The remains of Old Coptic, though very instructive in their marked peculiarities, are as yet too few for definite classification. The main divisions of Christian Coptic as recognized and named at present are: Sahidic (formerly called Theban), spoken in the upper Thebais; Akhmimic, in the neighbourhood of Akhmim, but driven out by Sahidic about the 5th century; Fayumic, in the Fayum (formerly named wrongly "Bashmuric," from a province of the Delta); Bohairic, the dialect of the "coast district" (formerly named "Memphite"), spoken in the north-western Delta. Coptic, much alloyed with Arabic, was spoken in Upper Egypt as late as the 15th century, but it has long been a dead language.[13] Sahidic and Bohairic are the most important dialects, each of these having left abundant remains; the former spread over the whole of Upper Egypt, and the latter since the 14th century has been the language of the sacred books of Christianity throughout the country, owing to the hierarchical importance of Alexandria and the influence of the ancient monasteries established in the north-western desert.

The above stages of the Egyptian language are not defined with absolute clearness. Progress is seen from dynasty to dynasty or from century to century. New Egyptian shades off almost imperceptibly into demotic, and it may be hoped that gaps which now exist in the development will be filled by further discovery.

Coptic is the only stage of the language in which the spelling gives a clear idea of the pronunciation. It is therefore the mainstay of the scholar in investigating or restoring the word-forms of the ancient language. Greek transcriptions of Egyptian names and words are valuable as evidence for the vocalization of Egyptian. Such are found from the 6th century b.c. in the inscription of Abu Simbel, from the 5th in Herodotus, &c., and abound in Ptolemaic and later documents from the beginning of the 3rd century b.c. onwards. At first sight they may seem inaccurate, but on closer examination the Graecizing is seen to follow definite rules, especially in the Ptolemaic period. A few cuneiform transcriptions, reaching as far back as the XVIIIth Dynasty, give valuable hints as to how Egyptian was pronounced in the 15th century b.c. Coptic itself is of course quite inadequate to enable us to restore Old Egyptian. In it the Old Egyptian verbal forms are mostly replaced by periphrases; though the strong roots are often preserved entire, the weaker consonants and the ꜣ have largely or entirely disappeared, so that the language appears as one of biliteral rather than triliteral roots. Coptic is strongly impregnated with Greek words adopted late; moreover, a certain number of Semitic loan-words flowed into Egyptian at all ages, and especially from the 16th century b.c. onwards, displacing earlier words. It is only by the most careful scrutiny, or the exercise of the most piercing insight, that the imperfectly spelled Egyptian has been made to yield up one grammatical secret after another in the light brought to bear upon it from Coptic. Demotic grammar ought soon to be thoroughly comprehensible in its forms, and the study of Late Egyptian should not stand far behind that of demotic. On the other hand, Middle Egyptian, and still more Old Egyptian, which is separated from Middle Egyptian by a wide gap, will perhaps always be to us little more than consonantal skeletons, the flesh and blood of their vocalization being for the most part irretrievably lost.[14]

In common with the Semitic languages, the Berber languages of North Africa, and the Cushite languages of North-East Africa, Egyptian of all periods possesses grammatical gender, expressing masculine and feminine. Singularly few language groups have this peculiarity; and our own great Indo-European group, which possesses it, is distinguished from those above mentioned by having the neuter gender in addition. The characteristic triliteral roots of all the Semitic languages seemed to separate them widely from others; but certain traits have caused the Egyptian, Berber and Cushite groups to be classed together as three subfamilies of a Hamitic group, remotely related to the Semitic. The biliteral character of Coptic, and the biliteralism which was believed to exist in Egyptian, led philologists to suspect that Egyptian might be a surviving witness to that far-off stage of the Semitic languages when triliteral roots had not yet been formed

from presumed original biliterals; Sethe's investigations, however, prove that the Coptic biliterals are themselves derived from Old Egyptian triliterals, and that the triliteral roots enormously preponderated in Egyptian of the earliest known form; that view is, therefore, no longer tenable. Many remarkable resemblances have been observed in the grammatical structure of the Berber and Cushite groups with Semitic (cf. H. Zimmern, *Vergleichende Grammatik d. semitischen Sprachen*, Berlin, 1898, especially pronouns and verbs); but the relationship must be very distant, and there are no ancient documents that can take back the history of any one of those languages more than a few centuries. Their connexion with Semitic and Egyptian, therefore, remains at present an obscure though probable hypothesis. On the other hand, Egyptian is certainly related to Semitic. Even before the triliterality of Old Egyptian was recognized, Erman showed that the so-called pseudo-participle had been really in meaning and in form a precise analogue of the Semitic perfect, though its original employment was almost obsolete in the time of the earliest known texts. Triliteralism is considered the most essential and most peculiar feature of Semitic. But there are, besides, many other resemblances in structure between the Semitic languages and Egyptian, so that, although the two vocabularies present few points of clear contact, there is reason to believe that Egyptian was originally a characteristic member of the Semitic family of languages. See Erman, "Das Verhältnis d. ägyptischen zu d. semitischen Sprachen" (*Zeitschrift d. deutschen morgenl. Gesellschaft*, 1892); Zimmern, *Vergl. Gram.*, 1898; Erman, "Flexion d. ägyptischen Verbums" (*Sitzungsberichte d. Berl. Akad.*, 1900). The Egyptians proper are not, and so far as we can tell never were, Semitic in physical feature. As a possible explanation of the facts, Erman supposes that a horde of conquering Semites, like the Arabs of a later day, imposed their language on the country, but disappeared, being weakened by the climate or absorbed by the native population. The latter acquired the Semitic language imperfectly from their conquerors; they expressed the verbal conjugations by periphrases, mispronounced the consonants, and so changed greatly the appearance of the vocabulary, which also would certainly contain a large proportion of native non-Semitic roots. Strong consonants gave place to weak consonants (as ق has done to ا, in the modern Arabic of Egypt), and then the weak consonants disappearing altogether produced biliterals from the triliterals. Much of this must have taken place, according to the theory, in the prehistoric period; but the loss of weak consonants, of ע and of one of two repeated consonants, and the development of periphrastic conjugations continued to the end. The typical Coptic root thus became biliteral rather than triliteral, and the verb, by means of periphrases, developed tenses of remarkable precision. Such verbal resemblances as exist between Coptic and Semitic are largely due to late exchanges with Semitic neighbours.

The following sketch of the Egyptian language, mainly in its earliest form, which dates from some three or four thousand years b.c., is founded upon Erman's works. It will serve to contrast with Coptic grammar on the one hand and Semitic grammar on the other.

The Egyptian Alphabet

 = *i*; so conventionally transcribed since it unites two values, being sometimes y but often ʁ (especially at the beginning of words), and from the earliest times used in a manner corresponding to the Arabic *hamza*, to indicate a prosthetic vowel. Often lost.

 and  are frequently employed for *y*.

 = ʾ(ʁ); easily lost or changes to *y*.

 = ʾ(ɥ); lost in Coptic. This rare sound, well known in Semitic, occurs also in Berber and Cushite languages.

 = *w*, often changes to *y*.

 = *b*.

 = *p*.

 = *f*.

 = *m*.

 = *n*.

 = *r*, often lost, or changes to *y*. *r* and *l* are distinguished in later demotic and in Coptic.

 = *h* distinction lost in Coptic.

 = *ḥ* " "

 = *h*; in Coptic ɯ (*sh*) or ƀ (*kh*) correspond to it.

 = *ḫ*; generally written with  (*š*) in the Old Kingdom, but corresponds to *kh* in Coptic.

 = *s* distinction lost at the end of the Old Kingdom.

 = *ś* " " "

 = *š* (*sh*).

 = *q*; Coptic ĸ.

 = *k* Coptic ĸ; or ɕ, ɤ, according to dialect.

 = *g* Coptic ĸ; or ɕ.

 = *ṯ*; often lost at the end of words.

 = *t* (θ); often changes to *t*, otherwise Coptic ŧ; or ɤ, ɕ.

 = *d*; in Coptic reduced to *t*.

 = *ḏ* (*z*); often changes to *d*, Coptic ŧ; otherwise in Coptic ɤ.

ROOTS

Egyptian roots consist of consonants and semi-consonants only, the inflexion being effected by internal vowel-change and the addition of consonants or vowels at the beginning or end. The Egyptian system of writing, as opposed to the Coptic, showed only the consonantal skeletons of words: it could not record internal vowel-changes; and semi-consonants, even when radicals, were often omitted in writing.

PERSONAL PRONOUNS

1. c. *iw*(?) later *wi*.	1. c. *n*.	
2. m. *kw*.	2. c. *ṯn*.	2. c. *ṯny*.
Sing. f. *ṯn*.	Pl.	Du.

3. *m. fy, surviving only in a special verbal form.*	3. m. *śn*, early lost, except as suffix.	3. c. *śny*.
f. *śy*.	f. *śt* surviving as 3. c.	

From these are derived the suffixes, which are shortened forms attached to nouns to express the possessor, and to verbs to express the subject. In the latter case the verb was probably in the participle, so that *śḏmii-śn*, “they hear,” is literally “hearing are they.” The singular suffixes are: (1) c. *-i*; (2) m. *-k*, f. *-ṯ*; (3) m. *-f*, f. *-ś*;—the dual and plural have no special forms.

Another series of absolute pronouns is: (2) m. *ṯwt*, *ṯw*; f. *ṯmt*, *ṯm*; (3) m. *śwt*, *św*; f. *śtt*, *śt*. Of these *ṯwt*, *ṯmt*, &c., are emphatic forms.

Many of the above absolute pronouns were almost obsolete even in the Old Kingdom. In ordinary texts some survive, especially as objects of verbs, namely, *wi*, *tw*, *tn*, *sw*, *st*. The suffixes of all numbers and persons except the dual were in full use throughout, to Coptic; *sn*, however, giving way to a new suffix, *-w*, which developed first in the New Kingdom.

Another absolute pronoun of the first person is *ink*, ⲁⲛⲟⲕ like Heb. יכנא. It is associated with a series for the second and third persons: *nt-k*, *nt-ṯ*, *nt-f*, *nt-śn*, &c.; but from their history, use and form, it seems probable that the last are of later formation, and are not to be connected with the Semitic pronouns (chiefly of the 2nd person) resembling them.

DEMONSTRATIVE PRONOUNS

There are several series based on m. *p*; f. *t*; pl. *n*; but *n* as a plural seems later than the other two. From them are developed a weak demonstrative to which possessive suffixes can be attached, producing the definite and possessive articles (*p’*, *t’*, *n’*, “the,” *p’y-f*, “his,” *p’y-s* “her,” &c.) of Middle Egyptian and the later language.

NOUNS

Two genders, m. (ending *w*, or nothing), f. (ending *t*). Three numbers: singular, dual (m. *wi*, f. *ti*, gradually became obsolete), plural (m. *w*; f. *wt*). No case-endings are recognizable, but construct forms—to judge by Coptic—were in use. Masculine and feminine nouns of instrument or material are formed from verbal roots by prefixing *m*; *e.g. m·sdm·t*, “stibium,” from *sdm*, “paint the eye.” Substantives and adjectives are formed from substantives and prepositions by the addition of *y* in the masculine; *e.g. n·t*, “city,” *nt·y*, “belonging to a city,” “citizen”; *ḥr*, “upon,” *ḥr·y* (f. *ḥr·t*; pl. *ḥr·w)*, “upper.” This is not unlike the Semitic *nisbe* ending *iy*, *ay* (*e.g.* Ar. *beled*, “city,” *beledi*, “belonging to a city”). Adjectives follow the nouns they qualify.

NUMERALS

1, *w’*; 2, *śn*; 3, *ḫmt*; 4, *fdw*; 5, *dw’*; 6, *sis* (or *sw’* ?); 7, *sfḫ*; 8, *ḫmn*; 9, *psḏ*; 10, *mt*. 2, 6, 7, 8 and 9 (?) resemble Semitic numerals. 20 and 30 (*m’b*) had special names; 40-90 were named as if plurals of the units 4-9, as in Semitic. 100, *šnt*; 1000, *ḫ’*; 10,000, *zb’*; 100,000, *ḥfnw*.

VERBS

The forms observable in hieroglyphic writing lead to the following classification:—

Strong Verbs.	Biliteral	Often showing traces of an original III. inf.; in early times very rare.
	Triliteral	Very numerous.
	Quadriliteral Quinqueliteral	Generally formed by reduplication. In Late Egyptian they were no longer inflected, and were conjugated with the help of *iry*, “do.”
Weak Verbs.	II. geminatae	Properly triliterals, but, with the 2nd or 3rd radical alike, these coalesced in many forms where no vowel intervened, and gave the word the appearance of a biliteral.
	III. gem.	Rare.
	III. inf.	Numerous. III. *w* and III. *i* were unified early. Some very common verbs, “do,” “give,” “come,” “bring” are irregular.
	IV. inf.	Partly derived from adjectival formations in *y*, from nouns and infinitives:—*e.g. ś·ip*, inf. *śipt*; adj. *śipty*; verb (4 lit.), *śipty*.

Many verbs with weak consonants—I*y*, I*w*, II. inf. (*m[w]t*), and those with א—are particularly difficult to trace accurately, owing to defective writing.

It seems that all the above classes may be divided into two main groups, according to the form of the infinitive:—with masculine infinitive the strong triliteral type, and with feminine infinitive the type of the III. inf. The former group includes all except III. inf., IV. inf., and the causative of the biliterals, which belong to the second group.

It is probable that the verb had a special form denoting condition, as in Arabic. There was a causative form prefixing *ś*, and traces of forms resembling *Pi'el* and *Niphal* are observed. Some roots are reduplicated wholly or in part with a frequentative meaning, and there are traces of gemination of radicals.

Pseudo-Participle.—In very early texts this is the past indicative, but more commonly it is used in sentences such as, *gm-n-f wi ḥ'·kwi*, "he found me I stood," *i.e.* "he found me standing." The indicative use was soon given up and the pseudo-participle was employed only as predicate, especially indicating a state; *e.g. ntr·t šm·ti*, "the goddess goes"; *iw-k wḏ'·ti*, "thou art prosperous." The endings were almost entirely lost in New Egyptian. For early times they stand thus:—

	3. masc.	*i*, late *w*		*w*
	fem	*ti*		*ti*
			Dual *wii*	
Sing.	2. masc.	ti		Pl. *tiwny*
			tiiw	
	fem.	ti		
	1. c.	*kwi*		*wyn*

The pseudo-participle seems, by its inflexion, to have been the perfect of the original Semitic conjugation. The simplest form being that of the 3rd person, it is best arranged like the corresponding tense in Semitic grammars, beginning with that person. There is no trace of the Semitic imperfect in Egyptian. The ordinary conjugation is formed quite differently. The verbal stem is here followed by the subject-suffix or substantive—*śḏm-f*, "he hears"; *śḏmw śtn*, "the king hears." It is varied by the addition of particles, &c., *n*, *in*, *ḫr*, *tw*, thus:—

śḏm-f, "he hears"; *śḏm-w-f*, "he is heard" (*pl. śḏm-ii-śn*, "they are heard"); *śḏm-tw-f*, "he is heard"; *śḏm-n-f*, "he heard"; *śḏm-n-tw-f*, "he was heard"; also, *śḏm-in-f*, *śḏm-ḫr-f*, *śḏm-k'-f*. Each form has special uses, generally difficult to define, *śdm-f* seems rather to be imperfect, *śḏm-n-f* perfect, and generally to express the past. Later, *śḏm-f* is ordinarily expressed by periphrases; but by the loss of *n*, *śḏm-n-f* became itself *sdm-f*, which is the ordinary past in demotic. Coptic preserves *śḏm-f* forms of many verbs in its causative (*e.g.* ⲧⲁⲛϩⲟϥ "cause him to live," from Egyptian *di·t·nḫ-f*), and, in its periphrastic conjugation, the same forms of *wn*, "be," and *iry*, "do." With *śḏm-f* (*śeḏmo-f*) was a more emphatic form (*eśḏomef*), at any rate in the weak verbs.

The above, with the relative forms mentioned below, are supposed by Erman to be derived from the participle, which is placed first for emphasis: thus, *śḏm·w śtn*, "hearing is the king"; *śḏm-f*, for *śḏm-fy*, "hearing he is." This Egyptian paraphrase of Semitic is just like the Irish paraphrase of English, "It is hearing he is."

The *imperative* shows no ending in the singular; in the plural it has *y*, and later *w*; cf. Semitic imperative.

The *infinitive* is of special importance on account of its being preserved very fully in Coptic. It is generally of masculine form, but feminine in iii. inf. (as in Semitic), and in causatives of biliterals.

There are relative forms of *śḏm-f* and *śḏm-n-f*, respectively *śḏm·w-f* (masc.), *śḏm·t-n-f* (fem.), &c. They are used when the relative is the object of the relative sentence, or has any other position than the subject. Thus *śḏm·t-f* may mean "she whom he hears," "she who[se praises] he hears," "she [to] whom he hears [someone speaking]," &c. There are close analogies between the function of the relative particles in Egyptian and Semitic; and the Berber languages possess a relative form of the verb.

Participles.—These are active and passive, perfect and imperfect, in the old language, but all are replaced by periphrases in Coptic.

Verbal Adjectives.—There is a peculiar formation, *śḏm·ty-fy*, "he who shall hear," probably meaning originally "he is a hearer," *śḏm·ty* being an adjective in *y* formed from a feminine (*t*) form of the infinitive, which is occasionally found even in triliteral verbs; the endings are: sing., masc. *ty-fy*, fem. *ty-śy*; pl., masc. *ty-śn*, fem. *ty-śt*. It is found only in Old Egyptian.

Particles.—There seems to be no special formation for adverbs, and little use is made of adverbial expressions. Prepositions, simple and compound, are numerous. Some of the commonest simple prepositions are *n* "for," *r* "to," *m* "in, from," *ḫr* "upon." A few enclitic conjunctions exist, but they are indefinite in meaning—*śwt* a vague "but," *grt* a vague

"moreover," &c.

Coptic presents a remarkable contrast to Egyptian in the precision of its periphrastic conjugation. There are two present tenses, an imperfect, two perfects, a pluperfect, a present and a past frequentative, and three futures besides future perfect; there are also conjunctive and optative forms. The negatives of some of these are expressed by special prefixes. The gradual growth of these new forms can be traced through all the stages of Egyptian. Throughout the history of the language we note an increasing tendency to periphrasis; but there was no great advance towards *precision* before demotic. In demotic there are distinguishable a present tense, imperfect, perfect, frequentative, future, future perfect, conjunctive and optative; also present, past and future negatives, &c. The passive was extinct before demotic; demotic and Coptic express it, clumsily it must be confessed, by an impersonal "they," *e.g.* "they bore him" stands for "he was born."

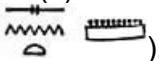
It is worth noting how, in other departments besides the verb, the Egyptian language was far better adapted to practical ends during and after the period of the Deltaic dynasties (XXII.-XXX.) than ever it was before. It was both simplified and enriched. The inflexions rapidly disappeared and little was left of the distinctions between masculine and feminine, singular, dual and plural—except in the pronouns. The dual number had been given up entirely at an earlier date. The pronouns, both personal and demonstrative, retained their forms very fully. As prefixes, suffixes and articles, they, together with some auxiliary verbs, provided the principal mechanism of the renovated language. An abundant supply of useful adverbs was gradually accumulated, as well as conjunctions, so far as the functions of the latter were not already performed by the verbal prefixes. These great improvements in the language correspond to great changes in the economic condition of the country; they were the result of active trade and constant intercourse of all classes of Egyptians with foreigners from Europe and Asia. Probably the best stage of Egyptian speech was that which immediately preceded Coptic. Though Coptic is here and there more exactly expressive than the best demotic, it was spoilt by too much Greek, duplicating and too often expelling native expressions that were already adequate for its very simple requirements. Above all, it is clumsily pleonastic.

The Writing

The ancient Egyptian system of writing, so far as we know, originated, developed and finally expired strictly within the limits of the Nile Valley. The germ of its existence may have come from without, but, as we know it, it is essentially Egyptian and intended for the expression of the Egyptian language. About the 1st century b.c., however, the semi-barbarous rulers of the Ethiopian kingdoms of Meroe and Napata contrived the "Meroitic" alphabet, founded on Egyptian writing, and comprising both a hieroglyphic and a cursive form (see Ethiopia). As yet both of these kinds of Nubian writing are undeciphered. Egyptian hieroglyphic was carried by conquest into Syria, certainly under the XVIIIth Dynasty, and again under the XXVIth for the engraving of Egyptian inscriptions; but in the earlier period the cuneiform syllabary, and in the later the "Phoenician" alphabet, had obtained a firm hold there, and we may be sure that no attempt was made to substitute the Egyptian system for the latter. Cuneiform tablets in Syria, however, seem almost confined to the period of the XVIIIth Dynasty. Although it cannot be proved it seems quite possible that the traders of Phoenicia and the Aegean adopted the papyrus and Egyptian hieratic writing together, before the end of the New Kingdom, and developed their "Phoenician" alphabet from the latter about 1000 b.c. In very early times a number of systems of writing already reigned in different countries forming a compact and not very large area—perhaps from South Arabia to Asia Minor, and from Persia to Crete and Egypt. Whether they all sprang from one common stock of picture-writing we shall perhaps never know, nor can we as yet trace the influence which one great system may have had on another, owing to the poverty of documents from most of the countries concerned.

It is certain that in Egypt from the IVth Dynasty onwards the mode of writing was essentially the same as that which was extinguished by the fall of paganism in the 4th century a.d. Its elements in the hieroglyphic form are pictorial, but each hieroglyph had one or more well-defined functions, fixed by convention in such a manner that the Egyptian language was expressed in writing word by word. Although a picture sign may at times have embarrassed the skilled native reader by offering a choice of fixed values or functions, it was never intended to convey merely an idea, so as to leave to him the task of putting the idea into his own words. How far this holds good for the period before the IVth Dynasty it is difficult to say. The known inscriptions of the earlier times are so brief and so limited in range that the system on which they were written cannot yet be fully investigated. As far back as the Ist Dynasty, phonograms (see below) were in full use. But the spelling then was very concise: it is possible that some of the slighter words, such as prepositions, were omitted in the writing, and were intended to be supplied from the context. As a whole, we gain the impression that a really distinct and more primitive stage of hieroglyphic writing by a substantially vaguer notation of words lay not far behind the time of the Ist Dynasty.

The employment of the signs are of three kinds: any given sign represents either (1) a whole word or root; or (2) a sound as part of a word; or (3) pictorially defines the meaning of a word the sound of which has already been given by a sign or group of signs preceding. The number of phonograms is very restricted, but some signs have all these powers. For instance,  is the conventional picture of a draughtboard (shown in plan) with the draughtsmen (shown in elevation)

on its edge:—this sign (1) signifies the root *mn*, "set," "firm"; or (2) in the group  , represents the same sound as part of the root *mnḫ*, "good"; or (3) added to the group *snt* (thus: ), shows that the meaning intended is "draughtboard," or "draughts," and not any of the other meanings of *snt*. Thus signs, according to their employment, are said to be (1) "word-signs," (2) "phonograms," or (3) "determinatives."

Word-signs.—The word-sign value of a sign is, in the first place, the name of the object it represents, or of some material, or quality, or action, or idea suggested by it. Thus  is *ḥr*, "face";  , a vase of ointment, is *mrḥ.t*, "ointment";  is *wdb*, "turn." Much investigation is still required to establish the origins of the values of the signs; in some cases the connexion between the pictures and the *primary* values seems to be curiously remote. Probably all the signs in the hieroglyphic signary can be employed in their primary sense. The *secondary* value expresses the consonantal root of the name or other primary value, and any, or almost any, derivative from that root: as when  , a mat with a cake upon it, is not only *ḥtp*, an "offering-mat," but also *ḥtp* in the sense of "conciliation," "peace," "rest," "setting" (of the sun), with many derivatives. In the third place, some signs may be *transferred* to express another root having the same consonants as the first: thus  , the ear, by a play upon words can express not only *śḏm*, "hear," but also *śdm*, "paint the eyes."

Phonograms.—Only a limited number of signs are found with this use, but they are of the greatest importance. By searching throughout the whole mass of normal inscriptions, earlier than the periods of Greek and Roman rule when great liberties were taken with the writing, probably no more than one hundred different phonograms can be found. The number of those commonly employed in good writing is between seventy and eighty. The most important phonograms are the *uniliteral* or *alphabetic* signs, twenty-four in number in the Old Kingdom and without any homophones: later these were increased by homophones to thirty. Of *biliteral* phonograms—each expressing a combination of two consonants—there were about fifty commonly used: some fifteen or twenty were rarely used. As Egyptian roots seldom exceeded three letters, there was no need for *triliteral* phonograms to spell them. There is, however, one triliteral phonogram, the eagle,  , *tyw*, or *tiu* (?), used for the plural ending of adjectives in *y* formed from words ending in *t* (whether radical or the feminine ending).

The phonetic values of the signs are derived from their word-sign values and consist usually of the bare root, though there are rare examples of the retention of a flexional ending; they often ignore also the weaker consonants of the root, and on the same principle reduce a repeated consonant to a single one, as when the hoe  , *ḥnn*, has the phonetic value *ḥn*. The history of some of the alphabetic signs is still very obscure, but a sufficient number of them have been explained to make it nearly certain that the values of all were obtained on the same principles.15 Some of the ancient words from which the phonetic values were derived probably fell very early into disuse, and may never be discoverable in the texts that have come down to us. The following are among those most easily explained:—

 , reed flower, value *y* and ʾ; from  , *y*', "reed."

(It seems as if the two values *y* and ʾ were obtained by choosing first one and then the other of the two semi-consonants composing the name. They are much confused, and a conventional symbol *I* has to be adopted for rendering  .)

 , forearm, value ʾ(ꜣ); from  , ʾ(ꜣ), "hand."

 , mouth, value *r*; from  , *r*, "mouth."

 , belly and teats, value *ḫ*; from  , *ḫ.t*, "belly."

(The feminine ending is here, as usual, neglected.)

 , tank, value *š*; from  , *š*, "tank."

, slope of earth or brickwork, value *q*; from  , *q*'', "slope," "height."

(The doubled weak consonant is here neglected.)

 , hand, value *d*; from  , *d.t*, "hand."

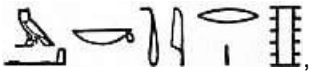
 , cobra, value *z*; from  , *z.t*, "cobra."

For some alphabetic signs more than one likely origin might be found, while for others, again, no clear evidence of origin

is yet forthcoming.

It has already been explained that the writing expresses only consonants. In the Graeco-Roman period various imperfect attempts were made to render the vowels in foreign names and words by the semi-vowels as also by , the consonant ע which originally represented having been reduced in speech by that time to the power of א, only. Thus, Πτολεμαιος is spelt *Ptwrmys*, Antoninus, *'Nt'nynws* or *Intnyns*, &c. &c. Much earlier, throughout the New Kingdom, a special "syllabic" orthography, in which the alphabetic signs for the consonants are generally replaced by groups or single signs having the value of a consonant followed by a semi-vowel, was used for foreign names and words, *e.g.*

תבכרמ, "chariot," was written  , in Coptic .

לדגמ, "tower," was written  ,  .

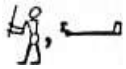
רונכ, "harp," was written  .

תמח, "Hamath," was written  .

According to W. Max Müller (*Asien und Europa*, 1893, chap, v.), this represents an endeavour to express the vocalization; but, if so, it was carried out with very little system. In practice, the semi-vowels are generally negligible. This method of writing can be traced back into the Middle Kingdom, if not beyond, and it greatly affected the spelling of native words in New Egyptian and demotic.

Determinatives.—Most signs can on occasion be used as determinatives, but those that are very commonly employed as phonograms or as secondary word-signs are seldom employed as determinatives; and when they are so used they are often somewhat differentiated. Certain generic determinatives are very common, *e.g.*:—

 ; of motion.

 ; of acts involving force.

 ; of divinity.

 ; of a person or a man's name.

 ; of buildings.

 ; of inhabited places.

 ; of foreign countries.

 ; club; of foreigners.

 ; of all actions of the mouth—eating and speaking, likewise silence and hunger.

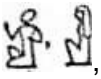
 ; ripple-lines; of liquid.

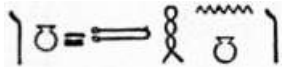
 ; hide; of animals, also leather, &c.

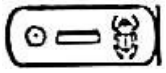
 ; of plants and fibres.

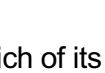
 ; of flesh.

 ; a sealed papyrus-roll; of books, teaching, law, and of abstract ideas generally.

In the earliest inscriptions the use of determinatives is restricted to the  , &c., after proper names, but it developed immensely later, so that few words beyond the particles were written without them in the normal style after the Old Kingdom.

Some few signs ideographic of a group of ideas are made to express particular words belonging to that group by the aid of phonograms which point out the special meaning. In such cases the ideogram is not merely a determinative nor yet quite a word-sign. Thus  "Semite,"  "Libyan," &c., but  cannot stand by itself for the name of any particular foreign people. So also in monogram is *šm* "go,"  is "conduct."

Orthography.—The most primitive form of spelling in the hieroglyphic system would be by one sign for each word, and the monuments of the Ist Dynasty show a decided tendency to this mode. Examples of it in later times are preserved in the royal cartouches, for here the monumental style demanded special consciseness. Thus, for instance, the name of Tethmosis III.—MN-ḤPR-R'—is spelled  (as R' is the name of the sun-god, with customary deference to the deity it is written first though pronounced last). A number of common words—prepositions, &c.—with only one consonant are spelled by single alphabetic signs in ordinary writing. Word-signs used singly for the names of objects are generally marked with | in classical writing, as  , *ib*, "heart,"  , *ḥr*, "face," &c.

But the use of bare word-signs is not common. Flexional consonants are almost always marked by phonograms, except in very early times; as when the feminine word  = *z.t*, "cobra," is spelled  . Also, if a sign had more than one value, a phonogram would be added to indicate which of its values was intended: thus in  is *św*, "he," but in  it is *śtn*, "king." Further, owing to the vast number of signs employed, to prevent confusion of one with another in rapid writing they were generally provided with "phonetic complements," a group being less easily misread than a single letter. *E.g.*  , *wz*, "command," is regularly written  , *wz* (*w*); but , *ḥz*, "white," is written  , *ḥz*(*z*). This practice had the advantage also of distinguishing determinatives from phonograms. Thus the root or syllable *ḥn* is regularly written  to avoid confusion with the determinative  . Redundance in writing is the rule; for instance, *b* is often spelled  (*b*)*b*'(') . Biliteral phonograms are very rare as phonetic complements, nor are two biliteral phonograms employed together in writing the radicals of a word.

Spelling of words purely in phonetic or even alphabetic characters is not uncommon, the determinative being generally added. Thus in the pyramidal texts we find *ḫpr*, "become," written  in one copy of a text, in another  . Such variant spellings are very important for fixing the readings of word-signs. It is noteworthy that though words were so freely spelled in alphabetic characters, especially in the time of the Old Kingdom, no advance was ever made towards excluding the cumbersome word-signs and biliteral phonograms, which, by a judicious use of determinatives, might well have been rendered quite superfluous.

Abbreviations.—We find  , strictly *'nḫ z' ś* standing for the ceremonial *viva! 'nḫ wz, śnb*. "Life, Prosperity and Health," and in course of time  was used in accounts instead of *dmz*, "total."

Monograms are frequent and are found from the earliest times. Thus  , mentioned above are monograms, the association of  and having no pictorial meaning. Another common monogram is  , *i.e.*  and  for *Ḥ·t-Ḥrw* "Hathor." A word-sign may be compounded with its phonetic complement, as  *ḥz* "white," or with its determinative, as  *ḥz* "silver."

The table on the opposite page shows the uses of a few of the commoner signs.

The decorative value of hieroglyphic was fully appreciated in Egypt. The aim of the artist-scribe was to arrange his variously shaped characters into square groups, and this could be done in great measure by taking advantage of the different ways in which many words could be spelt. Thus *ḫs* could be written  , *ḫsy* , *ḫs-f* , *ḫs-n-f* . But some words in the classical writing were intractable from this point of view. It is obvious that the alphabetic signs played a very important part in the formation of the groups, and many words could only be written in alphabetic signs. A great advance was therefore made when several homophones were introduced into the alphabet in the Middle and New Kingdoms, partly as the result of the wearing away of old phonetic distinctions, giving the choice between  and and and , and , and . In later times the number of homophones in use increased greatly throughout the different classes, the tendency being much helped by the habit of fanciful writing; but few of these homophones found their way into the cursive script. Occasionally a scribe of the old times indulged his

fancy in “sportive” or “mysterious” writing, either inventing new signs or employing old ones in unusual meanings. Short sportive inscriptions are found in tombs of the XIIth Dynasty; some groups are so written cursively in early medical papyri, and certain religious inscriptions in the royal tombs of the XIXth and XXth Dynasties are in secret writing. Fanciful writing abounds on the temples of the Ptolemaic and Roman periods.

Palaeography

HRGic.—The main division is into monumental or epigraphic hieroglyphs and written hieroglyphs. The former may be rendered by the sculptor or the painter in stone, on wood, &c., with great delicacy of detail, or may be simply sunk or painted in outline. When finely rendered they are of great value to the student investigating the origins of their values. No other system of writing bears upon its face so clearly the history of its development as the Egyptian; yet even in this a vast amount of work is still required to detect and disentangle the details. Monumental hieroglyphic did not cease till the 3rd century a.d. (Temple of Esna). The written hieroglyphs, formed by the scribe with the reed pen on papyrus, leather, wooden tablets, &c., have their outlines more or less abbreviated, producing eventually the cursive scripts hieratic and demotic. The written hieroglyphs were employed at all periods, especially for religious texts.

Hieratic.—A kind of cursive hieroglyphic or hieratic writing is found even in the Ist Dynasty. In the Middle Kingdom it is well characterized, and in its most cursive form seems hardly to retain any definable trace of the original hieroglyphic pictures. The style varies much at different periods.

Sign.	Description.	Name.	Word-sign Value.	Phonetic Value.	Determinative Value.
	child	hrd (khrod)			youth
	face	ḥr (ḥor)	ḥr	[ḫr]	
	eye	ir.t (yori.t)	ir	ir	see, &c.
	mouth	r (ro)	r	r	
	forearm	’ (’ei)	’	’	[action of hand or arm]
	arm with stick	nḫt “be strong”	nḫt		violent action
	man with stick	nḫt “be strong”	nḫt		violent action
	lungs and windpipe	sm;	sm;		
	heart	ib			heart
	heart and windpipe	?	nfr		
	sparrow	?	šr		evil, worthlessness, smallness
	widgeon	s;.t	s;	s;	
	bolti-fish	in.t	in	in	
	tusk	(1) ibḥ “tooth” (2) ḥw “taste”	bḥ ḥw	bḥ	bite, &c.
	cut branch	ḫt	ḫt	[ḫt]	wood, tree
	threshing-floor	sp.t	sp		
	sun	(1) r’ “sun” (2) hrw “day”			(1) sun (2) division of time
	chamber, house	pr	pr		
	flat land	t’	t’	t’	boundless horizon, eternity
	libation vase	ḥs.t	ḥs	ḥs	
	cord on stick	wz	wz	wz	
	basket	nb.t	nb		
	looped basket	?	k	k	
	sickle	?	m’	m’	
	composite hoe	[mr?]	mr	mr	tillage
	fire-drill	z’.t(?)	z’	z’	

	attendant's equipment	šmś "follow"	šmś	
	knife	dś	dś	cut, prick, cutting instrument

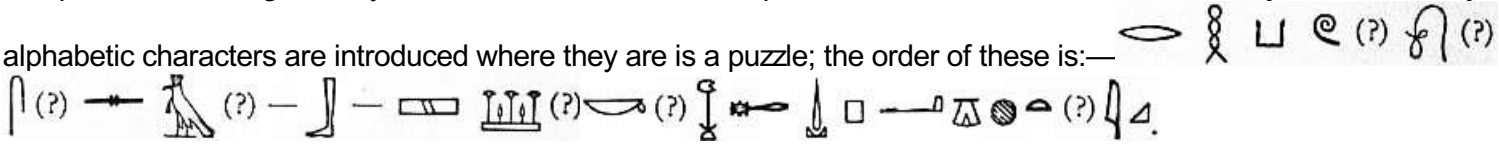
Demotic.—Widely varying degrees of cursiveness are at all periods observable in hieratic; but, about the XXVIth Dynasty, which inaugurated a great commercial era, there was something like a definite parting between the uncial hieratic and the most cursive form afterwards known as demotic. The employment of hieratic was thenceforth almost confined to the copying of religious and other traditional texts on papyrus, while demotic was used not only for all business but also for writing literary and even religious texts in the popular language. By the time of the XXVth Dynasty the cursive of the conservative Thebais had become very obscure. A better form from Lower Egypt drove this out completely in the time of Amasis II. and is the true demotic. Before the Macedonian conquest the cursive ligatures of the old demotic gave birth to new symbols which were carefully and distinctly formed, and a little later an epigraphic variety was engraved on stone, as in the case of the Rosetta stone itself. One of the most characteristic distinctions of later demotic is the minuteness of the writing.

HRGic is normally written from right to left, the signs facing to the commencement of the line; hieratic and demotic follow the same direction. But monumental hieroglyphic may also be written from left to right, and is constantly so arranged for purposes of symmetry, *e.g.* the inscriptions on the two jambs of a door are frequently turned in opposite directions; the same is frequently done with the short inscriptions scattered over a scene amongst the figures, in order to distinguish one label from another.

In modern founts of type, the hieroglyphic signs are made to run from left to right, in order to facilitate the setting where European text is mixed with the Egyptian. The table on next page shows them in their more correct position, in order to display more clearly their relation to the hieratic and demotic equivalents.

Clement of Alexandria states that in the Egyptian schools the pupils were first taught the "epistolographic" style of writing (*i.e.* demotic), secondly the "hieratic" employed by the sacred scribes, and finally the "hieroglyphic" (*Strom.* v. 657). It is doubtful whether they classified the signs of the huge hieroglyphic syllabary with any strictness. The only native work on the writing that has come to light as yet is a fragmentary papyrus of Roman date which has a table in parallel columns of hieroglyphic signs, with their hieratic equivalents and words written in hieratic describing them or giving their values or meanings. The list appears to have comprised about 460 signs, including most of those that occur commonly in hieratic.

They are to some extent classified. The bee  heads the list as a royal sign, and is followed by figures of nobles and other human figures in various attitudes, more or less grouped among themselves, animals, reptiles and fishes, scorpion, animals again, twenty-four alphabetic characters, parts of the human body carefully arranged from  to  , thirty-two in number, parts of animals, celestial signs, terrestrial signs, vases. The arrangement down to this point is far from strict, and beyond it is almost impossible to describe concisely, though there is still a rough grouping of characters according to resemblance of form, nature or meaning. It is a curious fact that not a single bird is visible on the fragments, and the trees and plants, which might easily have been collected in a compact and well-defined section, are widely scattered. Why the alphabetic characters are introduced where they are is a puzzle; the order of these is:—



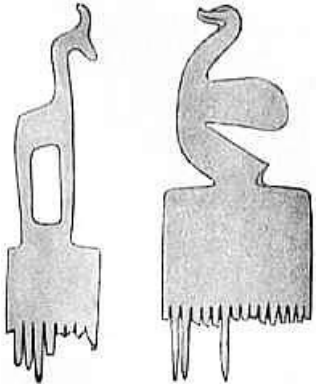
Three others,  and , had already occurred amongst the fish and reptiles. There seems to be no logical aim in this arrangement of the alphabetic characters and the series is incomplete. Very probably the Egyptians never constructed a really systematic list of hieroglyphs. In modern lists the signs are classified according to the nature of the objects they depict, as human figures, plants, vessels, instruments, &c. Horapollon's *Hieroglyphica* may be cited as a native work, but its author, if really an Egyptian, had no knowledge of good writing. His production consists of two elaborate complementary lists: the one describing sign-pictures and giving their meanings, the other cataloguing ideas in order to show how they could be expressed in hieroglyphic. Each seems to us to be made up of curious but perverted reminiscences eked out by invention; but they might some day prove to represent more truly the usages of mystics and magicians in designing amulets, &c., at a time approaching the middle ages.

Plate I.

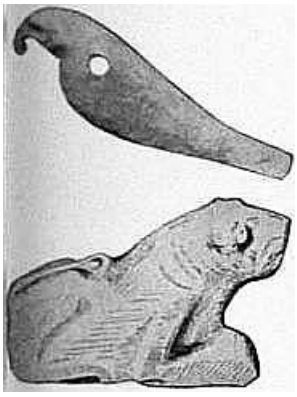
EARLIEST EGYPTIAN ART

1. TATOOED FEMALE, LIMESTONE SLAG.

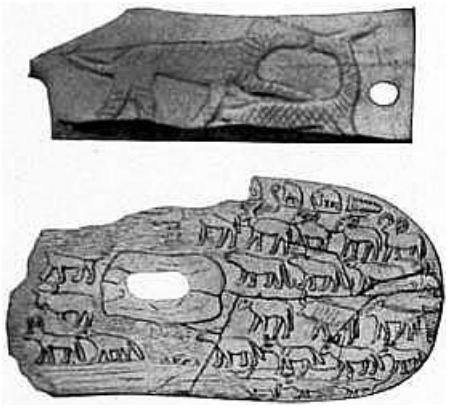
2. HEADS ON IVORY TUSKS. 3.



4. ANIMALS ON BONE COMBS. 5.



6. IVORY HAWK.
LIMESTONE LION.



8. IVORY DOG AND GAZELLE.
9. IVORY HANDLE OF KNIFE.

10. 11. WHITE ON RED VASES; MEN AND ANIMALS.

12. SHIP ON A VASE.

13. SHIP ON A WALL PAINTING.

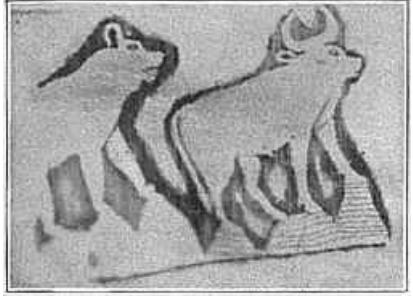
14. IVORY KING.

15. ARCHAIC KING'S HEAD, STUDY IN LIMESTONE. 16.

17. HEAD OF KHASEKHEM.

Plate II.

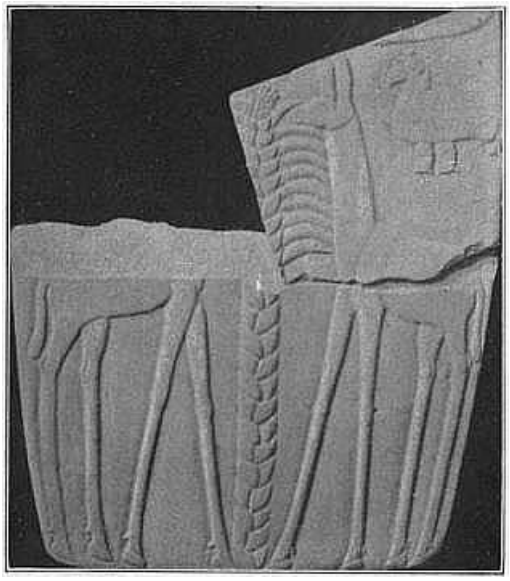
EARLY EGYPTIAN ART.



18. LIMESTONE RELIEF.

Photo, Mansell.
19. ANIMALS ON SLATE PALETTE.

20. CONQUEROR AS A BULL.

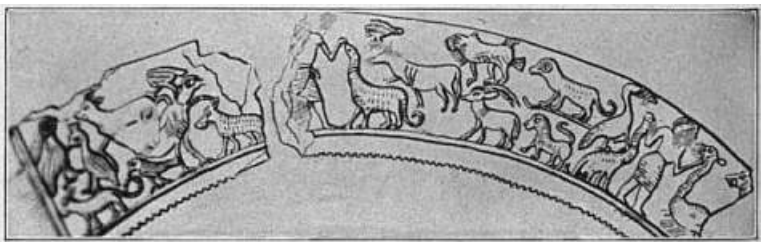


21. GAZELLES AND PALM, SLATE.

22. ANIMALS, SLATE.

23. KING NARMER, SLATE PALETTE.

24. IVORY TUSK, WITH ANIMALS.



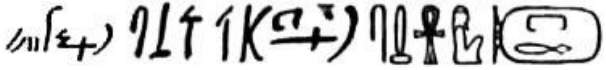
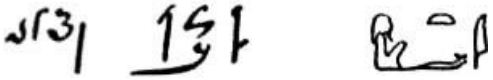
25. IVORY WAND, WITH ANIMALS.

26. WOODEN PANELS OF HESI.

27. RAHOTP AND NEFERT.

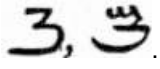
28. WOODEN FIGURE.

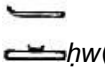
	Demotic.	Hieratic.	Hieroglyphic.	
ent, "who"				nty

Perso (“Pharaoh”)		Per‘o ‘nḫ wz, śnb
yôt, “father”		’itf
‘ônkh, “live”		‘nḫ
ekh, “know”		rḫ
ahe, “stand”		‘ḫ‘
eine, “carry”		’in
ms (phon.)		ms
s (alph.)		s
s (alph.)		ś
m (alph.)		m
n (alph.)		n

The early scribe's outfit, often carried slung over his shoulder, is seen in the hieroglyph  . It consisted of frayed reed pens or brushes, a small pot of water, and a palette with two circular cavities in which black and red ink were placed, made of finely powdered colour solidified with gum. In business and literary documents red ink was used for contrast, especially in headings; in demotic, however, it is very rarely seen. The pen became finer in course of time, enabling the scribe to write very small. The split reed of the Greek penman was occasionally adopted by the late demotic scribes.

Egypt had long been bilingual when, in papyri of the 2nd century a.d., we begin to find transcripts of the Egyptian language into Greek letters, the latter reinforced by a few signs borrowed from the demotic alphabet: so written we have a magical text and a horoscope, probably made by foreigners or for their use. The infinite superiority of the Greek alphabet with its full notation of vowels was readily seen, but piety and custom as yet barred the way to its full adoption. The triumph of Christianity banished the old system once and for all; even at the beginning of the 4th century the native Egyptian script scarcely survived north of the Nubian frontier at Philae; a little later it finally expired. The following eight signs, however, had been taken over from demotic by the Copts:

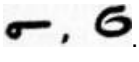
ⲱ = *š*, from  *ši*, dem.  .

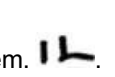
ϩ = *h*, probably from  *ḥw* (or  *ḥi*), dem.  .

ϸ (Boh.) = *ḫ*, from  *ḫi*, dem.  .

ⲍ (Akhm.) = *ḫ*, from  *ḫy*, *ḫt*, dem.  .

ⲫ = *f*, from  *f*, dem.  .

ϭ = *č* from  *k* (or  *ḫ*), dem.  .

ϫ = *ǧ*, from  *di* (or  *ti*), dem.  .

ϯ = *ti*, from  *dy·t*, dem.  .

For origins of hieroglyphs, see Petrie's *Medum* (1892); F. Ll. Griffith, *A Collection of HRGs* (1898); N. de G. Davies, *The Mastaba of Ptahhetep and Akhethetep*, pt. i. (1900); M. A. Murray, *Saqqara Mastabas* (London, 1905); also Petrie and Griffith, *Two HRGic Papyri from Tanis* (London, 1889) (native sign-list); G. Möller, *Hieratische Paläographie* (Leipzig, 1909); Griffith, *Catalogue of Demotic Papyri in the J. Rylands Collection* (Manchester, 1909).

(F. Ll. G.)

E. *Art and Archaeology.*—In the following sections a general history of the characteristics of Ancient Egyptian art is first given, showing the variation of periods and essentials of style; and this is followed by an account of the use made of material products, of the tools and instruments employed, and of the monuments. For further details see also the separate topographical headings (for excavations, &c.), and the general articles on the various arts and art-materials (for references to Egypt); also Pyramids; Mummy, &c.

General Characteristics.

The wide and complex subject of Egyptian art will be treated here in six periods: Prehistoric, Early Kings, Pyramid Kings, XIIth Dynasty, XVIIIth-XXth Dynasties, XXVIth Dynasty and later. In each age will be considered the (A) statuary, (B) reliefs, (C) painting.

Prehistoric.—The earliest civilized population of Egypt was highly skilled in mechanical accuracy and regularity, but had little sense of organic forms. They kept the unfinished treatment of the limbs and extremities which is so characteristic of most barbaric art; and the action was more considered than the form.

(A) In the round there are in the earlier graves female figures of two races, the Bushman type and European, both

probably representing servants or slaves. These have the legs always united, sloping to a point without feet (Plate I. fig. 1); the arms are only stumps. The face has a beaky nose and some indication of eyes. Upon the surface is colouring; red for the Bushman, with black whisker though female; white for the European type, with black tattoo patterns. Other female figures are modelled in a paste, upon a stick, and the black hair is sometimes made separately to fit on as a wig over the red head, showing that wigs were then used. Male figures are generally only heads in the earlier times. Tusks with carved heads (Plate I. figs. 2, 3) are the earliest, beginning at S.D. (sequence date) 33;16 heads on the top of combs are found, from S.D. 42 to the close of such combs in the fifties. All of these heads show a high forehead and a pointed beard; and such expression as may be discovered is grave but not savage. In later times whole figures of ivory, stone and clay are found, with the legs united, and the arms usually joined to the body. A favourite way of indicating the eyes was by drilling two holes and inserting a white shell bead in each. The figures of animals (Plate I. figs. 4, 5) are quite as rude as the human figures: they only summarily indicate the mature, and often hardly express the genus. They are most usual on combs and pins; but sacred animals are also found. The lion is the most usual (Plate I. fig. 7), but the legs are roughly marked, if at all: the leonine air is given, but the attitude is more distinct than the form. The hawk (Plate I. fig. 6) is modelled in block without any legs. The slate palettes in the form of animals are even more summary, and continually degraded until they lost all trace of their origin. There are also curious figures of animals chipped in flint, which show some character, but no detail.

(B) Reliefs with animal figures belong to the later part of the prehistoric age. The relief is low, and the form hatched across with lines (Plate I. fig. 8), a style copied from drawing. There is more animation than in the round figures. At the close of this age the fashion of long processions of animals appears (Plate I. fig. 9); some character is shown in these, but no sense of action.

(C) Drawing is found from the earliest civilization, done in white slip on red vases. Figures of men are very rare (Plate I. fig. 10); they have the body triangular, the waist being very narrow; the legs are two lines linked by a zigzag, as if to express that they move to and fro. The usual figures are goats and hippopotami; always having the body covered with cross lines to express the connexion of the outlines (Plate I. fig. 11). This technique is in every way closely akin to that of the modern Kabyle. An entirely different mode is common at a later time when designs were painted in thin red colour on a light brown ware. The subjects of the earlier of these examples are imitations of cordage, of marbling, and of basket-work; later there are rows of men and animals, and ships (Plate I. figs. 12, 13), with various minor signs. The figures are never cross-hatched as in earlier drawing, but always filled in altogether. The fact that the ships have oars and not sails makes it probable that they were rather for the sea than for Nile traffic, and a starfish among the motives on such pottery also points to the sea connexion. The ulterior meaning of the decoration is probably religious and funereal, but the objects which are figured must have been familiar.

For this whole period see Jean Capart, *Débuts de l'art en Égypte* (1904; trans. *Primitive Art in Ancient Egypt*).

The Early Kings.—The dynastic race wrought an entire transformation in the art of Egypt; in place of the clumsy and undetailed representations, there suddenly appears highly artistic work, full of character, action and anatomical detail.

(A) The earliest statues of this age are the colossi of the god Min from Coptos; that they belong to the artistic race is evident from the spirited reliefs upon them (see below, B), but the figures were very rude, the legs and arms being joined all in the mass. The main example of this early art is a limestone head of a king (Plate I. figs. 15, 16), which is a direct study from life, to serve as a model. For the accuracy of the facial curves, and the grasp of character and type, it is equal to any later work; and in its entire absence of conventions and its pure naturalism there is no later sculpture so good: as Prof. A. Michaelis says, "it renders the race type with astounding keenness, and shows an excellent power of observation in the exact representation of the eyes." By the portrait, it is probably of King Narmer or some king related to him, that is, about the beginning of the Ist Dynasty. The ivory statuette of an aged king (Plate I. fig. 14) is probably slightly later. It shows the same subtle sense of character, and is unsurpassed in its reality. Many ivory figures of men, women and animals are known from Nekhen (Hieraconpolis) and Abydos; and they all show the same school of work, simple, dignified, observant, and with an air which places them on a higher plane of truthfulness and precision than later art. There is none of the mannerism of a long tradition, but a nobility pervades them which has no self-consciousness. The lower class of work of this age is shown by great numbers of glazed pottery figures both human and animal. Later in the IInd Dynasty, the head of Khasekhem (Plate I. fig. 17) shows the beginning of convention, but yet has a delicacy about the mouth which surpasses later works.

(B) Reliefs abound at this age, and include the most important evidences of the development of the art. The earliest examples are those of animals (Plate II. fig. 18) and shells on the colossi of Coptos. They show a keen sense of form, and the stag's head, which is probably the earliest, already bears an artistic feeling wholly different to that of any of the prehistoric works (P.K. iii. iv.). The carvings on slate palettes appear to begin with work crudely accurate and forceful, the heavy limbs being ridged with tendons and muscles (Plate II. fig. 19), but there is more proportion, with the same massive strength (Plate II. fig. 20). Soon after, with a leap, the artist produced the first pure work of art that is known (Plate II. fig. 21), a design for its own sake without the tie of symbolism or history. The group of two long-necked gazelles facing a palm tree is of extraordinary refinement, and shows the artistic consciousness in every part; the symmetric

rendering of the palm tree, reduced to fit the scale of the animals, the dainty grace of the smooth gazelles contrasted with the rugged stem, the delicacy of the long flowing curves and the fine indications of the joints, all show a sense of design which has rarely been equalled in the ceaseless repetitions of the tree and supporters motive during every age since. Passing the various palettes with hunting scenes and animals (Plate II. fig. 22), we come to the great historical carving of King Narmer (Plate II. fig. 23). Here the anatomy has reached its limits for such work; the precision of the muscles on the inner and outer sides of the leg, of the uniform grip in the left arm, and the tense muscle upholding the right arm, prove that the artist knew that part of his work perfectly. The large ceremonial mace-heads recording the *Sed* festivals of the king Narmer and another, belong also to this school; but owing to their smaller size they have not such artistic detail. With them were found many reliefs in ivory, on tusks, wands and cylinders. The main motive in these is a long procession of animals (Plate II. figs. 24, 25) often grotesquely crowded; but there is much observation shown and the figures are expressive. No drawing of this age has survived.

The Pyramid Kings.—A different ideal appears in the pyramid times; in place of the naturalism of the earlier work there is more regularity, some convention, and the sense of a school in the style. The prevailing feeling is a noble spaciousness both in scale and in form, an equanimity based upon knowledge and character, a grandeur of conception expressed by severely simple execution. There is nothing superfluous, nothing common, nothing trivial. The smallest as well as the largest work seems complete, inevitable, immutable, without limitations of time, or labour or thought.

(A) The statuette of Khufu or Cheops (Plate III. fig. 29) though only a minute figure in ivory, shows the character of immense energy and will; the face is an astonishing portrait to be expressed in a quarter of an inch. The life-size statue of Khafrē or Chephren (Plate III. fig. 30) is a majestic work, serene and powerful; carved in hard diorite, yet unhesitating in execution. The muscular detail is full, but yet kept in harmony with the massive style of the figure. The private persons have entirely different treatment according to the character of their position. In place of the awful dignity of the kings there is the placid high-bred Princess Nofri (Plate II. fig. 27, Plate III. fig. 31), the calm conscientious dignitary Hemset (Plate III. fig. 32), the bustling, active, middle-class official, Ka-aper (Plate II. fig. 28, Plate III. fig. 33), and the kneeling figure of a servitor. The differences of character are very skilfully rendered in all the sculpture of this age. The whole figures are stiff in the earlier time, as the figure of Nes; then square and massive, but true in form, as Rahotp and Nofri (Plate II. fig. 27); and afterwards easier and less monumental, as Ka-aper (Plate II. fig. 28). The skill in beaten copper work is shown by the portrait of the Prince Mer-en-ra (Plate III. fig. 35).

(B) The reliefs are quite equal to the statuary. The wooden panels of Hesi (Plate II. fig. 26) show the archaic style of great detail, with a bold, stark vigour of attitude. Later work is abundant in the tomb-sculptures of this age, with a fulness of variety and detail which makes them the most interesting of all branches of the art. The general effect cannot be judged without a large scene, but the figures of two men and an ox (Plate III. fig. 37) show the freshness and vigour of the style, which is even higher than this in some examples. The clear, noble spacing of the surface work is well shown by a group of offerings and inscribed titles (Plate III. fig. 36).

Plate III.

PYRAMID PERIOD.

29. IVORY OF CHEOPS.

30. DIORITE OF CHEPHREN.

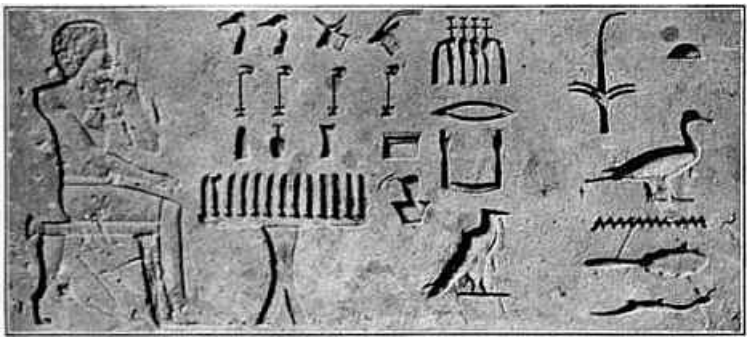
31. LIMESTONE OF NEFERT.

32. HEMSET: LIMESTONE.

33. WOOD (see Fig. 28).

34. SCRIBE: LIMESTONE.

35. MER-EN-RA: COPPER.



36. LIMESTONE SLAB OF KHENT-ER-KA.

Photo, Bonfils
37. THE OXHERDS: LIMESTONE.

38. GRANITE SPHINX.

39. AMENEMHË III.

40. SENWOSRI I.: LIMESTONE RELIEFS: HOTEPA. 41.

Plate IV.

1400 B. C. TO ROMAN.

Photo, Manseil.
42. AMENOPHIS III.: GRANITE.

43. QUEEN TAIA: LIMESTONE.

Photo, Anderson.
44. RAMESES II.: GRANITE.

45. NEGRESS: EBONY.

46. QUEEN HATSHEPSUT.

47. KHA-EM-HAT.

48. SETI I.

49. PRINCESSES: FRESCO.

50. FOUR RACES OF MAN.

51. TUMBLER.

52. SCENE IN XXVI. DYNASTY.

53. PTOLEMAIC RELIEF.

54. MODELLED HEAD AND SKULL.

(C) Flat drawings of this age are rare. Some fine examples, such as the geese from Mēdūm, show that such work kept pace with the reliefs; but most of the fresco-work has perished, and there are few instances of line drawing.

The XIIth Dynasty.—This age overlaps the previous in its style. The end of the last age was in the very degraded tomb work of the early XIth Dynasty.

(A) The new style begins with the royal statues, which it seems we must attribute to the foreign kings from whom the XIIth Dynasty was descended. These statues were later appropriated by the Hyksos, and so came to be called by their name, which is a misnomer. The type of face (Plate III. fig. 38) is thick-featured, full of force, with powerful masses of facial muscle covering the skull. The style is very vigorous and impassioned, without any trace of relenting towards conventional work. The surfaces are not in the least subdued by a general breadth of style, as in the last period; but, on the contrary, revel in the full detail of variety. There is perhaps no age where nature is so little controlled by convention in either the living character or its sculptured expression. One of these kings might well be the founder of the IXth Dynasty, "Achthoes (Kheti), who did much injury to all the inhabitants," "Khuther Taurus the tyrant"; the expression is that of a Chlodwig or an Alboin. From this type evidently descended the milder and more civilized kings of the XIIth Dynasty, the resemblance being so strong that the fierce figures have even been identified with that dynasty by some. A good example is that of the statue of Amenemhat (Amenemhē) III. (Plate III. fig. 39). The style of the XIIth Dynasty may be summed up as clean, highly-finished work, strong in facial detail; but with neither the grandeur of the IVth nor the vivacity of the XVIIIth Dynasty. This passed in the XIIIth Dynasty into a graceful but weak manner, as in the statues of Sebkhotp (Sebek-hotep) III. and Neferhotp.

(B) The relief work shows most clearly the rise of the new style. In the middle of the XIth Dynasty an entirely fresh

treatment appears; the Old Kingdom work had died out in very bad sunk-reliefs, the fresh style (Plate III. fig. 41) was a low relief with sharp edges above the field. It was full of delicate variety in the surfaces, and of elaborated close-packed lines of hair and ornaments. By the time of the early XIIth Dynasty, this reached a perfection of refinement in the detail of facial curves, with an ostentatiously low relief (P.K. ix. i.), rather on the lines of modern French work; but the whole with clean, firm outlines, severely restrained in the expression, and without any trace of emotion. It is the work of a school, in which high training took the place of the reliance on nature. Sunk relief was also well used, as by Senusert (Senwosri) I. (Plate III. fig. 40). There was a steady decline during the XIIth Dynasty and onward, but the same tone was followed.

(C) In some tombs painting only was used, and it followed the general character of the relief treatment, being more rigid, detailed, and scholastic than the older style.

The XVIIIth-XXth Dynasties.—The obvious, not to say superficial, character of this age has rendered it one of the most popular in Egyptian art. The older breadth, fulness, and vigour have vanished, those great qualities which stamp the immortal works of early times. The difference is much like that between the Parthenon and the Niobids, or between Jacopo Avanzi and Caracci. In this change is the whole difference between the art of character and the art of emotion; and though the emotional side is the more popular, as needing less thought to understand it, yet the unfailing canon is that in every age and land the true quality of art is proportionate to the expression of character as apart from transient emotion. This may perhaps apply to other arts as well as to sculpture and painting. If we accept frankly the emotional nature of this age, we may admire its graceful outlines, its vivacious manner, its romantic style, with an occasional sauciness which is amusing and attractive. It revelled in rich detail, and close masses of lines, as in wigs and ribbed dresses. It sported with a seductive Syrian type of face, especially under Amenophis (Amenhotep) III.; but we find the anatomy giving way to mere smoothness of surface, for the sake of contrast with the masses of detail. The romantic element increased, solemn funereal statues show husband and wife hand in hand; and it culminated under Akhenaton, who is seen kissing his wife in the chariot, or dancing her on his knee. An overwhelming naturalism swamped the older reserves of Egyptian art, and the expression of the postures, actions and familiarities of daily life, or the instantaneous attitudes of animals, became the *dernier cri* of fashion. It was all charming and wonderful, but it was the end,—nothing could come after it. The XIXth Dynasty, at its best under Seti I., could only excel in high finish of smoothness and graceful curves; life, character, meaning, had vanished. And soon after, under Rameses II., mere mechanical copying, hard lifeless routine of stone-cutting, regardless of truth and of nature, dominated the whole.

(A) In sculpture there is a certain baldness of style at first, as in the Amenophis I. at Turin or Mutnefert at Cairo. More fulness and richness of character succeeded, as in Tahutmes (Tethmosis) III. and Amenophis III. (Plate IV. fig. 42, British Museum). And the feeling of the age finds greater scope in private statues, many of which have a personal fascination about them, as in the seated figures at Cairo and Florence, and the freer work in wood, of which the ebony negress (Plate IV. fig. 45) is the best example. The burst of naturalism under Akhenaton resulted in some marvellous portraiture, of which the fragment of a queen's head (Plate IV. fig. 43) is perhaps the most brilliant instance; the fidelity in the delicate curves of the nose and around the mouth is enhanced by the touch of artistic convention in the facing of the lips. The only work of ability in the XIXth Dynasty is the black granite figure (Plate IV. fig. 44) of Rameses II. at Turin. The ordinary statuary of his reign is painfully stiff and poor, and there is no later work in the period worth notice.

(B) The reliefs of the early XVIIIth Dynasty are closely like the scenes of the tombs in the pyramid age, but soon carving was superseded by the cheaper painting, and but few tombs in relief are known. The temples were the principal places for reliefs; and they steadily deteriorate from the first great example, Deir el Bahri (see Architecture: *Egyptian*), down to the late Ramessides. The portraiture is strong and clear-cut (Plate IV. fig. 46), but somewhat mechanical and without muscular detail: the sameness is rather more than is probable. There is a good deal of repetition for mere effect, even in the fine work of Kha-em-hat (Plate IV. fig. 47), under Amenophis III. That the artists were conscious of their poverty of thought is shown by some precise imitations of the style of early monuments. On reaching the age of Akhenaton, the peculiar style of that school is obvious in every relief; the older conventions were deserted, and, for good or for bad, a new start from nature was attempted. After that the smooth finish of the Seti reliefs at Abydos (Plate IV. fig. 48) shows no life or observation; and only occasionally the artist triumphed over the stone-worker, as in the portrait of Bantanta at Memphis, which is precisely like another head of her found in Sinai. The innumerable reliefs of the XIXth-XXth Dynasty temples are only of historic interest, and are all despicable in comparison with earlier works.

(C) Painting was the art most congenial to this age; the lightness of touch, abundance of incident, and even comedy, of the scenes are familiar in the frescoes in the British Museum. And under Akhenaton this was pervaded by an entire naturalism of posture, as seen in the two little princesses (Plate IV. fig. 49). Drawing continued to be the strong point of the art after the more laborious sculpture had lost all vitality. The tomb of Seti shows exquisitely firm line drawing; and the heads of four races (Plate IV. fig. 50), Western, Syrian, and two Negro, here show the unfailing line-work which has never been matched in later times. The artist habitually drew the long lines of whole limbs without a single hesitation or revoke; and the drawing of a tumbling girl (Plate IV. fig. 51) shows how credibly such contortions could be represented. The comic papyri of the XXth Dynasty have also a very strong sense of character, even through coarse drawing and some childish combinations.

The subsequent centuries show continuous decline, and in whatever branch we compare the work, we see that each dynasty was poorer than that which preceded it. The XXVIth Dynasty is often looked on as a renaissance; but when we compare similar work we see that it was poorer than the XXIInd, as that was poorer than the XIXth. The alabaster statue of Amenardus of the XXVth is faulty in pose, and perfunctory in modelling; the resemblance between this and the head of her nephew Tirhaka is perhaps the best evidence of truthful work. After this there was a strong archaistic fashion, much like that under Hadrian; in both cases it may have arrested decay, but it did not lift the art up again. The work of this age can always be detected by the faulty jointing (Plate IV. fig. 52) and muscular treatment. The elements are right enough, but there was not the vital sense to combine them properly. Hence the monstrous protuberances (Plate IV. fig. 53) on relief figures of this age; a fault which the Greek fell into in his decline, as shown in the Farnese Hercules.

Portraiture, with its limited demand on imagination and lack of ideals, was the form of art which flourished latest. The Saitic heads in basalt show a school of close observation, with fair power of rendering the personal character; and even in Roman times there still were provincial artists who could model a face very truthfully, as is shown in one case in which the stucco head (Plate IV. fig. 54) from a coffin is here superposed on the view of the actual skull to show the accuracy of the work. The school of portrait-painting belongs entirely to Greek art, and is therefore not touched upon here. (See Edgar, *Catalogue of Graeco-Egyptian Coffins*, 48 plates, for this subject.)

Lastly we must recognize the different schools of Egyptian sculpture which are as distinct as those of recent painting. The black-granite school in every age is the finest; its seat we do not know, but its vitality and finish always exceed those of contemporary works. The limestone school was probably the next best, to judge from the reliefs, but hardly any statues of this school have survived; it probably was seated at Memphis. The quartzite work from Jebel Ahmar near Cairo stands next, as often very fine design is found in this hard material. The red granite school of Assuan comes lower, the work being usually clumsy and with unfinished corners and details. And the lowest of all was the sandstone school of Silsila, which is always the worst. Broadly speaking, the Lower Egyptian was much better than the Upper Egyptian; a conclusion also evident in the art of the tombs done on the spot. But the secret of the black granite school, and its excellence, is the main problem unsolved in the history of the art.

(W. M. F. P.)

Tools and Material Products.

Tools (see Illustrations 1 to 111).—The history of tools is a very large subject which needs to be studied for all countries; the various details of form are too numerous to specify here, but the general outline of tools used in Egypt may be briefly stated under *general* and *special* types. The *general* include tools for striking, slicing and scraping; the *special* tools are for fighting, hunting, agriculture, building and thread-work.

Striking Tools.—The wooden mallet of club form (1) was used in the VIth and XIIth Dynasties; of the modern mason's form (2) in the XIIth and XVIIIth. The stone mace head was a sharp-edged disk (3), in the prehistoric from 31-40 sequence date; of the pear shape (4) from S.D. 42, which was actually in use till the IVth Dynasty, and represented down to Roman time. The metal or stone hammer with a long handle was unknown till Greek or Roman times; but, for beating out metal, hemispherical stones (5) were held in the hand, and swung at arm's length overhead. Spherical hard stone hammers (6) were held in the hand for dressing down granite. The axe was at the close of the prehistoric age a square slab of copper (7) with one sharp edge; small projecting tails then appeared at each end of the back (8), and increased until the long tail for lashing on to the handle is more than half the length of the axe in an iron one of Roman (?) age (13). Flint axes were made in imitation of metal in the XIIth Dynasty (9). Battle-axes with rounded outline started as merely a sharp edge of metal (10) inserted along a stick (10, 11); they become semicircular (12) by the VIth Dynasty, lengthen to double their width in the XIIth, and then thin out to a waist in the middle by the XVIIIth Dynasty. Flint hoes (14) are common down to the XIIth Dynasty. Small copper hoes (15) with a hollow socket are probably of about the XXIInd Dynasty. Long iron picks (16), like those of modern navvies, were made by Greeks in the XXVIth Dynasty.

Slicing Tools.—The knife was originally a flint saw (17), having minute teeth; it must have been used for cutting up animals, fresh or dried, as the teeth break away on soft wood. The double-edged straight flint knife dates from S.D. 32-45. The single-edged knife (18) is from 33-65. The flint knives of the time of Menes are finely curved (19), with a handle-notch; by the end of the IInd Dynasty they were much coarser (20) and almost straight in the back. In the XIth-XIIth Dynasty they were quite straight in the back (21), and without any handle-notch. The copper knives are all one-edged with straight back (22) down to the XVIIIth Dynasty, when two-edged symmetrical knives (23) become usual. Long thin one-edged knives of iron begin about 800 b.c. Various forms of one-edged iron knives, straight (24) and curved (25), belong to Roman times. A cutting-out knife, for slicing through textiles, began double-edged (26) in the Ist Dynasty, and went through many single-edged forms (27-29) until it died out in the XXth Dynasty (*Man*, 1901, 123). A small knife hinged on a pointed backing of copper (31) seems to have been made for hair curling and toilet purposes. Razors (30) are known of the XIIth Dynasty, and became common in the XVIIIth. A curious blade of copper (32), straight sided, and sharpened at both ends, belongs to the close of the prehistoric age. Shears are only known of Roman age and appear to have been an Italian invention: there is a type in Egypt with one blade detachable, so that each can be sharpened apart.

Chisels of bronze began of very small size (33) at S.D. 38, and reached a full size at the close of the prehistoric age. In historic times the chisels are about 1 × ½, × 6 to 8 in. long (34). Small chisels set in wooden handles are found (35) of the XIIth and XVIIIth Dynasties. Ferrules first appear in the Assyrian iron of the 7th century b.c. The rise of stone work led to great importance of heavy chisels (36) for trimming limestone and Nubian sandstone; such chisels are usually round rods about ¾ in. thick and 6 in. long. The cutting edge was about ½ in. wide for flaking tools (36), which were not kept sharp, and 1 in. wide for facing tools (37) which had a good edge. In Greek times the iron chisels are shorter and merge into wedges (39). The socketed or mortising chisel (38) is unknown till the Italian bronze of the 8th century b.c., and the Naucratis iron of the 6th century. Adzes begin in S.D. 56, as plain slips of copper (40) 4 to 6 in. long, about 1 wide and 1/8th thick. The square end was rounded in the early dynastic times, and went through a series of changes down to the XIXth Dynasty. Adzes of iron are probably of Greek times. A fine instance of a handle about 4 ft. long is represented in the IIIrd Dynasty (P.M. XI.). The adze (41) was used not only for woodwork but also for dressing limestone.

Scraping Tools.—Flint scrapers are found from S.D. 40 and onward. The rectangular scraper (42) began in S.D. 63, and continued into the IInd Dynasty: the flake with rounded ends (43) was used from the Ist to the IVth Dynasty (P. Ab. i. xiv., xv.). Round scrapers were also made (44). Flint scrapers were used in dressing down limestone sculpture in the IIIrd Dynasty. Rasps of conical form (45), made of a sheet of bronze punched and coiled round, were common in the XVIIIth Dynasty, apparently as personal objects, possibly used for rasping dried bread. In the Assyrian iron tools of the 7th century b.c. the long straight rasp (46) is exactly of the modern type. The saw is first found as a notched bronze knife of the IIIrd Dynasty. Larger toothed saws (47) are often represented in the IVth-VIth Dynasty, as used by carpenters. There are no dated specimens till the Assyrian iron saws (48) of the 7th century b.c. Drills were of flint (49) for hard material and bead-making, of bronze for woodwork. In the Assyrian tools iron drills are of slightly twisted scoop form (50), and of centre-bit type with two scraping edges (51). In Roman times the modern V drill (52) is usual. The drill was worked by a stock with a loose cap (53), rotated by a drill bow, in the XIIth to Roman dynasties. The pump drill with cords twisted round it was in Roman use. The bow drill (56) was used as a fire drill to rotate wood (55) on wood (57); and the cap (54) for such use was of hard stone with a highly polished hollow. The drill brace appears to have been used by Assyrians in the 7th century b.c. Piercers of bronze tapering (58), to enlarge holes in leather, &c., were common in all ages.

Fighting Weapons.—The battle-axe has been described above with axes. The flint dagger (59) is found from S.D. 40-56. A very finely made copper dagger (60) with deep midrib is dated to between 55 and 60 S.D. Copper daggers with parallel ribbing (61) down the middle are common in the XIth-XIVth Dynasties; and in the XVIIIth-XXth Dynasties they are often shown in scenes and on figures. The falchion with a curved blade (62) belongs to the XVIIIth-XXth Dynasty. The rapier (63) or lengthened dagger is rarely found, and is probably of prehistoric Greek origin. The sword is of Greek and Roman age, always double-edged and of iron. The spear is not commonly found in Egypt, until the Greek age, but it is represented from the XIth Dynasty onward; it belonged to the Semitic people (L.D. ii. 133). The bow was always of wood, in one piece in the prehistoric and early times, also of two horns in the Ist Dynasty; but the compound bow of horn is rarely found, only as an importation, in the XVIIIth Dynasty. The arrow-heads of flint (64-66) and of bone (68-69) were pointed, and also square-ended (67) for hunting (P.R.T. ii. vi.; vii. A., 7; xxxiv.). The copper arrow-heads appear in the XIXth Dynasty, of blade form with tang (70); the triangular form (72), and leaf form with socket (71), are of the XXVIth Dynasty. Triangular iron arrows with tang are of the same age. Tangs show that the shaft was a reed, sockets show that it was of wood. Many early arrows (XIIth) have only hard wood points of conical form. The sling is rarely shown in the XIXth-XXth Dynasties; and the only known example is probably of the XXVIth.

Hunting Weapons.—The forked lance of flint was at first wide with slight hollow (73) from S.D. 32-43; then the hollow became a V notch (74) in 38 S.D. and onward. The lance was fixed in a wooden shaft for throwing, and held in by a check-cord from flying too far if it missed the animal (P.N. LXXIII.). The harpoon for fishing was at first of bone (75), and was imitated in copper (76, 77) from S.D. 36 onwards. The boomerang or throw-stick (78) was used from the Ist to the XXIInd Dynasty, and probably later. Fish-hooks of copper (79-82) are found from the Ist Dynasty to Roman times. A trap for animals' legs, formed by splints of palm stick radiating round a central hole, is figured in S.D. 60, and one was found of probably the XXth Dynasty. Fishing nets were common in all historic times, and the lead sinkers (83) and stone sinkers (84) are often found under the XVIIIth-XXth Dynasties.

Agricultural Tools.—The hoe of wood (85) is the main tool from the late prehistoric time, and many have been found of the XVIIIth Dynasty. With the handle lengthened (86) and turned forward, this became the plough (87 is the hieroglyph, 88 the drawing, of a plough); this was always sloping, and never the upright post of the Italic type. The rake of wood (89) is usual in the XIIth and XVIIIth Dynasties. The fork (90), used for tossing straw, was common in the Old Kingdom, but none has been found. The sickle was of wood (92), with flints (91) inserted, apparently a copy of the ox-jaw and teeth. The notched flints for it are common from the Ist to the XVIIIth Dynasty. In Roman times the same principle was followed, by making an iron sickle with a deep groove, in which was inserted the cutting blade of steel (P.E. XXIX.). Shovel-boards, to hold in right (93) or left hand for scraping up the grain in winnowing, are usual in the XVIIIth Dynasty, and are figured in use in the Old Kingdom Pruning knives with curved blades (94) are Italic, and were made of iron by the Romans. Corn grinders were flat oval stones, with a smaller one lying cross-ways (95), and slid from end to end. Such were used from the Old Kingdom down to late times. In the Roman period a larger stone was used, with a rectangular slab (96) sliding on it, in which a long trough held the grain and let it slip out below for grinding. The quern with rotary motion is late Roman,

and still used by Arabs. The large circular millstones of Roman age worked by horse-power are usually made from slices of granite columns.

Building Tools.—The adze described above was used for dressing blocks of limestone. The brick-mould was an open frame, with one side prolonged into a handle (97), exactly as the modern mould. The plasterers' floats (98) were entirely cut out of wood. The mud rake for mixing mortar is rather narrower than the modern form. The square (99) and plummet (100, 101) have remained unchanged since the XIXth Dynasty. For dressing flat surfaces three wooden pegs (102) of equal length were used; a string was stretched between the tops of two, and the third peg was set on the point to be tested and tried against the string.

Thread-Work.—Stone spindle whorls (103) are common in the prehistoric age; wooden ones were usual, of a cylindrical form (104) in the XIIth, and conical (105) in the XVIIIth Dynasty. The thread was secured by a spiral notch in the stick. In Roman times an iron hook on the top held the thread (106) as in modern spindles. Needles of copper were made in the prehistoric, as early as S.D. 48, and very delicate ones by S.D. 71. Gold needles are found of the Ist Dynasty. Fine ones of bronze are common in the XVIIIth Dynasty, and some with two eyes at right angles, one above the other, to carry two different threads. The copper bodkin is found in S.D. 70. Netters are common, of rib bones, pointed (107); the thread was wound round them. Long netting needles were probably brought in by the dynastic people as they figure in the hieroglyphs. Finely-made ones are found in the XVIIIth Dynasty and later. Reels were also commonly used for net making, of pottery (108) or even pebbles (109) with a groove chipped around. The flint vase-grinders were used in the early dynasties (110), and also sandstone grinders for hollowing larger vases (111).

Stone-Work.—In the prehistoric ages stone building was unknown, but many varieties of stones were used for carving into vases, amulets and ornaments. The stone vases were at first of cylindrical forms, with a foot, and ears for hanging. These are worked in brown basalt, syenite, porphyry, alabaster and limestone. In the second prehistoric civilization barrel-shaped vases became usual; and to the former materials were added slate, grey limestone and breccia. Serpentine appears later, and diorite towards the close of the prehistoric ages. Flat dishes were used in earlier times; gradually deeper forms appear, and lastly the deep bowl with turned-in edge belongs to the close of the prehistoric time and continued common in the earlier dynasties (P.D.P. 19). This stone-work was usually formed on the outside with rotary motion, but sometimes the vase was rotated upon the grinder (Q. H. 17). The interior was ground out by cutters (figs. 110, 111) fixed in the end of a stick and revolved with a weight on the top, as shown in scenes on the tombs of the Vth Dynasty. The cutters were sometimes flints of a crescent shape (P. Ab. ii. liii. 24), but more usually grinders blocks of quartzite sandstone (26-34), and occasionally of diorite (Q. H. xxxii. lxii.). These blocks were fed with sand and water to give the bite on the stone (P. Ab. i. 26). The outsides of the vases were entirely wrought by handwork, with the polishing lines crossing diagonally. Probably the first forming was done by chipping and hammer-dressing, as in later times; the final facing of the hard stones was doubtless by means of emery in block or powder, as emery grinding blocks are found.

In the early dynasties the hard stones were still worked, and the Ist dynasty was the most splendid age for vases, bowls, and dishes of the finest stones. The royal tombs have preserved an enormous quantity of fragments, from which five hundred varied forms have been drawn (P.R.T. ii. xlvi.-liii. 6). The materials are quartz crystal, basalt, porphyry, syenite, granite, volcanic ash, various metamorphics, serpentine, slate, dolomite marble, alabaster, many coloured marbles, saccharine marble, grey and white limestones. The most splendid vase is one from Nekhen (Hieraconpolis), of syenite, 2 ft. across and 16 in. high, hollowed so as to be marvellously light and highly polished (Q.H. xxxvii). Another branch of stone-work, surface carving, was early developed by the artistic dynastic race. The great palettes of slate covered with elaborate reliefs are probably all of the pre-Menite kings; the most advanced of them having the figure of Narmer, who preceded Menes. Other carving full of detail is on the great mace-heads of Narmer and the Scorpion king, where scenes of ceremonials are minutely engraved in relief. In the Ist Dynasty the large tombstones of the kings are of bold work, but the smaller stones of private graves vary much in the style, many being very coarse. All of this work was by hammer-dressing and scraping. The scrapers seem to have always been of copper.

The earliest use of stone in buildings is in the tomb of King Den (Ist Dynasty), where some large flat blocks of red granite seem to have been part of the construction. The oldest stone chamber known is that of Khasekhemui (end of the IInd Dynasty). This is of blocks of limestone whose faces follow the natural cleavages, and only dressed where needful; part is hammer-dressed, but most of the surfaces are adze-dressed. The adze was of stone, probably flint, and had a short handle (P.R.T. ii. 13). The same king also wrought granite with inscriptions in relief. In the close of the IIIrd Dynasty a great impetus was given to stone-work, and the grandest period of refined masonry is at the beginning of the IVth Dynasty under Cheops. The tombs of Mēdūm under Snefru are built with immense blocks of limestone of 20 and 33 tons weight. The dressing of the face between the hieroglyphs was done partly with copper and partly with flint scrapers (P.M. 27). The most splendid masonry is that of the Great Pyramid of Cheops. The blocks of granite for the roofing are 56 in number, of an average weight of 54 tons each. These were cut from the water-worn rocks at the Cataract—the soundest source for large masses, as any incipient flaws are well exposed by wear. The blocks were quarried by cleavage; a groove was run along the line intended, and about 2 ft. apart holes about 4 in. wide were jumped downward from it in the intended plane; this prevented a skew fracture (P.T. 93). In shallower masses a groove was run, and then holes, apparently for wedges, were sunk deeper in the course of it; whether wetted wood was used for the expansive force is

not known, but it is probable, as no signs are visible of crushing the granite by hard wedges. The facing of the cloven surfaces was done by hammer-dressing, using rounded masses of quartzose hornstone, held in the hand without any handle. In order to get a hold for moving the blocks without bruising the edges, projecting lumps or bosses were left on the faces, about 6 or 8 in. across and 1 or 2 in. thick. After the block was in place the boss was struck off and the surface dressed and polished (P.T. 78, 82). In the pyramid of Cheops the blocks were all faced before building; but the later granite temple of Chephren and the pyramid of Mycerinus (Menkaura, Menkeurē) show a system of building with an excess of a few inches left rough on the outer surface, which was dressed away when in position (P.T. 110, 132).

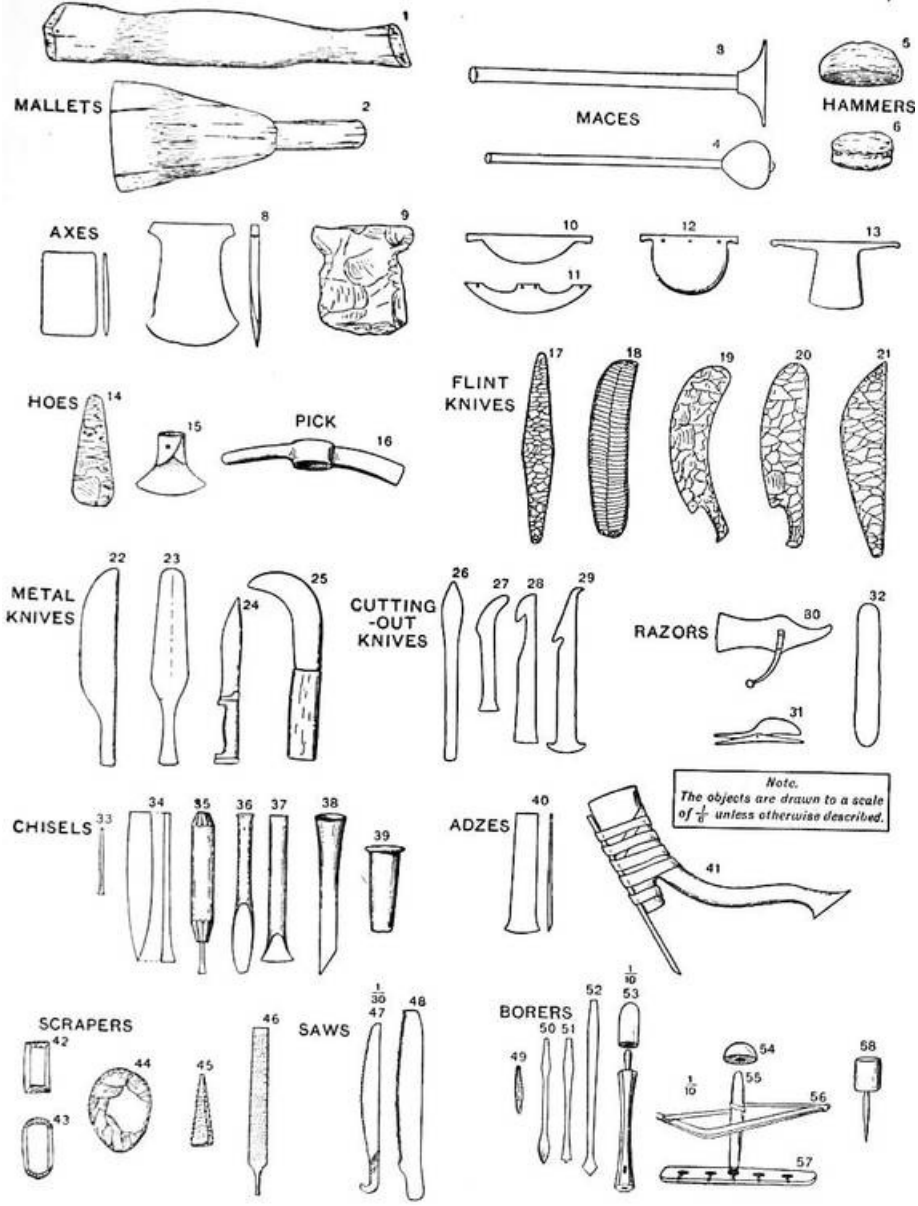
The flatness of faces of stone or rock (both granite and limestone) was tested by placing a true-plane trial plate, smeared with red ochre, against the dressed surface, as in modern engineering. The contact being thus reddened showed where the face had to be further dressed away; and this process was continued until the ochre touched points not more than an inch apart all over the joint faces, many square feet in area. On stones too large for facing-plates a diagonal draft was run, so as to avoid any wind in the plane (P.T. 83).

The cutting of granite was not only by cleavage and hammer dressing, but also by cutting with harder materials than quartz such as emery. Long saws of copper were fed with emery powder, and used to saw out blocks as much as 7½ ft. long (P.T. Plate XIV.). In other cases the very deep scores in the sides of the saw-cut suggest that fixed cutting points were inserted in the copper saws; and this would be parallel to the saw-cuts in the very hard limestone of the Palace of Tiryns, in which a piece of a copper saw has been broken, and where may be yet found large chips of emery, too long and coarse to serve as a powder, but suited for fixed teeth. A similar method was common for circular holes, which were cut by a tube, either with powder or fixed teeth. These tubular drills were used from the IVth Dynasty down to late times, in all materials from alabaster up to carnelian. The resulting cores are more regular than those of modern rock-drilling.

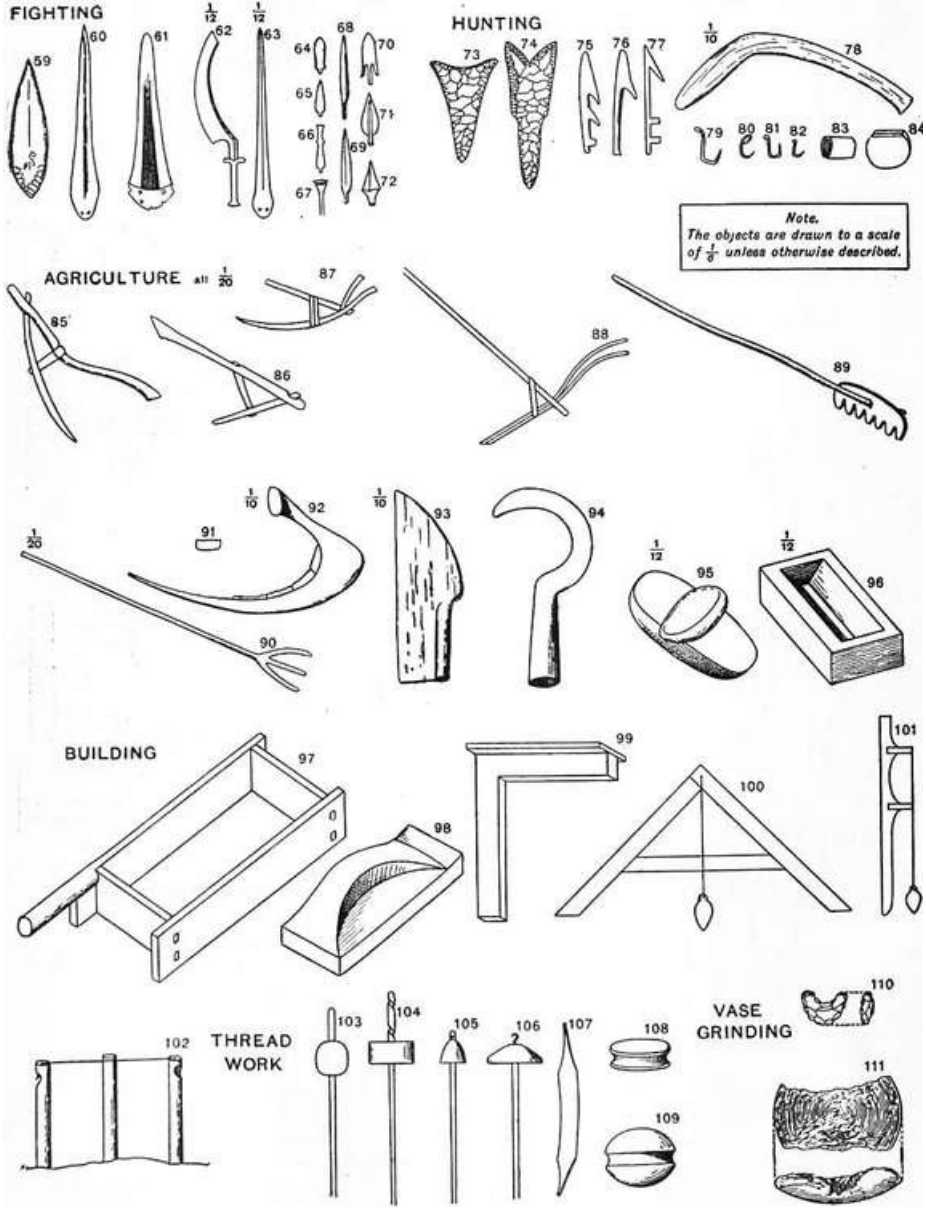
Limestone in the Great Pyramid, as elsewhere, was dressed by chopping it with an adze, a tool used from prehistoric to Roman times for all soft stones and wood. This method was carried on up to the point of getting contact with the facing-plate at every inch of the surface; the cuts cross in various directions. For removing rock in reducing a surface to a level, or in quarrying, cuts were made with a pick, forming straight trenches, and the blocks were then broken out between these. In quarrying the cuts are generally 4 or 5 in. wide, just enough for the workman's arm to reach in; for cutting away rock the grooves are 20 in. wide, enough to stand in, and the squares of rock about 9 ft. wide between the grooves (P.T. 100). The accuracy of the workmanship in the IVth Dynasty is astonishing. The base of the pyramid of Snefru had an average variation of 6 in. on 5765 and 10′ of squareness. But, immediately after, Cheops improved on this with a variation of less than 6 in. on 9069 in. and 12″ of direction. Chephren fell off, having 1.5 error on 8475, and 33″ of variation; and Mycerinus (Menkeurē) had 3 in. error on 4154 and 1′ 50″ variation of direction (P.M. 6; P.T. 39, 97, 111). Of perhaps later date the two south pyramids of Dahshur show errors of 3.7 on 7459 and 1.1 on 2065 in., and variation of direction of 4′ and 10′ (P.S. 28, 30). The above smallest error of only 1 in 16,000 in lineal measure, and 1 in 17,000 of angular measure, is that of the rock-cutting for the foundation of Khufu, and the masonry itself (now destroyed) was doubtless more accurate. The error of flatness of the joints from a straight line and a true square is but 1⁄100th in. on 75 in. length; and the error of level is only 1⁄50th in. along a course, or about 10″ on a long length (P.T. 44). We have entered thus fully on the details of this period, as it is the finest age for workmanship in every respect. But in the XIIth Dynasty the granite sarcophagus of Senwosri II. is perhaps the finest single piece of cutting yet known; the surfaces of the granite are all dull-ground, the errors from straight lines and parallelism are only about 1⁄200th inch (P. 1, 3).

In later work we may note that copper scrapers were used for facing the limestone work in the VIth, the XIIth and the XVIIIth Dynasties. In the latter age granite surfaces were ground, hieroglyphs were chipped out and polished by copper tools fed with emery; outlines were graved by a thick sheet of copper held in the hand, and sawed to and fro with emery. Corners of signs and intersections of lines were first fixed by minute tube-drill holes, into which the hand tool butted, so that it should not slip over the outer surface.

The marking out of work was done by fine black lines; and supplemental lines at a fixed distance from the true one were put in to guard against obliteration in course of working (P.T. 92); similarly in building a brick pyramid the axis was marked, and there were supplemental marks two cubits to one side (P.K. 14). When cutting a passage in the rock a rough drift-way was first made, the roof was smoothed, a red axis line was drawn along it, and then the sides were cut parallel to the axis. For setting out a mastaba with sloping sides, on an irregular foundation at different levels, hollow corner walls were built outside the place of each corner; the distances of the faces at the above-ground level were marked on the inner faces of the walls; the above-ground level was also marked; then sloping lines at the intended angle of the face were drawn downward from the ground-level measures, and each face was set out so as to lie in the plane thus defined by two traces at the ends (P.M. VIII.).



Ancient Egyptian tools.



Ancient Egyptian tools.

Metal-Work.—Copper was wrought into pins, a couple of inches long, with loop heads, as early as the oldest prehistoric graves, before the use of weaving, and while pottery was scarcely developed. The use of harpoons and small chisels of copper next arose, then broad flaying knives, needles and adzes, lastly the axe when the metal was commoner. On these prehistoric tools, when in fine condition, the original highly-polished surface remains. It shows no trace of grinding lines or attrition, nor yet of the blows of a hammer. Probably it was thus highly finished by beating between polished stone hammers which were almost flat on the face. Most likely the forms of the tools were cast to begin with, and then finished and polished by fine hammering. A series of moulds for casting in the XIIth Dynasty show that the forms were carved out in thick pieces of pottery, and then lined with fine ashy clay. The mould was single, so that one side of the tool was the open face of metal. As early as the pyramid times solid casting by *cire perdue* was already used for figures: but the copper statues of Pepi and his son seem, by their thinness and the piecing together of the parts, to have been entirely hammered out. The portraiture in such hammer work is amazingly life-like. By the time of the XIIth Dynasty, and perhaps earlier, *cire perdue* casting over an ash core became usual. This was carried out most skilfully, the metal being often not 1/50th in. thick, and the core truly centred in the mould. Casting bronze over iron rods was also done, to gain more stiffness for thin parts.

In gold work the earliest jewelry, that of King Zer of the Ist Dynasty, shows a perfect mastery of working hollow balls with minute threading holes, and of soldering with no trace of excess nor difference of colour. Thin wire was hammered out, but there is no ancient instance of drawn wire. Castings were not trimmed by filing or grinding, but by small chisels and hammering (P.R.T. ii. 17). In the XIIth Dynasty the soldering of the thin cells for the *cloisonnée* inlaid pectorals, on to the base plate, is a marvellous piece of delicacy; every cell has to be perfectly true in form, and yet all soldered, apparently simultaneously, as the heat could not be applied to successive portions (M.D. i.). Such work was kept up in the XVIIIth and XXVIth Dynasties. There is nothing distinctive in later jewelry different from Greek and Roman work elsewhere.

Glaze and Glass.—From almost the beginning of the prehistoric age there are glazed pottery beads found in the graves: and glazing on amulets of quartz or other stones begins in the middle of the prehistoric. Apparently then glazing went

together with the working of the copper ores, and probably accidental slags in the smelting gave the first idea of using glaze intentionally. The development of glazing at the beginning of the dynasties was sudden and effective. Large tiles, a foot in length, were glazed completely all over, and used to line the walls of rooms; they were retained in place by deep dovetails and ties of copper wire. Figures of glazed ware became abundant; a kind of visiting card was made with the figure of a man and his titles to present in temples which he visited; and glazed ornaments and toggles for fastening dresses were common (P. Ab. ii.). Further, besides thus using glaze on a large scale, differently coloured glazes were used, and even fused together. A piece of a large tile, and part of a glazed vase, have the royal titles and name of Menes, originally in violet inlay in green glaze. There was no further advance in the art until the great variety of colours came into use about 4000 years later. In the XIIth Dynasty a very thin smooth glaze was used, which became rather thicker in the XVIIIth. The most brilliant age of glazes was under Amenophis III. and his son Akhenaton. Various colours were used; beside the old green and blue, there were purple, violet, red, yellow and white. And a profusion of forms is shown by the moulds and actual examples, for necklaces, decorations, inlay in stone and applied reliefs on vases. Under Seti II. cartouches of the king in violet and white glaze are common; and under Rameses III. there were vases with relief figures, with painted figures, and tiles with coloured reliefs of captives of many races. The latter development of glazing was in thin delicate apple-green ware with low relief designs, which seem to have originated under Greek influence at Naucratis. The Roman glaze is thick and coarse, but usually of a brilliant Prussian blue, with dark purple and apple-green; and high reliefs of wreaths, and sometimes figures, are common.

Though glaze begins so early, the use of the glassy matter by itself does not occur till the XVIIIth Dynasty; the earlier reputed examples are of stone or frit. The first glass is black and white under Tethmosis (Tahutmes) III. It was not fused at a high point, but kept in a pasty state when working. The main use of it was for small vases; these were formed upon a core of sandy paste, which was modelled on a copper rod, the rod being the core for the neck. Round this core threads of glass were wound of various colours; the whole could be reset in the furnace to soften it for moulding the foot or neck, or attaching handles, or dragging the surface into various patterns. The colours under later kings were as varied as those of the glazes. Glass was also wheel-cut in patterns and shapes under Akhenaton. In later times the main work was in mosaics of extreme delicacy. Glass rods were piled together to form a pattern in cross-section. The whole was then heated until it perfectly adhered, and the mass was drawn out lengthways so as to render the design far more minute, and to increase the total length for cutting up. The rod was then sliced across, and the pieces used for inlaying. Another use of coloured glass was for cutting in the shapes of hieroglyphs for inlaying in wooden coffins to form inscriptions. Glass amulets were also commonly placed upon Ptolemaic mummies. Blown glass vessels are not known until late Greek and Roman times, when they were of much the same manufacture as glass elsewhere. The supposed figures of glass-blowers in early scenes are really those of smiths, blowing their fires by means of reeds tipped with clay. The variegated glass beads belonging to Italy were greatly used in Egypt in Roman times, and are like those found elsewhere. A distinctively late Egyptian use of glass was for weights and vase-stamps, to receive an impress stating the amount of the weight or measure. The vase-stamps often state the name of the contents (always seeds or fruits), probably not to show what was in them, but to show for what kind of seed the vessel was a true measure. These measure stamps bear names dating them from a.d. 680 to about 950. The large weights of ounces and pounds are disks or cuboid blocks; they are dated from 720 to 785 for the lesser, and to a.d. 915 for larger, weights. The greater number are, however, small weights for testing gold and silver coins of later caliphs from a.d. 952 to 1171. The system was not, however, Arab, as there are a few Roman vase-stamps and weights. Of other medieval glass may be noted the splendid glass vases for lamps, with Arab inscriptions fused in colours on the outsides. No enamelling was ever done by Egyptians, and the few rare examples are all of Roman age due to foreign work.

The manufacture of glass is shown by examples in the XVIIIth Dynasty. The blue or green colour was made by fritting together silica, lime, alkaline carbonate and copper carbonate; the latter varied from 3% in delicate blues to 20% in deep purple blues. The silica was needed quite pure from iron, in order to get the rich blues, and was obtained from calcined quartz pebbles; ordinary sand will only make a green frit. These materials were heated in pans in the furnace so as to combine in a pasty, half-fused condition. The coloured frit thus formed was used as paint in a wet state, and also used to dissolve in glass or to fuse over a surface in glazing. The brown tints often seen in glazed objects are almost always the result of the decomposition of green glazes containing iron. The blue glazes, on the other hand, fade into white. The essential colouring materials are, for blue, copper; green, copper and iron; purple, cobalt; red, haematite; white, tin. An entirely clear colourless glass was made in the XVIIIth Dynasty, but coloured glass was mainly used. After fusing a panful of coloured glass, it was sampled by taking pinches out with tongs; when perfectly combined it was left to cool in the pan, as with modern optical glass. When cold the pan was chipped away, and the cake of glass broken up into convenient pieces, free of sediment and of scum. A broken lump would then be heated to softness in the furnace; rolled out under a bar of metal, held diagonally across the roll; and when reduced to a rod of a quarter of an inch thick, it was heated and pulled out into even rods about an eighth of an inch thick. These were used to wind round glass vases, to form lips, handles, &c.; and to twist together for spiral patterns. Glass tube was similarly drawn out. Beads were made by winding thin threads of glass on copper wires, and the greater contraction of the copper freed the bead when cold. The coiling of beads can always be detected by (1) the little tails left at the ends, (2) the streaks, (3) the bubbles, seen with a magnifier. Roman glass beads are always drawn out, and nicked off hot, with striation lengthways; except the large opaque variegated beads which are coiled. Modern Venetian beads are similarly coiled. In the XXIIIrd Dynasty beads of a rich transparent Prussian blue glass were made, until the XXVIth. About the same time the eyed beads, with white and brown

eyes in a blue mass, also came in (P.A. 25-27, Plate XIII.).

Pottery (see fig. 112).—The earliest style of pottery is entirely hand made, without any rotary motion; the form being built up with a flat stick inside and the hand outside, and finally scraped and burnished in a vertical direction. The necks of vases were the first part finished with rotation, at the middle and close of the prehistoric age. Fully turned forms occur in the Ist Dynasty; but as late as the XIIth Dynasty the lower part of small vases is usually trimmed with a knife. In the earlier part of the prehistoric age there was a soft brown ware with haematite facing, highly burnished. This was burnt mouth-down in the oven, and the ashes on the ground reduced the red haematite to black magnetic oxide of iron; some traces of carbonyl in the ash helped to rearrange the magnetite as a brilliant mirror-like surface of intense black. The lower range of jars in the oven had then black tops, while the upper ranges were entirely red. A favourite decoration was by lines of white clay slip, in crossing patterns, figures of animals, and, rarely, men. This is exactly of the modern Kabyle style in Algeria, and entirely disappeared from Egypt very early in the prehistoric age. Being entirely hand made, various oval, doubled and even square forms were readily shaped.

The later prehistoric age is marked by entirely different pottery, of a hard pink-brown ware, often with white specks in it, without any applied facing beyond an occasional pink wash, and no polishing. It is decorated with designs in red line, imitating cordage and marbling, and drawings of plants, ostriches and ships. The older red polished ware still survived in a coarse and degraded character, and both kinds together were carried on into the next age (P.D.P.).

The early dynastic pottery not only shows the decadent end of the earlier forms, but also new styles, such as grand jars of 2 or 3 ft. high which were slung in cordage, and which have imitation lines of cordage marked on them. Large ring-stands also were brought in, to support jars, so that the damp surfaces should not touch the dusty ground. The pyramid times show the great jars reduced to short rough pots, while a variety of forms of bowls are the most usual types (P.R.T.; P.D.; P. Desh.)

In the XIIth Dynasty a hard thin drab ware was common, like the modern *qulleh* water flasks. Drop-shaped jars with spherical bases are typical, and scrabbled patterns of incised lines. Large jars of light brown pottery were made for storing liquids and grain, with narrow necks which just admit the hand (P.K.).

The XVIIIth Dynasty used a rather softer ware, decorated at first with a red edge or band around the top, and under Tethmosis (Tahutmes) III. black and red lines were usual. Under Amenophis III. blue frit paint was freely used, in lines and bands around vases; it spread to large surfaces under Amenophis IV., and continued in a poor style into the Ramesside age. In the latter part of the XVIIIth and the XIXth Dynasties a thick hard light pottery, with white specks and a polished drab-white facing, was generally used for all fine purposes. The XIXth and XXth Dynasties only show a degradation of the types of the XVIIIth; and even through to the XXVth Dynasty there is no new movement (P.K.; P.I.; P.A.; P.S.T.).

The XXVIth Dynasty was largely influenced by Greek amphorae imported with wine and oil. The native pottery is of a very fine paste, smooth and thin, but poor in forms. Cylindrical cups, and jars with cylindrical necks and no brim, are typical. The small necks and trivial handles begin now, and are very common in Ptolemaic times (P.T. ii.).

The great period of Roman pottery is marked by the ribbing on the outsides. The amphorae began to be ribbed about a.d. 150, and then ribbing extended to all the forms. The ware is generally rather rough, thick and brown for the amphorae, thin and red for smaller vessels. At the Constantine age a new style begins, of hard pink ware, neatly made, and often with “start-patterns” made by a vibrating tool while the vessel rotated: this was mainly used for bowls and cups (P.E.). Of the later pottery of Arab times we have no precise knowledge.

The abbreviations used above refer to the following sources of information:—

M.D. Morgan, *Dahshur*;
P.A. Petrie, *Tell el Amarna*;
P. Ab. Petrie, *Abydos*;
P.D. Petrie, *Dendereh*;
P. Desh. Petrie, *Deshasheh*;
P.D.P. Petrie, *Diospolis Parva*;
P.E. Petrie, *Ehnasya*;
P.I. Petrie, *Illahun*;
P.K. Petrie, *Kahun*;
P.M. Petrie, *Medum*;
P.N. Petrie, *Naqada*;
P.R.T. Petrie, *Royal Tombs*;
P.S. Petrie, *Season in Egypt*;
P.S.T. Petrie, *Six Temples*;
P.T. Petrie, *Pyramids and Temples of Gizeh*;
P.T. ii. Petrie, *Tanis, ii.*;
Q.H. Quibell, *Hieraconpolis*.
(W. M. F. P.)

Monuments.—The principal monuments that are yet remaining to illustrate the art and history of Egypt may be best taken in historical order. Of the prehistoric age there are many rock carvings, associated with others of later periods: they principally remain on the sandstone rocks about Silsila, and their age is shown by the figures of ostriches which were extinct in later times. One painted tomb was found at Nekhen (Hieraconpolis), now in the Cairo Museum; the brick walls were colour-washed and covered with irregular groups of men, animals and ships, painted with red, black and green. The cemeteries otherwise only contain graves, cut in gravel or brick lined, and formerly roofed with poles and brushwood. The Ist to IIIrd Dynasties have left at Abydos large forts of brickwork, remains of two successive temples, and the royal tombs (see Abydos). Elsewhere are but few other monuments; at Wadi Maghāra in Sinai is a rock sculpture of Semerkhet of the Ist Dynasty in perfect state, at Gīza is a group of tombs of a prince and retinue of the Ist Dynasty, and at Gīza and Bēt Khallaf are two large brick mastabas with extensive passages closed by trap-doors, of kings of the IIIrd Dynasty. The main structure of this age is the step-pyramid of Sakkara, which is a mastaba tomb with eleven successive coats of masonry, enlarging it to about 350 by 390 ft. and 200 ft. high. In the interior is sunk in the rock a chamber 24 × 23 ft. and 77 ft. high, with a granite sepulchre built in the floor of it, and various passages and chambers branching from it. The doorway of one room (now in Berlin Museum) was decorated with polychrome glazed tiles with the name of King Neterkhet. The complex original work and various alterations of it need thorough study, but it is now closed and research is forbidden.

Fig. 112.—Principal Types of Pottery of Ancient Egypt. (Scale 1 : 20.)

The IVth to VIth Dynasties are best known by the series of pyramids (see Pyramid) in the region of Memphis. Beyond these tombs, and the temples attached to them, there are very few fixed monuments; of Cheops and Pepi I. there are temple foundations at Abydos (*q.v.*), and a few blocks on other sites; of Neuserre (Raenuser) there is a sun temple at Abusīr; and of several kings there were tablets in Sinai, now in the Cairo Museum. A few tablets of the IXth Dynasty have been found at Sakkāra, and a tomb of a prince at Assiūt. Of the XIth Dynasty is the terrace-temple of Menthotp III. recently excavated at Thebes: also foundations of this king and of Sankhkerē at Abydos. In the XIIth Dynasty there is the celebrated red granite obelisk of Heliopolis, one of a pair erected by Senwosri (Senusert) I. in front of his temple which has now vanished. Another large obelisk of red granite, 41 ft. high, remains in the Fayūm. The most important pictorial tombs of Beni Hasan belong to this age; the great princes appear to have largely quarried stone for their palaces, and to have cut the quarry in the form of a regular chamber, which served for the tomb chapel. These great rock chambers were covered with paintings, which show a large range of the daily life and civilization. The pyramids and temples of Senwosri II. and III. and Amenemhē III. remain at Illahūn, Dahshūr and Hawāra. The latter was the celebrated Labyrinth, which has been entirely quarried away, so that only banks of chips and a few blocks remain. At the first of these sites is the most perfect early town, of which hundreds of houses still remain. Of Senwosri III. there are the forts and temples above the second cataract at Semna and Kumma. Of the Hyksos age there are the scanty remains of a great fortified camp at Tell el-Yehudia.

In the XVIIIth to XXth Dynasties we reach the great period of monuments. Of Amāsis (Aahmes) and Amenophis I. there are but fragments left in later buildings; and of the latter a great quantity of sculpture has been recovered at Karnak. The great temple of Karnak had existed since the XIth Dynasty or earlier, but the existing structure was begun under Tethmosis (Tahutmes) I., and two of the great pylons and one obelisk of his remain in place. He also built the simple and dignified temple of Medinet Habu at Thebes, which was afterward overshadowed by the grandiose work of Rameses III. The next generation—Tethmōsis II. and Hatshepsut—added to their father's work; they also built another pylon and some of the existing chambers at Karnak, set up the great obelisks there and carved some colossi. The obelisks are exquisitely cut in red granite, each sign being sawn in shape by copper tools fed with emery, and the whole finished with

a perfection of proportion and delicacy not seen on other granite work. One obelisk being overthrown and broken we can examine the minute treatment of the upper part, which was nearly a hundred feet from the ground. The principal monument of this period is the temple of Deir el Bahri, the funeral temple of Hatshepsut, on which she recorded the principal event of her reign, the expedition to Punt. The erasures of her name by Tethmosis III., and reinsertions of names under later kings, the military scenes, and the religious groups showing the sacred kine of Hathor, all add to the interest of the remarkable temple. It stands on three successive terraces, rising to the base of the high limestone cliffs behind it. The rock-cut shrine at Speos Artemidos, and the temple of Serabīt in Sinai are the only other large monuments of this queen yet remaining. Tethmosis III. was one of the great builders of Egypt, and much remains of his work, at about forty different sites. The great temple of Karnak was largely built by him; most of the remaining chambers are his, including the beautiful botanical walls showing foreign plants. Of his work at Heliopolis there remain the obelisks of London and New York; and from Elephantine is the obelisk at Sion House. On the Nubian sites his work may still be seen at Amāda, Ellesīa, Ibrīm, Semna and in Sinai at Serabīt el Khādem. Of Amenophis II. and Tethmosis IV. there are no large monuments, they being mainly known by additions at Karnak. The well known stele of the sphinx was cut by the latter king, to commemorate his dream there and his clearing of the sphinx from sand. Amenophis III. has left several large buildings of his magnificent reign. At Karnak the temple had a new front added as a great pylon, which was later used as the back of the hall of columns by Seti I. But three new temples at Karnak, that of Month (Mentu), of Mut and a smaller one, all are due to this reign, as well as the long avenue of sphinxes before the temple of Khons; these indicate that the present Ramesside temple of Khons has superseded an earlier one of this king. The great temple of Luxor was built to record the divine origin of the king as son of Ammon; and on the western side of Thebes the funerary temple of Amenophis was an immense pile, of which the two colossi of the Theban plain still stand before the front of the site, where yet lies a vast tablet of sandstone 30 ft. high. The other principal buildings are the temples of Sedenga and of Sōlib in Nubia. Akhenaton has been so consistently eclipsed by the later kings who destroyed his work, that the painted pavement and the rock tablets of Tell el Amarna are the only monuments of his still in position, beside a few small inscriptions. Harmahib (Horemheb) resumed the work at Karnak, erecting two great pylons and a long avenue of sphinxes. The rock temple at Silsila and a shrine at Jebel Adda are also his.

In the XIXth Dynasty the great age of building continued, and the remains are less destroyed than the earlier temples, because there were subsequently fewer unscrupulous rulers to quarry them away. Seti I. greatly extended the national temple of Karnak by his immense hall of columns added in front of the pylon of Amenophis III. His funerary temple at Kurna is also in a fairly complete condition. The temple of Abydos is celebrated owing to its completeness, and the perfect condition of its sculptures, which render it one of the most interesting buildings as an artistic monument; and the variety of religious subjects adds to its importance. The very long reign and vanity of Rameses II. have combined to leave his name at over sixty sites, more widely spread than that of any other king. Yet very few great monuments were originated by him; even the Ramesseum, his funerary temple, was begun by his father. Additions, appropriations of earlier works and scattered inscriptions are what mark this reign. The principal remaining buildings are part of a court at Memphis, the second temple at Abydos, and the six Nubian temples of Bēt el-Wāli, Jerf Husein, Wadi es-Sebūa, Derr, and the grandest of all—the rock-cut temple of Abu Simbel, with its neighbouring temple of Hathor. Mineptah has left few original works; the Osireum at Abydos is the only one of which much remains, his funerary temple having been destroyed as completely as he destroyed that of Amenophis III. The celebrated Israel stele from this temple is his principal inscription. The rock shrines at Silsila are of small importance. There is no noticeable monument of the dozen troubled years of the end of the dynasty.

The XXth Dynasty opened with the great builder Rameses III. Probably he did not really exceed other kings in his activity; but as being the last of the building kings at the western side of Thebes, his temple has never been devastated for stone by the claims of later work. The whole building of Medinet Habu is about 500 ft. long and 160 wide, entirely the work of one reign. The sculptures of it are mainly occupied with the campaigns of the king against the Libyans, the Syrians and the negroes, and are of the greatest importance for the history of Egypt and of the Mediterranean lands. Another large work was the clearance and rebuilding of much of the city of Tell el Yehudia, the palace hall of which contained the celebrated coloured tiles with figures of captives. At Karnak three temples, to Ammon, Khonsu and Mut, all belong to this reign. The blighted reigns of the later Ramessides and the priest-kings did not leave a single great monument, and they are only known by usurpations of the work of others. The Tanite kings of the XXIst Dynasty rebuilt the temple of their capital, but did little else. The XXIInd Dynasty returned to monumental work. Sheshonk I. added a large wall at Karnak, covered with the record of his Judaean war. Osorkon (Uasarkon) I. built largely at Bubastis, and Osorkon II. added the great granite pylon there, covered with scenes of his festival; but at Thebes these kings only inscribed previous monuments. The Ethiopian (XXVth) dynasty built mainly in their capital under Mount Barkal, and Shabako and Tirhaka (Tahrak) also left chapels and a pylon at Thebes; and the latter added a great colonnade leading up to the temple of Karnak, of which one column is still standing.

Of the Saite kings there are very few large monuments. Their work was mainly of limestone and built in the Delta, and hence it has been entirely swept away. The square fort of brickwork at Daphnae (*q.v.*) was built by Psammetichus I. Of Apries (Haa-ab-ra, Hophra) an obelisk and two monolith shrines are the principal remains. Of Amasis (Aahmes) II. five great shrines are known; but the other kings of this age have only left minor works. The Persians kept up Egyptian monuments. Darius I. quarried largely, and left a series of great granite decrees along his Suez canal; he also built the

great temple in the oasis of Kharga.

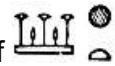
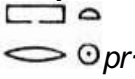
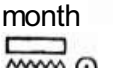
The XXXth Dynasty renewed the period of great temples. Nekhtharheb built the temple of Behbēt, now a ruinous heap of immense blocks of granite. Beside other temples, now destroyed, he set up the great west pylon of Karnak, and the pylon at Kharga. Nekhtnebf built the Hathor temple and great pylon at Philae, and the east pylon of Karnak, beside temples elsewhere, now vanished. Religious building was continued under the Ptolemies and Romans; and though the royal impulse may not have been strong, yet the wealth of the land under good government supplied means for many places to rebuild their old shrines magnificently. In the Fayum the capital was dedicated to Queen Arsinoe, and doubtless Ptolemy rebuilt the temple, now destroyed. At Sharona are remains of a temple of Ptolemy I. Dendera is one of the most complete temples, giving a noble idea of the appearance of such work anciently. The body of the temple is of Ptolemy XIII., and was carved as late as the XVIth (Caesarion), and the great portico was in building from Augustus to Nero. At Coptos was a screen of the temple of Ptolemy I. (now at Oxford), and a chapel still remains of Ptolemy XIII. Karnak was largely decorated; a granite cella was built under Philip Arrhidaeus, covered with elaborate carving; a great pylon was added to the temple of Khonsu by Ptolemy III.; the inner pylon of the Ammon-temple was carved by Ptolemy VI. and IX.; and granite doorways were added to the temples of Month and Mūt by Ptolemy II. At Luxor the entire cella was rebuilt by Alexander. At Medīnet Habū the temple of Tethmosis III. had a doorway built by Ptolemy X., and a forecourt by Antoninus. The smaller temple was built under Ptolemy X. and the emperors. South of Medīnet Habū a small temple was built by Hadrian and Antoninus. At Esna the great temple was rebuilt and inscribed during a couple of centuries from Titus to Decius. At El Kab the temple dates from Ptolemy IX. and X. The great temple of Edfū, which has its enclosure walls and pylon complete, and is the most perfect example remaining, was gradually built during a century and a half from Ptolemy III. to XI. The monuments of Philae begin with the wall of Nekhtnebf. Ptolemy II. began the great temple, and the temple of Arhesnofer (Arsenuphis) is due to Ptolemy IV., that of Asclepius to Ptolemy V., that of Hathor to Ptolemy VI., and the great colonnades belong to Ptolemy XIII. and Augustus. The beautiful little riverside temple, called the “kiosk,” was built by Augustus and inscribed by Trajan; and the latest building was the arch of Diocletian.

Farther south, in Nubia, the temples of Dabōd and Dakka were built by the Ethiopian Ergamenes, contemporary of Ptolemy IV.; and the temple of Dendūr is of Augustus. The latest building of the temple style is the White Monastery near Suhag. The external form is that of a great temple, with windows added along the top; while internally it was a Christian church. The modern dwellings in it have now been cleared out, and the interior admirably preserved and cleaned by a native Syrian architect.

Beside the great monuments, which we have now noticed, the historical material is found on several other classes of remains. These are: (1) The royal tombs, which in the Vth, VIth, XVIIIth, XIXth and XXth Dynasties are fully inscribed; but as the texts are always religious and not historical, they are less important than many other remains. (2) The royal coffins and wrappings, which give information by the added graffiti recording their removals; (3) Royal tablets, which are of the highest value for history, as they often describe or imply historical events; (4) Private tombs and tablets, which are in many cases biographical. (5) Papyri concerning daily affairs which throw light on history; or which give historic detail, as the great papyrus of Rameses III., and the trials under Rameses X. (6) The added inscriptions on buildings by later restorers, and alterations of names for misappropriation. (7) The statues which give the royal portraits, and sometimes historical facts. (8) The *ostraca*, or rough notes of work accounts, and plans drawn on pieces of limestone or pottery. (9) The scarabs bearing kings’ names, which under the Hyksos and in some other dark periods, are our main source of information. (10) The miscellaneous small remains of toilet objects, ornaments, weapons, &c., many of which bear royal names.

Every object and monument with a royal name will be found catalogued under each reign in Petrie’s *History of Egypt*, 3 vols., the last editions of each being the fullest.

(W. M. F. P.)

F. *Chronology.*—1. *Technical.*—The standard year of the Ancient Egyptians consisted of twelve months of thirty days[17] each, with five epagomenal days, in all 365 days. It was thus an effective compromise between the solar year and the lunar month, and contrasts very favourably with the intricate and clumsy years of other ancient systems. The leap-year of the Julian and Gregorian calendars confers the immense benefit of a fixed correspondence to the seasons which the Egyptian year did not possess, but the uniform length of the Egyptian months is enviable even now. The months were grouped under three seasons of four months each, and were known respectively as the first, second, third and fourth month  of  (i’ḫ·t) “inundation” or “verdure,”  *pr·t* (*pro*) “seed-time,” “winter,” and  *šmw (shôm)* “harvest,” “summer,” the  “five (days) over the year” being outside these seasons and the year itself, according to the Egyptian expression, and counted either at the beginning or at the end of the year. Ultimately the Egyptians gave names to the months taken from festivals celebrated in them, in order as follows:—Thoth, Paophi, Athyr, Choiak, Tōbi, Mechīr, Phamenōth, Pharmūthi, Pachons, Payni, Epiphi, Mesore, the epagomenal days being then called “the short year.” In Egypt the agricultural seasons depend more immediately on the Nile than on the

solar movements; the first day of the first month of inundation, *i.e.* nominally the beginning of the rise of the Nile, was the beginning of the year, and as the Nile commences to rise very regularly at about the date of the annual heliacal rising of the conspicuous dog-star Sothis (Sirius) (which itself follows extremely closely the slow retrogression of the Julian year), the primitive astronomers found in the heliacal rising of Sothis as observed at Memphis (on July 19 Julian) a very correct and useful starting-point for the seasonal year. But the year of 365 days lost one day in four years of the Sothic or Julian year, so that in 121 Egyptian years New Year's day fell a whole month too early according to the seasons, and in 1461 years a whole year was lost. This "Sothic period" or era of 1460 years, during which the Egyptian New Year's day travelled all round the Sothic year, is recorded by Greek and Roman writers at least as early as the 1st century b.c. The epagomenal days appear on a monument of the Vth Dynasty and in the very ancient Pyramid texts. They were considered unlucky, and perhaps this accounts for the curious fact that, although they are named in journals and in festival lists, &c., where precise dating was needed, no known monument or legal document is dated in them. It is, however, quite possible that by the side of the year of 365 days a shorter year of 360 was employed for some purposes. Lunar months were observed in the regulation of temples, and lunar years, &c., have been suspected. To find uniformity in any department in Egyptian practice would be exceptional. By the decree of Canopus, Ptolemy III. Euergetes introduced through the assembly of priests an extra day every fourth year, but this reform had no acceptation until it was reimposed by Augustus with the Julian calendar. Whether any earlier attempt was made to adjust the civil to the solar or Sothic year in order to restore the festivals to their proper places in the seasons temporarily or otherwise, is a question of great importance for chronology, but at present it remains unanswered. Probably neither the Sothic nor any other era was employed by the ancient Egyptians, who dated solely by regnal years (see below). An inscription of Rameses II. at Tanis is dated in the 400th year of the reign of the god Sēth of Ombos, probably with reference to some religious ordinance during the rule of the Seth-worshipping Hyksos; Rameses II. may well have celebrated its quater-centenary, but it is wrong to argue from this piece of evidence alone that an era of Sēth was ever observed.

From the Middle Kingdom onward to the Roman period, the dates upon Egyptian documents are given in regnal years. On the oldest monuments the years in a reign were not numbered consecutively but were named after events; thus in the Ist Dynasty we find "the year of smiting the Antiu-people," in the beginning of the IIIrd Dynasty "the year of fighting and smiting the people of Lower Egypt." But under the IInd Dynasty there was a census of property for taxation every two years, and the custom, continuing (with some irregularities) for a long time, offered a uniform mode of marking years, whether current or past. Thus such dates are met with as "the year of the third time of numbering" of a particular king, the next being designated as "the year after the third time of numbering." Under the Vth Dynasty this method was so much the rule that the words "of numbering" were commonly omitted. It would seem that in the course of the next dynasty the census became annual instead of biennial, so that the "times" agreed with the actual years of reign; thenceforward their consecutive designation as "first time," "second time," for "first year," "second year," was as simple as it well could be, and lasted unchanged to the fall of paganism. The question arises from what point these regnal dates were calculated. Successive regnal years might begin (1) on the anniversary of the king's accession, or (2) on the calendrical beginning in each year (normally on the first day of the nominal First month of inundation, *i.e.* 1st Thoth in the later calendar). In the latter case there would be a further consideration: was the portion of a calendar year following the accession of the new king counted to the last year of the outgoing king, or to the first year of the new king? In Dynasties I., IV.-V., XVIII. there are instances of the first mode (1), in Dynasties II., VI. (?), XII., XXVI. and onwards they follow the second (2). It may be that the practice was not uniform in all documents even of the same age. In Ptolemaic times not only were Macedonian dates sometimes given in Greek documents, but there were certainly two native modes of dating current; down to the reign of Euergetes there was a "fiscal" dating in papyri, according to which the year began in Paophi, besides a civil dating probably from Thoth; later, all the dates in papyri start from Thoth.

The Macedonian year is found in early Ptolemaic documents. The fixed year of the Canopic decree under Euergetes (with 1st Thoth on Oct. 22) was never adopted. Augustus established an "Alexandrian" era with the fixed Julian year, retaining the Egyptian months, with a sixth epagomenal day every fourth year. The capture of Alexandria having taken place on the 1st of August 30 b.c., the era began nominally in 30 b.c., but it was not actually introduced till some years later, from which time the 1st Thoth corresponded with the 29th of August in the Julian year. The vague "Egyptian" year, however, continued in use in native documents for some centuries along with the Alexandrian "Ionian" year. The era of Diocletian dates from the 29th of August 284, the year of his reforms; later, however, the Christians called it the era of the Martyrs (though the persecution was not until 302), and it survived the Arab conquest. The dating by indictions, *i.e.* Roman tax-censuses, taking place every fifteenth year, probably originated in Egypt, in a.d. 312, the year of the defeat of Maxentius. The indictions began in Payni of the fixed year, when the harvest had been secured.

See F. K. Ginzel, *Handbuch der mathematischen und technischen Chronologie*, Bd. i. (Leipzig, 1906), and the bibliography in the following section.

2. *Historical.*[18]—As to absolute chronology, the assigning of a regnal year to a definite date b.c. is clear enough (except in occasional detail) from the conquest by Alexander onwards. Before that time, in spite of successive efforts to establish a chronology, the problem is very obscure. The materials for reconstructing the absolute chronology are of several kinds: (1) Regnal dates as given on contemporary monuments may indicate the *lengths of individual reigns*, but not with accuracy, as they seldom reach to the end of a reign and do not allow for co-regencies. Records of the time that has

elapsed between two regnal dates in the reigns of different kings are very helpful; thus stelae from the Serapeum recording the ages of the Apis bulls with the dates of their birth and death have fixed the chronology of the XXVIth Dynasty. Traditional evidence for the lengths of reigns exists in the Turin Papyrus of kings and in Manetho's history; unfortunately the papyrus is very fragmentary and preserves few reign-lengths entire, and Manetho's evidence seems very untrustworthy, being known only from late excerpts. (2) The duration of a period may be calculated by *generations* or the probable average lengths of reigns, but such calculations are of little value, and the succession of generations even when the evidence seems to be full is particularly difficult to ascertain in Egyptian, owing to adoptions and the repetition of the same name even in one family of brothers and sisters. (3) *Synchronisms* in the histories of other countries furnish reliable dates—Greek, Persian, Babylonian and Biblical dates for the XXVIth Dynasty, Assyrian for the XXVth; less precise are the Biblical date of Rehoboam, contemporary with the invasion of Shishak (Sheshonk) in the XXIInd Dynasty, and the date of the Babylonian and Assyrian kings contemporary with Amenhotp IV. in the XVIIIth Dynasty. The last, about 1400 b.c., is the earliest point to which such coincidences reach. (4) *Astronomical data*, especially the heliacal risings of Sothis recorded by dates of their celebration in the vague year. These are easily calculated on the assumption first that the observations were correctly made, secondly that the calendrical dates are in the year of 365 days beginning on 1st Thoth, and thirdly that this year subsequently underwent no readjustment or other alteration before the reign of Euergetes. The assumption may be a reasonable one, and if the results agree with probabilities as deduced from the rest of the evidence it is wise to adopt it; if on the other hand the other evidence seems in any serious degree contrary to those results it may be surmised that the assumption is faulty in some particular. The harvest date referred to below helps to show that the first part of the assumption is justified.

Dynasty.	Meyer 1887 (minimum date).	Petrie 1894 &c.	Meyer 1904-1908.	Sethe 1905.	Breasted 1906.	Petrie 1906.
I.	3180	4777	3315	3360	3400	5510
II.	"	4514		3110		5247
III.	"	4212	2895	2810	2980	4945
IV.	2830	3998	2840	2720	2900	4731
V.		3721	2680	2630	2750	4454
VI.	2530	3503	2540	2480	2625	4206
VII.		3322		2300	2475	4003
VIII.		3252				3933
IX.		3106	2360		2445	3787
X.		3006				3687
XI.		2821	2160	2100	2160	3502
XII.	2130	2778	2000	2000	2000	3459
XIII.	1930	2565	1791		1788	3246
XIV.		2112				2793
XV.	1780		1680*			2533
XVI.		1928				2249
XVII.		1738				1731
XVIII.	1530	1587	1580		1580	1580
XIX.	1320	1327	1321		1350	1323

* Meyer makes XIII. overlap XV. (Hyksos), and XIV. (Xoite), contemporary with XVI. (Hyksos) and XVII. (Theban).

The duration of the reigns in several dynasties is fairly well known from the incontrovertible evidence of contemporary monuments. The XXVIth Dynasty, which lasted 139 years, is particularly clear, and synchronisms fix its regnal dates to the years b.c. within an error of one or two years at most. The lengths of several reigns in the XIIth, XVIIIth and XIXth Dynasties are known, and the sum total for the XIIth Dynasty is preserved better than any other in the Turin Papyrus, which was written under the XIXth Dynasty. The succession and number of the kings are also ascertained for other dynasties, together with many regnal dates, but very serious gaps exist in the records of the Egyptian monuments, the worst being between the XIIth and the XVIIIth Dynasties, between the XIth and the VIth, and at Dynasties I.-III. For the chronology before the time of the XXVIth Dynasty Herodotus's history is quite worthless. Manetho alone of all authorities offers a complete chronology from the 1st Dynasty to the XXXth. In the case of the six kings of the XXVIth Dynasty, Africanus, the best of his excerptors, gives correct figures for five reigns, but attributes six instead of sixteen years to Necho; the other excerptors have wrong numbers throughout. For the XIXth Dynasty Manetho's figures are wrong wherever we can check them; the names, too, are seriously faulty. In the XVIIIth Dynasty he has too many names and few are clearly identifiable, while the numbers are incomprehensible. In the XIIth Dynasty the number of the kings is correct and many of the names can be justified, but the reign-lengths are nearly, if not quite, all wrong. The summations of years for the Dynasties XII. and XVIII. are likewise wrong. It seems, therefore, that the known texts of Manetho, serviceable as they have been in the reconstruction of Egyptian history, cannot be employed as a serious guide to the early chronology, since they are faulty wherever we can check them, even in the XXVIth Dynasty whose kings were so

celebrated among the Greeks. There remain the astronomical data. Of these, the Sothic date furnished by a calendar in the Ebers Papyrus of the 9th year of Amenophis I. (when interpreted on the assumption stated above), and another at Elephantine of an uncertain year of Tethmosis III., tally well with each other (1550-1546, 1474-1470 b.c.) and with the Babylonian synchronism (not yet accurately determined) under Amenhotp IV. (Akhenaton). Another Sothic date of the 7th year of Senwosri III. on a Berlin papyrus from Kahūn, similarly interpreted (1882-1878 b.c.), gives for the XIIth Dynasty a range from 2000 to 1788 b.c. This (discovered by L. Borchardt in 1899) seems to offer a welcome ray, piercing the obscurity of early Egyptian chronology; guided by it the historian Ed. Meyer, and K. Sethe have framed systems of chronology in close agreement with each other, reaching back to the 1st Dynasty at about 3400 b.c. To Meyer is further due a calculation that the Egyptian calendar was introduced in 4241-4238 b.c.19 Their results in general have been adopted by the "Berlin school," including Erman, Steindorff (in Baedeker's *Egypt*) and Breasted in America. Nevertheless many Egyptologists are unwilling to accept the new chronology, the chief obstacle being that it allows so short an interval for the six dynasties between the XIIth and the XVIIIth. If the XIIth Dynasty ended about 1790 b.c. and the XVIIIth began about 1570 b.c., taking what seems to be the utmost interval that it permits, 220 years have to contain a crowd of kings of whom nearly 100 are already known by name from monuments and papyri, while fresh names are being added annually to the long list; the shattered fragments of the last columns in the Turin Papyrus show space for 150 or perhaps 180 kings of this period, apparently without reaching the XVIIth Dynasty. An estimate of 160 to 200 kings would therefore not be excessive. The dates that have come down to us are very few; the only ones known from the Hyksos period are of a 12th and a 33rd year. In the Turin Papyrus two reign-lengths of less than a year, seven others of less than five years each, one of ten years and one of thirteen seem attributable to the XIIIth and XIVth Dynasties. Probably most of the reigns were short, as Manetho also decidedly indicates. It is possible that the compiler of the Turin Papyrus, who excluded contemporary reigns in the period between the VIth and the XIIth Dynasties, here admitted such; nor is a correspondingly large number of kings in so short a period without analogies in history. Professor Petrie, however, thinks it best, while accepting the evidence of the Sirius date, to suppose further that a whole Sothic period of 1460 years had passed in the interval, making a total of 1650 years for the six dynasties in place of 220 years. This, however, seems greatly in excess of probability, and several Egyptologists familiar with excavation are willing to accept Meyer's figures on archaeological grounds. To the present writer it seems that Meyer's chronology provides a convenient working theory, but involves such an improbability in regard to the interval between the XIIth and the XVIIIth Dynasties that the interpretation of the Sothic date on which it is founded must be viewed with suspicion until clear facts are found to corroborate it. Corroboration has been sought by Mahler, Sethe and Petrie in the dates of new moons, of warlike and other expeditions, and of high Nile, but their evidence so far is too vague and uncertain to affect the question seriously. It is remarkable that no records of eclipses are known from Egyptian documents. The interesting date of the harvest at El Bersha, quoted by Meyer in Breasted, *Records*, i. p. 48, confirms the Sothic date for the XIIth Dynasty in some measure, but it belongs to the same age, and therefore its evidence would be equally vitiated with the other by any subsequent alteration in the Egyptian calendar. Before the discovery of the Kahun Sothic date, Professor Petrie put the end of the XIIth Dynasty at 2565 b.c.; in 1884 even Meyer had suggested 1930 b.c. as its *minimum* date, thus allowing 400 years at the least for the period from the XIIIth Dynasty to the XVIIth.

Dynasty.	Wiedemann 1884.	Meyer 1884.	Petrie 1905-1906.	Breasted 1906.	Maspero 1904.
XIX.	1490	1320	(1328), 1322	1350	
XX.	1280	1180	1202	1200	
XXI.	1100	1060	1102	1090	
XXII.	975	930	952	945	
XXIII.	810		755	745	
XXIV.	720		721	718	
XXV.	715	728	715	712	
XXVI.	664	663	664	663	
XXVII.	525	525	525	525	425
XXVIII.	415		405		c. 405
XXIX.	408		399		399
XXX.	387		378		380
Ochus	350		342		342

Beyond the XIIth Dynasty estimates must again be vague. The spacing of the years on the Palermo stone has given rise to some calculations for the early dynasties. Others are grounded on the dates of certain operations which are likely to have taken place at particular seasons of the year so that they can be roughly calculated on the Sothic basis, others on Manetho's figures, average lengths of reigns, evidence of the Turin Papyrus, &c.

Table I. page 79 shows the chronology of the first nineteen dynasties, according to recent authorities, before and after the discovery of the Kahun Sothic date.

The dates of the earlier dynasties in this table are always intended to be only approximate; for instance, Meyer in 1904

allowed an error of 100 years either of excess or deficiency in the dates he assigned to the dynasties from the Xth upwards.

The other dynasties are dated as in Table II. by different authorities.

See Ed. Meyer, *Geschichte des Altertums*, Bd. i. (Stuttgart, 1884), *Geschichte des alten Ägyptens* (1887), *Ägyptische Chronologie* (*Abhandl.* of Prussian Academy) (Berlin, 1904, with the supplement *Nachträge zur ägypt. Chronologie*, ib. 1907); K. Sethe, "Beiträge zur ältesten Geschichte Ägyptens" (in his *Untersuchungen*, Bd. iii.) (Leipzig, 1905); J. H. Breasted, *Ancient Records of Egypt*, "Historical Documents," vol. i. (Chicago, 1906); W. M. F. Petrie, *A History of Egypt*, vol. i. (London, 1884), vol. iii. (1905), *Researches in Sinai* (London, 1906); G. Maspero, *Histoire ancienne des peuples de l'orient* (Paris, 1904); A. Wiedemann, *Ägyptische Geschichte* (Gotha, 1884); articles by Mahler and others in the *Zeitschrift für ägyptische Sprache and Orientalistische Literaturzeitung* (recent years).

(F. Ll. G.)

III. History

1. *From the Earliest Times to the Moslem Conquest.*

In the absence of a strict chronology, the epochs of Pharaonic history are conveniently reckoned in dynasties according to Manetho's scheme, and these dynasties are grouped into longer periods:—the Old Kingdom (Dynasties I. to VIII.), including the Earliest Dynasties (I. to III.) and the Pyramid Period (Dynasties IV. to VI.); the Middle Kingdom (Dynasties IX. to XVII.), including the Heracleopolite Dynasties (IX. to X.) and the Hyksos Period (Dynasties XV. to XVII.); the New Empire (Dynasties XVIII. to XX.); the Deltaic Dynasties (Dynasties XXI. to XXXI.), including the Saite and Persian Periods (Dynasties XXVI. to XXXI.). The conquest by Alexander ushers in the Hellenistic age, comprising the periods of Ptolemaic and Roman rule.

The Prehistoric Age.—One of the most striking features of recent Egyptology is the way in which the earliest ages of the civilization, before the conventional Egyptian style was formed, have been illustrated by the results of excavation. Until 1895 there seemed little hope of reaching the records of those remote times, although it was plain that the civilization had developed in the Nile valley for many centuries before the IVth Dynasty, beyond which the earliest known monuments scarcely reached. Since that year, however, there has been a steady flow of discoveries in prehistoric and early historic cemeteries, and, partly in consequence of this, monuments already known, such as the annals of the Palermo stone, have been made articulate for the beginnings of history in Egypt.

It is probable that certain rudely chipped flints, so-called eoliths, in the alluvial gravels (formed generally at the mouth of wadis opening on to the Nile) at Thebes and elsewhere, are the work of primitive man; but it has been shown that such are produced also by natural forces in the rush of torrents. On the surface of the desert, at the borders of the valley, palaeolithic implements of well-defined form are not uncommon, and bear the marks of a remote antiquity. In some cases they appear to lie where they were chipped on the sites of flint factories. Geologists and anthropologists are not yet agreed on the question whether the climate and condition of the country have undergone large changes since these implements were deposited. As yet none have been found in such association with animal remains as would help in deciding their age, nor have any implements been discovered in rock-shelters or in caves.

Of neolithic remains, arrowheads and other implements are found in some numbers in the deserts. In the Fayūm region, about the borders of the ancient Lake of Moeris and beyond, they are particularly abundant and interesting in their forms. But their age is uncertain; some may be contemporary with the advanced culture of the XIIth Dynasty in the Nile valley. Definite history on the other hand has been gained from the wonderful series of "prehistoric" cemeteries excavated by J. de Morgan, Petrie, Reisner and others on the desert edgings of the cultivated alluvium. The succession of archaeological types revealed in them has been tabulated by Petrie in his *Diospolis Parva*; and the detailed publication of Reisner's unusually careful researches is bringing much new light on the questions involved, amongst other things showing the exact point at which the "prehistoric" series merges into the Ist Dynasty, for, as might be surmised, in many cases the prehistoric cemeteries continued in use under the earliest dynasties. The finest pottery, often painted but all hand-made without the wheel, belongs to the prehistoric period; so also do the finest flint implements, which, in the delicacy and exactitude of their form and flaking, surpass all that is known from other countries. Metal seems to be entirely absent from the earliest type of graves, but immediately thereafter copper begins to appear (bronze is hardly to be found before the XIIth Dynasty). The paintings on the vases show boats driven by oars and sails rudely figured, and the boats bear emblematic standards or ensigns. The cemeteries are found throughout Upper and Middle Egypt, but as yet have not been met with in the Delta or on its borders. This might be accounted for by the inhabitants of Lower Egypt having practised a different mode of disposing of the dead, or by their cemeteries being differently placed.

Tradition, mythology and later customs make it possible to recover a scrap of the political history of that far-off time. Menes, the founder of the Ist Dynasty, united the two kingdoms of Upper and Lower Egypt. In the prehistoric period, therefore, these two realms were separate. The capital of Upper Egypt was Nekheb, now represented by the ruins of El

Kab, with the royal residence across the river at Nekhen (Hieraconpolis); that of Lower Egypt was at Buto (Putō or Dep) in the marshes, with the royal residence in the quarter called Pe. Nekhêbi, goddess of El Kab, represented the Upper or Southern Kingdom, which was also under the tutelage of the god Seth, the goddess Buto and the god Horus similarly presiding over the Lower Kingdom. The royal god in the palace of each was a hawk or Horus. The spirits of the deceased kings were honoured respectively as the jackal-headed spirits of Nekhen and the hawk-headed spirits of Pe. As we hear also of the "spirits of On" it is probable that Heliopolis was at one time capital of a kingdom. In after days the prehistoric kings were known as "Worshippers of Horus" and in Manetho's list they are the νέκυες "Dead," and ἥρωες "Heroes," being looked upon as intermediate between the divine dynasties and those of human kings. It is impossible to estimate the duration of the period represented by the prehistoric cemeteries; that the two kingdoms existed throughout unchanged is hardly probable.

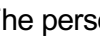
According to the somatologist Elliott Smith, the most important change in the physical character of the people of Upper Egypt, in the entire range of Egyptian archaeology, took place at the beginning of the dynastic period; and he accounts for this by the mingling of the Lower with the Upper Egyptian population, consequent on the uniting of the two countries under one rule. From remains of the age of the IVth Dynasty he is able to define to some extent the type of the population of Lower Egypt as having a better cranial and muscular development than that of Upper Egypt, probably through immigration from Syria. The advent of the dynasties, however, produced a quickening rather than a dislocation in the development of civilization.

It is doubtful whether we possess any writing of the prehistoric age. A few names of the kings of Lower Egypt are preserved in the first line of the Palermo stone, but no annals are attached to them. Petrie considers that one of the kings buried at Abydos, provisionally called Nar-mer and whose real name may be Mer or Beza, preceded Menes; of him there are several inscribed records, notably a magnificent carved and inscribed slate palette found at Hieraconpolis, with figures of the king and his vizier, war-standards and prisoners. To identify him with Bezau (Boethos) of the IInd Dynasty runs counter to much archaeological evidence. Sethe places him next after Menes and some would identify him with that king. Another inscribed palette may be pre-dynastic; it perhaps mentions a king named "Scorpion."

The Old Kingdom.—The names of a number of kings attributable to the Ist Dynasty are known from their tombs at Abydos. Unfortunately, they are almost exclusively Horus titles  , in place of the personal names by The earliest dynasties. which they were recorded in the lists of Abydos and Manetho; some, however, of the latter are found, and prove that the scribes of the New Kingdom were unable to read them correctly. Important changes and improvements took place in the writing even during the Ist Dynasty. The personal name of Menes  is given by one only of many relics of a king whose Horus-name was Aha, "the Fighter." Doubts have been expressed about the identification with Menes, but it is strongly corroborated by the very archaic style of the remains. The name of Aha (Menes) was found in two tombs, one at Nagāda north of Thebes and nearly opposite the road to the Red Sea, the other at Abydos. Manetho makes the Ist Dynasty Thinite, this being the capital of the nome in which Abydos lay. Upper Egypt always had precedence over Lower Egypt, and it seems clear that Menes came from the former and conquered the latter. According to tradition he founded Memphis which lay on the frontier of his conquest; probably he resided there as well as at Abydos; at any rate relics of one of the later kings of the Ist Dynasty have already been recognized in its vast necropolis. Of the eight kings of the Ist Dynasty, three—the fifth, sixth and seventh in the Ramesside list of Abydos—are positively identified by tomb-remains from Abydos, and others are scarcely less certain. Two of the kings have also left tablets at the copper and turquoise mines of Wadi Maghāra in Sinai. The royal tombs are built of brick, but one of them, that of Usaphais, had its floor of granite from Elephantine. They must have been filled with magnificent furniture and provisions of every kind, including annual record-tablets of the reigns, carved in ivory and ebony. From a fragment on the Palermo stone it is clear that material existed as late as the Vth Dynasty for a brief note of the height of the Nile and other particulars in each year of the reign of these kings.

The IInd Dynasty of Manetho appears to have been separated from the Ist even on the Palermo stone; it also was Thinite, and the tombs of several of its nine (?) kings were found at Abydos. The IIIrd Dynasty is given as Memphite by Manetho. Two of the kings built huge mastaba-tombs at Bêt Khallaf near Abydos, but the architect and learned scribe Imhōtp designed for one of these two kings, named Zoser, a second and mightier monument at Memphis, the great step-pyramid of Sakkara. In Ptolemaic times Imhōtp was deified, and the traditional importance of Zoser is shown by a forged grant of the Dodecaschoenus to the cataract god Khnûm, purporting to be from his reign, but in reality dating from the Ptolemaic age. With Snefru, at the end of this dynasty, we reach the beginning of Egyptian history as it was known before the recent discoveries. Monuments and written records are henceforth more numerous and important, and the Palermo annals show a fuller scale of record. The events in the three years that are preserved include a successful raid upon the negroes, and the construction of ships and gates of cedar-wood which must have been brought from the forests of the Lebanon. Snefru also set up a tablet at Wadi Maghāra in Sinai. He built two pyramids, one of them at Mēdūm in steps, the other, probably in the perfected form, at Dahshūr, both lying between Memphis and the Fayūm.

Pyramids did not cease to be built in Egypt till the New Kingdom; but from the end of the IIIrd to the VIth Dynasty is pre-eminently the time when the royal pyramid in stone was the chief monument left by each successive king. Zoser and

Snefru have been already noticed. The personal name enclosed in a cartouche  is henceforth the commonest title of the king. We now reach the IVth Dynasty containing the famous The pyramid period. names of Cheops (*q.v.*), Chephren (Khafrê) and Mycerinus (Menkeurê), builders respectively of the Great, the Second and the Third Pyramids of Giza. In the best art of this time there was a grandeur which was never again attained. Perhaps the noblest example of Egyptian sculpture in the round is a diorite statue of Chephren, one of several found by Mariette in the so-called Temple of the Sphinx. This "temple" proves to be a monumental gate at the lower end of the great causeway leading to the plateau on which the pyramids were built. A king Dedefrê, between Cheops and Chephren, built a pyramid at Abu-Roāsh. Shepseskaf is one of the last in the dynasty. Tablets of most of these kings have been found at the mines of Wadi Maghāra. In the neighbourhood of the pyramids there are numerous mastabas of the court officials with fine sculpture in the chapels, and a few decorated tombs from the end of this centralized dynasty of absolute monarchs are known in Upper Egypt. A tablet which describes Cheops as the builder of various shrines about the Great Sphinx has been shown to be a priestly forgery, but the Sphinx itself may have been carved out of the rock under the splendid rule of the IVth Dynasty.

The Vth Dynasty is said to be of Elephantine, but this must be a mistake. Its kings worshipped Rē, the sun, rather than Horus, as their ancestor, and the title  "son of the Sun" began to be written by them before the cartouche containing the personal name, while another "solar" cartouche, containing a name compounded with Rē, followed the title  "king of Upper and Lower Egypt." Sahurē and the other kings of the dynasty built magnificent temples with obelisks dedicated to Rē, one of which, that of Neuserrē at Abusīr, has been thoroughly explored. The marvellous tales of the Westcar Papyrus, dating from the Middle Kingdom, narrate how three of the kings were born of a priestess of Rē. The pyramids of several of the kings are known. The early ones are at Abusīr, and the best preserved of the pyramid temples, that of Sahurē, excavated by the German Orient-Gesellschaft, in its architecture and sculptured scenes has revealed an astonishingly complete development of art and architecture as well as of warlike enterprise by sea and land at this remote period; the latest pyramid belonging to the Vth Dynasty, that of Unas at Sakkāra, is inscribed with long ritual and magical texts. Exquisitely sculptured tombs of this time are very numerous at Memphis and are found throughout Upper Egypt. Of work in the traditional temples of the country no trace remains, probably because, being in limestone, it has all perished. The annals of the Palermo stone were engraved and added to during this dynasty; the chief events recorded for the time are gifts and endowments for the temples. Evidently priestly influence was strong at the court. Expeditions to Sinai and Puoni (Punt) are commemorated on tablets.

The VIth Dynasty if not more vigorous was more articulate; inscribed tombs are spread throughout the country. The most active of its kings was the third, named Pepi or Phiops, from whose pyramid at Sakkara the capital, hitherto known as "White Walls," derived its later name of Memphis (mn-nfr, Mempi); a tombstone from Abydos celebrates the activity of a certain Una during the reigns of Pepi and his successor in organizing expeditions to the Sinai peninsula and south Palestine, and in transporting granite from Elephantine and other quarries. Herkhuf, prince of Elephantine and an enterprising leader of caravans to the south countries both in Nubia and the Libyan oases, flourished under Merenrē and Pepi II. called Neferkerē. On one occasion he brought home a dwarf dancer from the Sudan, described as being like one brought from Puoni in the time of the fifth-dynasty king Assa; this drew from the youthful Pepi II. an enthusiastic letter which was engraved in full upon the façade of Herkhuf's tomb. The reign of the last-named king, begun early, lasted over ninety years, a fact so long remembered that even Manetho attributes to him ninety-four years; its length probably caused the ruin of the dynasty. The local princelings and monarchs had been growing in culture, wealth and power, and after Pepi II. an ominous gap in the monuments, pointing to civil war, marks the end of the Old Kingdom. The VIIth and VIIIth Dynasties are said to have been Memphite, but of them no record survives beyond some names of kings in the lists.

The Middle Kingdom.—The long Memphite rule was broken by the IXth and Xth Dynasties, of Heracleopolis Magna (Hês) in Middle Egypt. Kheti or Achthoës was apparently a favourite name with the kings, but they are very Heracleopolite period. obscure. They may have spread their rule by conquest over Upper Egypt and then overthrown the Memphite dynasty. The chief monuments of the period are certain inscribed tombs at Assiūt; it appears that one of the kings, whose praenomen was Mikerê, supported by a fleet and army from Upper Egypt, and especially by the prince of Assiūt, was restored to his paternal city of Heracleopolis, from which he had probably been driven out; his pyramid, however, was built in the old royal necropolis at Memphis. Later the princes of Thebes asserted their independence and founded the XIth Dynasty, which pushed its frontiers northwards until finally it occupied the whole country. Its kings were named Menthotp, from Mont, one of the gods of Thebes; others, perhaps sub-kings, were named Enyotf (Antef). They were buried at Thebes, whence the coffins of several were obtained by the early collectors of the 19th century. Nibhôtp Menthotp I. probably established his rule over all Egypt. The funerary temple of Nebheprê Menthotp III., the last but one of these kings, has been excavated by the Egypt Exploration Fund at Deir el Bahri, and must have been a magnificent monument. His successor Sankhkerê Menthotp IV. is known to have sent an expedition by the Red Sea to Puoni.

The XIIth Dynasty is the central point of the Middle Kingdom, to which the decline of the Memphite and the rise of the Heracleopolite dynasty mark the transition, while the growth of Thebes under the XIth Dynasty is its true starting-point.

Monuments of the XIIth Dynasty are abundant and often of splendid design and workmanship, whereas previously there had been little produced since the VIth Dynasty that was not half barbarous. Although not much of the history of the XIIth Dynasty is ascertained, the Turin Papyrus and many dated inscriptions fix the succession and length of reign of the eight kings very accurately. The troubled times that the kingdom had passed through taught the long-lived monarchs the precaution of associating a competent successor on the throne. The nomarchs and the other feudal chiefs were inclined to strengthen themselves at the expense of their neighbours; a firm hand was required to hold them in check and distribute the honours as they were earned by faithful service. The tombs of the most favoured and wealthy princes are magnificent, particularly those of certain families in Middle Egypt at Beni Hasan, El Bersha, Assiūt and Deir Rīfa, and it is probable that each had a court and organization within his nome like that of the royal palace in miniature. Eventually, in the reigns of Senwosri III. and Amenemhê III., the succession of strong kings appears to have centralized all authority very completely. The names in the dynasty are Amenemhê (Ammenemes) and Senwosri (formerly read Usertesen or Senusert). The latter seems to be the origin of the Sesostris (*q.v.*) and Sesoosis of the legends. Amenemhê I., the first king, whose connexion with the previous dynasty is not known, reigned for thirty years, ten of them being in partnership with his son Senwosri I. He had to fight for his throne and then reorganize the country, removing his capital or residence from Thebes to a central situation near Lisht about 25 m. south of Memphis. His monuments are widespread in Egypt, the quarries and mines in the desert as far as Sinai bear witness to his great activity, and we know of an expedition which he made against the Nubians. The "Instructions of Amenemhê to his son Senwosri," whether really his own or a later composition, refer to these things, to his care for his subjects, and to the ingratitude with which he was rewarded, an attempt on his life having been made by the trusted servants in his own palace. The story of Sinûhi is the true or realistic history of a soldier who, having overheard the secret intelligence of Amenemhê's death, fled in fear to Palestine or Syria and there became rich in the favour of the prince of the land; growing old, however, he successfully sued for pardon from Senwosri and permission to return and die in Egypt.

Senwosri I. was already the executive partner in the time of the co-regency, warring with the Libyans and probably in the Sudan. After Amenemhê's death he fully upheld the greatness of the dynasty in his long reign of forty-five years. The obelisk of Heliopolis is amongst his best-known monuments, and the damming of the Lake of Moeris (*q.v.*) must have been in progress in his reign. He built a temple far up the Nile at Wadi Halfa and there set up a stela commemorating his victories over the tribes of Nubia. The fine tombs of Ameni at Beni Hasan and of Hepzefa at Assiūt belong to his reign. The pyramids of both father and son are at Lisht.

Amenemhê II. was buried at Dahshūr; he was followed by Senwosri II., whose pyramid is at Illahūn at the mouth of the Fayūm. In his reign were executed the fine paintings in the tomb of Khnemhotp at Beni Hasan, which include a remarkable scene of Semitic Bedouins bringing eye-paint to Egypt from the eastern deserts. In Manetho he is identified with Sesostris (see above), but Senwosri I., and still more Senwosri III., have a better claim to this distinction. The latter warred in Palestine and in Nubia, and marked the south frontier of his kingdom by a statue and stelae at Semna beyond the Second Cataract. Near his pyramid was discovered the splendid jewelry of some princesses of his family (see Jewelry ad init.). The tomb of Thethotp at El Bersha, celebrated for the scene of the transport of a colossus amongst its paintings, was finished in this reign.

Amenemhê III. completed the work of Lake Moeris and began a series of observations of the height of the inundation at Semna which was continued by his successors. In his long reign of forty-six years he built a pyramid at Dahshūr, and at Hawāra near the Lake of Moeris another pyramid together with the Labyrinth which seems to have been an enormous funerary temple attached to the pyramid. His name was remembered in the Fayūm during the Graeco-Roman period and his effigy worshipped there as Pera-marres, *i.e.* Pharaoh Marres (Marres being his praenomen graecized). Amenemhê IV.'s reign was short, and the dynasty ended with a queen Sebeknefru (Scemiophris), whose name is found in the scanty remains of the Labyrinth. The XIIth Dynasty numbered eight rulers and lasted for 213 years. Great as it was, it created no empire outside the Nile valley, and its most imposing monument, which according to the testimony of the ancients rivalled the pyramids, is now represented by a vast stratum of chips.

The history of the following period down to the rise of the New Empire is very obscure. Manetho gives us the XIIIth (Diospolite) Dynasty, the XIVth (Xoite from Xois in Lower Egypt), the XVth and XVIth (Hyksos) and the XVIIth (Diospolite), but his names are lost except for the Hyksos kings. The Abydos tablet ignores all between the XIIth and XVIIIth Dynasties. The Turin Papyrus preserves many names on its shattered fragments, and the monuments are for ever adding to the list, but it is difficult to assign them accurately to their places. The Hyksos names can in some cases be recognized by their foreign aspect, the peculiar style of the scarabs on which they are engraved or by resemblances to those recorded in Manetho. The kings of the XVIIth Dynasty too are generally recognizable by the form of their name and other circumstances. Manetho indicates marvellous crowding for the XIIIth and XIVth Dynasties, but it seems better to suggest a total duration of 300 or 400 years for the whole period than to adopt Meyer's estimate of about 210 years (see above, Chronology).

Amongst the kings of the XIIIth Dynasty (including perhaps the XIVth), not a few are represented by granite statues of colossal size and fine workmanship, especially at Thebes and Tanis, some by architectural fragments, some by graffiti on the rocks about the First Cataract. Some few certainly reigned over all Egypt. Sebkhotp (Sekhotp, Σοχωτης) is a

favourite name, no doubt to be connected with the god of the Fayūm. Several of the Theban kings named Antef (Enyotf) must be placed here rather than in the XIth Dynasty. A decree of one of them degrading a monarch who had sided with his enemies was found at Coptos engraved on a doorway of Senwosri I.

In its divided state Egypt would fall an easy prey to the foreigner. Manetho says that the Hyksos (*q.v.*) gained Egypt without a blow. Their domination must have lasted a considerable time, the Rhind mathematical papyrus The Hyksos period. having been copied in the thirty-third year of a king Apophis. The monuments and scarabs of the Hyksos kings are found throughout Upper and Lower Egypt; those of Khian somehow spread as far as Crete and Bagdad. The Hyksos, in whom Josephus recognized the children of Israel, worshipped their own Syrian deity, identifying him with the Egyptian god Seth, and endeavoured to establish his cult throughout Egypt to the detriment of the native gods. It is to be hoped that definite light may one day be forthcoming on the whole of this critical episode which had such a profound effect on the character and history of the Egyptian people. The spirited overthrow of the Hyksos ushered in the glories in arms and arts which marked the New Empire. The XVIIth Dynasty probably began the struggle, at first as semi-independent kinglets at Thebes. Seqenenrê is here a leading name; the mummy of the third Seqenenrê, the earliest in the great find of royal mummies at Deir el Bahri, shows the head frightfully hacked and split, perhaps in a battle with the Hyksos.

The New Empire.—The epithet "new" is generally attached to this period, and "empire" instead of "kingdom" marks its wider power. The glorious XVIIIth Dynasty seems to have been closely related to the XVIIth. Its first XVIIIth Dynasty. task was to crush the Hyksos power in the north-east of the Delta; this was fully accomplished by its founder Ahmosi (dialectically Ahmasi, Amōsis or Amāsis I.) capturing their great stronghold of Avāris. Amasis next attacked them in S.W. Palestine, where he captured Sharuhen after a siege of three years. He fought also in Syria and in Nubia, besides overcoming factious opposition in his own land. The principal source for the history of this time is the biographical inscription at El Kab of a namesake of the king, Ahmosi son of Abana, a sailor and warrior whose exploits extend to the reign of Tethmōsis I. Amenōphis I. (Amenhotp), succeeding Amasis, fought in Libya and Ethiopia. Tethmosis I. (c. 1540 b.c.) was perhaps of another family, but obtained his title to the throne through his wife Ahmosi. After some thirty years of settled rule uninterrupted by revolt, Egypt was now strong and rich enough to indulge to the full its new taste for war and lust of conquest. It had become essentially a military state. The whole of the administration was in the hands of the king with his vizier and other court officials; no trace of the feudalism of the Middle Kingdom survived. Tethmosis thoroughly subdued Cush, which had already been placed under the government of a viceroy. This province of Cush extended from Napata just below the Fourth Cataract on the south to El Kab in the north, so that it included the first three nomes of Upper Egypt, which agriculturally were not greatly superior to Nubia. Turning next to Syria, Tethmosis carried his arms as far as the Euphrates. It is possible that his predecessor had also reached this point, but no record survives to prove it. These successful campaigns were probably not very costly, and prisoners, plunder and tribute poured in from them to enrich Egypt. Tethmosis I. made the first of those great additions to the temple of the Theban Ammon at Karnak by which the Pharaohs of the Empire rendered it by far the greatest of the existing temples in the world. The temple of Deir el Bahri also was designed by him. Towards the end of his reign, Queen Hatshepsut. his elder sons being dead, Tethmosis associated Hatshepsut, his daughter by Ahmosi, with himself upon the throne. Tethmosis I. was the first of the long line of kings to be buried in the Valley of the Tombs of the Kings of Thebes. At his death another son Tethmosis II. succeeded as the husband of his half-sister, but reigned only two or three years, during which he warred in Nubia and placed Tethmosis III., his son by a concubine Ēsi, upon the throne beside him (c. 1500 b.c.). After her husband's death the ambitious Hatshepsut assumed the full regal power; upon her monuments she wears the masculine garb and aspect of a king though the feminine gender is retained for her in the inscriptions. On some monuments of this period her name appears alone, on others in conjunction with that of Tethmosis III., while the latter again may appear without the queen's; but this extraordinary woman must have had a great influence over her stepson and was the acknowledged ruler of Egypt. Tethmosis, to judge by the evidence of his mummy and the chronology of his reign, was already a grown man, yet no sign of the immense powers which he displayed later has come down to us from the joint reign. Hatshepsut cultivated the arts of peace. She restored the worship in those temples of Upper and Lower Egypt which had not yet recovered from the religious oppression and neglect of the Hyksos. She completed and decorated the temple of Deir el Bahri, embellishing its walls with scenes calculated to establish her claims, representing her divine origin and upbringing under the protection of Ammon, and her association on the throne by her human father. The famous sculptures of the great expedition by water to Puoni, the land of incense on the Somali coast, are also here, with many others. At Karnak Hatshepsut laboured chiefly to complete the works projected in the reigns of Tethmosis I. and II., and set up two obelisks in front of the entrance as it then was. One of these, still standing, is the most brilliant ornament of that wonderful temple. A date of the twenty-second year of her reign has been found at Sinai, no doubt counted from the beginning of the co-regency with Tethmosis I. Not much later, in his twenty-second year, Tethmosis III. is reigning alone in full vigour. While she lived, the personality of the queen secured the devotion of her servants and held all ambitions in check. Not long after her death there was a violent reaction. Prejudice against the rule of a woman, particularly one who had made her name and figure so conspicuous, was probably the cause of this outbreak, and perhaps sought justification in the fact that, however complete was her right, she had in some degree usurped a place to which her stepson (who was also her nephew) had been appointed. Her cartouches began to be defaced or her monuments hidden up by other buildings, and the same rage pursued some of her most faithful servants in their tombs. But the beauty of the work seems to have restrained the hand of the destroyer. Then came the religious fanaticism of Akhenaton, mutilating all figures of Ammon

and all inscriptions containing his name; this made havoc of the exquisite monuments of Hatshepsut; and the restorers of the XIXth Dynasty, refusing to recognize the legitimacy of the queen, had no scruples in replacing her names by those of the associate kings Tethmosis I., II. or III. These acts of vandalism took place throughout Egypt, but in the distant mines of Sinai the cartouches of Hatshepsut are untouched. In the royal lists of Seti I. and Rameses II. Hatshepsut has no place, nor is her reign referred to on any later monument.[20]

The immense energy of Tethmosis III. now found its outlet in war. Syria had revolted, perhaps on Hatshepsut's death, but by his twenty-second year the monarch was ready to lead his army against the rebels. The revolt, headed Wars of Tethmosis III. by the city of Kadesh on the Orontes, embraced the whole of western Syria. The movements of Tethmosis in this first campaign, including a battle with the Syrian chariots and infantry at Megiddo and the capture of that city, were chronicled from day to day, and an extract from this chronicle is engraved on the walls of the sanctuary of Karnak, together with a brief record of the subsequent expeditions. In a series of five carefully planned campaigns he consolidated his conquests in southern Syria and secured the ports of Phoenicia (*q.v.*). Kadesh fell in the sixth campaign. In the next year Tethmosis revisited the Phoenician ports, chastised the rebellious and received the tribute of Syria, all the while preparing for further advance, which did not take place until another year had gone by. Then, in the thirty-third year of his reign, he marched through Kadesh, fought his way to Carchemish, defeated the forces that opposed him there and crossed over the Euphrates into the territory of the king of Mitanni. He set up a tablet by the side of that of Tethmosis I. and turned southward, following the river as far as Niy. Here he stayed to hunt a herd of 120 elephants, and then, marching westwards, received the tribute of Naharina and gifts from the Hittites in Asia Minor and from the king of Babylon. In all he fought seventeen campaigns in Syria until the spirit of revolt was entirely crushed in a second capture of Kadesh. The wars in Libya and Ethiopia were of less moment. In the intervals of war Tethmosis III. proved to be a wonderfully efficient administrator, with his eye on every corner of his dominions. The Syrian expeditions occupied six months in most of his best years, but the remaining time was spent in activity at home, repressing robbery and injustice, rebuilding and adorning temples with the labour of his captives and the plunder and tribute of conquered cities, or designing with his own hand the gorgeous sacred vessels of the sanctuary of Ammon. In his later years some expeditions took place into Nubia. Tethmosis died in the fifty-fourth year of his reign. His mummy, found in the *cachette* at Deir el Bahri, is said to be that of a very old man. He was the greatest Pharaoh in the New Empire, if not in all Egyptian history.

Tethmosis III. was succeeded by his son Amenophis II., whom he had associated on the throne at the end of his reign. One of the first acts of the new king was to lead an army into Syria, where revolt was again rife; he reached and perhaps crossed the Euphrates and returned home to Thebes with seven captive kings of Tikhsi and much spoil. The kings he sacrificed to Ammon and hanged six bodies on the walls, while the seventh was carried south to Napata and there exposed as a terror to the Ethiopians. Amenophis reigned twenty-six years and left his throne to his son Tethmosis IV., who is best remembered by a granite tablet recording his clearance of the Great Sphinx. He also warred in northern Syria and in Cush. His son Amenophis III., c. 1400 b.c., was a mighty builder, especially at Thebes, where his reign marks a new epoch in the history of the great temples, Luxor being his creation, while avenues of rams, pylons, &c., were added on a vast scale to Karnak. He married a certain Taia, who, though apparently of humble parentage, was held in Amenophis III. great honour by her husband as afterwards by her son. Amenophis III. warred in Ethiopia, but his sway was long unquestioned from Napata to the Euphrates. Small objects with his name and that of Taia are found on the mainland and in the islands of Greece. Through the fortunate discovery of cuneiform tablets deposited by his successor in the archives at Tell el-Amarna, we can see how the rulers of the great kingdoms beyond the river, Mitanni, Assyria and even Babylonia, corresponded with Amenophis, gave their daughters to him in marriage, and congratulated themselves on having his friendship. The king of Cyprus too courted him; while within the empire the descendants of the Syrian dynasts conquered by his father, having been educated in Egypt, ruled their paternal possessions as the abject slaves of Pharaoh. A constant stream of tribute poured into Egypt, sufficient to defray the cost of all the splendid works that were executed. Amenophis caused a series of large scarabs unique in their kind to be engraved with the name and parentage of his queen Taia, followed by varying texts commemorating like medals the boundaries of his kingdom, his secondary marriage with Gilukhipa, daughter of the king of Mitanni, the formation of a sacred lake at Thebes, a great hunt of wild cattle, and the number of lions the king slew in the first ten years of his reign. The colossi known to the Greeks by the name of the Homeric hero Memnon, which look over the western plain of Thebes, represent this king and were placed before the entrance of his funerary temple, the rest of which has disappeared. His palace lay farther south on the west bank, built of crude brick covered with painted stucco. Towards the end of his reign of thirty-six years, Syria was invaded by the Hittites from the north and the people called the Khabiri from the eastern desert; some of the kinglets conspired with the invaders to overthrow the Egyptian power, while those who remained loyal sent alarming reports to their sovereign.

Amenophis IV., son of Amenophis III. and Taia, was perhaps the most remarkable character in the long line of the Pharaohs. He was a religious fanatic, who had probably been high priest of the sun-god at Heliopolis, and had come to Amenophis IV. view the sun as the visible source of life, creation, growth and activity, whose power was demonstrated in foreign lands almost as clearly as in Egypt. Thrusting aside all the multitudinous deities of Egypt and all the mythology even of Heliopolis, he devoted himself to the cult of the visible sun-disk, applying to it as its chief name the hitherto rare word Aton, meaning "sun"; the traditional divine name Harakht (Horus of the horizon), given to the hawk-headed sun-god of Heliopolis, was however allowed to subsist and a temple was built at Karnak to this god. The worship of the other gods was officially recognized until his fifth year, but then a sweeping reform was initiated by which apparently the new cult alone was permitted. Of the old deities Ammon represented by far the wealthiest and most powerful interests, and against this long favoured deity the Pharaoh hurled himself with fury. He changed his own name from Amenhotp, "Ammon is satisfied," to Akhenaton, "pious to Aton," erased the name and figure of Ammon from the monuments, even

where it occurred as part of his own father's name, abandoned Thebes, the magnificent city of Ammon, and built a new capital at El Amarna in the plain of Hermopolis, on a virgin site upon the edge of the desert. This with a large area around he dedicated to Aton in the sixth year, while splendid temples, palaces, houses and tombs for his god, for himself and for his courtiers were rising around him; apparently also this "son of Aton" swore an oath never to pass beyond the boundaries of Aton's special domain. There are signs also that the polytheistic word "gods" was obliterated on many of the monuments, but other divine names, though almost entirely excluded from Akhenaton's work, were left untouched where they already existed. In all local temples the worship of Aton was instituted. The confiscated revenues of Ammon and the tribute from Syria and Cush provided ample means for adorning Ekhaton (Akhetaton), "the horizon of Aton," the new capital, and for richly rewarding those who adopted the Aton teaching fervently. But meanwhile the political needs of the empire were neglected; the dangers which threatened it at the end of the reign of Amenophis III. were never properly met; the dynasts in Syria were at war amongst themselves, intriguing with the great Hittite advance and with the Khabiri invaders. Those who relied on Pharaoh and remained loyal as their fathers had done sent letter after letter appealing for aid against their foes. But though a general was despatched with some troops, he seems to have done more harm than good in misjudging the quarrels. At length the tone of the letters becomes one of despair, in which flight to Egypt appears the only resource left for the adherents of the Egyptian cause. Before the end of the reign Egyptian rule in Syria had probably ceased altogether. Akhenaton died in or about the seventeenth year of his reign, c. 1350 b.c. He had a family of daughters, who appeared constantly with him in all ceremonies, but no son. Two sons-in-law followed him with brief reigns; but the second, Tutenkhaton, soon changed his name to Tutenkhamûn, and, without abandoning Ekhaton entirely, began to restore to Karnak its ancient splendour, with new monuments dedicated to Ammon. Akhenaton's reform had not reached deep amongst the masses of the population; they probably retained all their old religious customs and superstitions, while the priesthoods throughout the country must have been fiercely opposed to the heretic's work, even if silenced during his lifetime by force and bribes. One more adherent of his named Ay, a priest, ruled for a short time, but now Aton was only one of many gods. At length a general named Harmahib, who had served under Akhenaton, came to the throne as a whole-hearted supporter of the old religion; soon Aton and his royal following suffered the fate that they had imposed upon Ammon; their monuments were destroyed and their names and figures erased, while those of Ammon were restored. From the time of Rameses II. onwards the years of the reigns of the heretics were counted to Harmahib, and Akhenaton was described as "that criminal of Akhetaton." Harmahib had to bring order as a practical man into the long-neglected administration of the country and to suppress the extortions of the official classes by severe measures. His laws to this end were engraved on a great stela in the temple of Karnak, of which sufficient remains to bear witness to his high aims, while the prosperity of the succeeding reigns shows how well he realized the necessities of the state. He probably began also to re-establish the prestige of Egypt by military expeditions in the surrounding countries.

Harmahib appears to have legitimated his rule by marriage to a royal princess, but it is probable that Rameses I., who succeeded as founder of the XIXth Dynasty, was not closely related to him. Rameses in his brief reign of XIXth Dynasty. two years planned and began the great colonnaded hall of Karnak, proving that he was a man of great ideas, though probably too old to carry them out; this task he left to his son Seti I., who reigned one year with his father and on the latter's death was ready at once to subdue the Bedouin Shasu, who had invaded Palestine and withheld all tribute. This task was quickly accomplished and Seti pushed onward to the Lebanon. Here cedars were felled for him by the Syrian princes, and the Phoenicians paid homage before he returned home in triumph. The Libyans had also to be dealt with, and afterwards Seti advanced again through Palestine, ravaged the land of the Amorites and came into conflict with the Hittites. The latter, however, were now firmly established in the Orontes valley, and a treaty with Mutallu, the king of Kheta, reigning far away in Cappadocia, probably ended the wars of Seti. In his ninth year he turned his attention to the gold mines in the eastern desert of Nubia and improved the road thither. Meanwhile the great work at Karnak projected by his father was going forward, and throughout Egypt the injuries done to the monuments by Akhenaton were thoroughly repaired; the erased inscriptions and figures were restored, not without many blunders. Seti's temple at Abydos and his galleried tomb in the Valley of the Tombs of the Kings stand out as the most splendid examples of their kind in design and in Rameses II. decoration. Rameses II. succeeded at an early age and reigned sixty-seven years, during which he finished much that was begun by Seti and filled all Egypt and Nubia with his own monuments, some of them beautiful, but most, necessarily entrusted to inferior workmen, of coarse execution. The excavation of the rock temple of Abu Simbel and the completion of the great hall of Karnak were his greatest achievements in architecture. His wars began in his second year, their field comprising the Nubians, the Libyans, the Syrians and the Hittites. In his fifth year, near Kadesh on the Orontes, his army was caught unprepared and divided by a strong force of chariots of the Hittites and their allies, and Rameses himself was placed in the most imminent danger; but through his personal courage the enemy was kept at bay till reinforcements came up and turned the disaster into a victory. The incidents of this episode were a favourite subject in the sculptures of his temples, where their representation was accompanied by a poetical version of the affair and other explanatory inscriptions. Kadesh, however, was not captured, and after further contests, in his twenty-first year Rameses and the Hittite king Khattusil (Kheta-sar) made peace, with a defensive alliance against foreign aggression and internal revolt (see Hittites). Thanks to Winckler's discoveries, the cuneiform text of this treaty from Boghaz Keui can now be compared with the hieroglyphic text at Karnak. In the thirty-fourth year, c. 1250 b.c., Khattusil with his friend or subject the king of Kode came from his distant capital to see the wonders of Egypt in person, bringing one of his daughters to be wife of the splendid Pharaoh. Rameses II. paid much attention to the Delta, which had been neglected until the days of Seti I., and resided there constantly; the temple of Tanis must have been greatly enlarged and adorned by him; a colossus of the king placed here was over 90 ft. in height, exceeding in scale

even the greatest of the Theban colossi which he had erected in his mortuary temple of the Ramesseum. Towards the end of the long reign the vigilance and energy of the old king diminished. The military spirit awakened in the struggle with the Hyksos had again departed from the Egyptian nation; mercenaries from the Sudan, from Libya and from the northern nations supplied the armies, while foreigners settled in the rich lands of the Delta and harried the coasts. It was a time too when the movements of the nations that so frequently occurred in the ancient world were about to be particularly active. Mineptah, c. 1225 b.c., succeeding his father Rameses II., had to fight many battles for the preservation of his kingdom and empire. Apparently most of the fighting was finished by the fifth year of his reign; in his mortuary temple at Thebes he set up a stela of that date recording a great victory over the Libyan immigrants and invaders, which rendered the much harried land of Egypt safe. The last lines picture this condition with the crushing of the surrounding tribes. Libya was wasted, the Hittites pacified, Canaan, Ashkelon (Ascalon), Gezer, Yenoam sacked and plundered: "Israel is desolated, his seed is not, Khor (Palestine) has become a widow (without protector) for Egypt." The Libyans are accompanied by allies whose names, Sherden, Shekelesh, Ekwesh, Lukku, Teresh, suggest identifications with Sardinians, Sicels, Achaeans, Lycians and Tyrseni or Etruscans. The Sherden had been in the armies of Rameses II., and are distinguished by their remarkable helmets and apparently body armour of metal. The Lukku are certainly the same as the Lycians. Probably they were all sea-rovers from the shores and islands of the Mediterranean, who were willing to leave their ships and join the Libyans in raids on the rich lands of Egypt. Mineptah was one of the most unconscionable usurpers of the monuments of his predecessors, including those of his own father, who, it must be admitted, had set him the example. The coarse cutting of his cartouches contrasts with the splendid finish of the Middle Kingdom work which they disfigure. It may be questioned whether it was due to a wave of enthusiasm amongst the priests and people, leading them to rededicate the monuments in the name of their deliverer, or a somewhat insane desire of the king to perpetuate his own memory in a singularly unfortunate manner. Mineptah, the thirteenth son in the huge family of Rameses, must have been old when he ascended the throne; after his first years of reign his energies gave way, and he was followed by a quick succession of inglorious rulers, Seti II., the queen Tuosri, Amenmesse, Siptah; the names of the last two were erased from their monuments.

A great papyrus written after the death of Rameses III. and recording his gifts to the temples briefly reviews the conditions of these troublous times. "The land of Egypt was in the hands of chiefs and rulers of towns, great and XXth Dynasty. small slaying each other; afterwards a certain Syrian made himself chief; he made the whole land tributary before him; he united his companions and plundered their property (*i.e.* of the other chiefs). They made the gods like men, and no offerings were presented in the temples. But when the gods inclined themselves to peace ... they established their son Setenkhot (Setnekht) to be ruler of every land." Of the Syrian occupation we know nothing further. Setenkhot, c. 1200 b.c., had a very short reign and was not counted as legitimate, but he established a lasting dynasty (probably by conciliating the priesthood). He was father of Rameses III., who revived the glories of the empire. The dangers that menaced Egypt now were similar to those which Mineptah had to meet at his accession. Again the Libyans and the "peoples of the sea" were acting in concert. The latter now comprised Peleset (the Cretans, ancestors of the Philistines), Thekel, Shekelesh, Denyen (Danaoi?) and Weshesh; they had invaded Syria from Asia Minor, reaching the Euphrates, destroying the Hittite cities and progressing southwards, while their ships gathered plunder from the coasts of the Delta. This fleet joined the Libyan invaders, but was overthrown with heavy loss by the Egyptians, in whose ranks there actually served many Sherden and Kehaka, Sardinian and Libyan mercenaries. Egypt itself was thus clear of enemies; but the chariots and warriors of the Philistines and their associates were advancing through Syria, their families and goods following in ox-carts, and their ships accompanying them along the shore. Rameses led out his army and fleet against them and struck them so decisive a blow that the migrating swarm submitted to his rule and paid him tribute. In his eleventh year another Libyan invasion had to be met, and his suzerainty in Palestine forcibly asserted. His vigour was equal to all these emergencies and the later years of his reign were spent in peace. Rameses III., however, was not a great ruler. He was possessed by the spirit of decadence, imitative rather than originating. It is evident that Rameses II. was the model to which he endeavoured to conform, and he did not attempt to preserve himself from the weakening influences of priestcraft. To the temples he not only restored the property which had been given to them by former kings, but he also added greatly to their wealth; the Theban Ammon naturally received by far the greatest share, more than those of all the other gods together. The land held in the name of different deities is estimated at about 15% of the whole of Egypt; various temples of Ammon owned two-thirds of this, Re of Heliopolis and Ptah of Memphis being the next in wealth. His palace was at Medinet Habu on the west bank of Thebes in the south quarter; and here he built a great temple to Ammon, adorned with scenes from his victories and richly provided with divine offerings. Although Egypt probably was prosperous on the whole, there was undoubtedly great distress amongst certain portions of the population. We read in a papyrus of a strike of starving labourers in the Theban necropolis who would not work until corn was given to them, and apparently the government storehouse was empty at the time, perhaps in consequence of a bad Nile. Shortly before the death of the old king a plot in the harem to assassinate him, and apparently to place one of his sons on the throne, was discovered and its investigation ordered, leading after his death to the condemnation of many high-placed men and women. Nine kings of the name of Rameses now followed each other ingloriously in the space of about eighty years to the end of the XXth Dynasty, the power of the high priests of Ammon ever growing at their expense. At this time the Theban necropolis was being more systematically robbed than ever before. Under Rameses IX. an investigation took place which showed that one of the royal tombs before the western cliffs had been completely ransacked and the mummies burnt. Three years later the Valley of the Tombs of the Kings was attacked and the sepulchres of Seti I. and Rameses II. were robbed.

The authority of the last king of the XXth Dynasty, Rameses XII., was shadowy. Hrihor, the high priest in his reign, gradually gathered into his own hands all real power, and succeeded him at Thebes, c. 1100 b.c., The Deltaic Dynasties; Libyan period. while a prince at Tanis named Smendes (Esbentêti) founded a separate dynasty in the Delta (Dynasty XXI.). From this period dates a remarkable papyrus containing the report of an envoy named Unamûn, sent to Syria by Hrihor to obtain cedar timber from Byblus. He took with him an image of Ammon to bestow life and health on the prince of Byblus, but apparently no other provision for the journey or for the negotiations beyond a letter of recommendation to Smendes and a little gold and silver. Smendes had trading ships in the Phoenician ports, but even his influence was not greater than that of other commercial or pirate centres, while Hrihor was of no account except in so far as he might pay well for the cedar wood he required. Unamûn was robbed on the voyage, the prince of Byblus rebuffed him, and when at last the latter agreed to provide the timber it was only in exchange for substantial gifts hastily sent for from Egypt (including rolls of papyrus) and the promise of more to follow. The prince, however, seems to have acknowledged to some extent the divinity of Ammon and the debt owed by Phoenicia to Egyptian culture, and pitied the many misfortunes of Unamûn. The narrative shows the feebleness of Egypt abroad. The Tanite line of kings generally had the over-lordship of the high priests of Thebes; the descendants of Hrihor, however, sometimes by marriage with princesses of the other line, could assume cartouches and royal titles, and in some cases perhaps ruled the whole of Egypt. Ethiopia may have been ruled with the Thebais, but the records of the time are very scanty. Syria was wholly lost to Egypt. The mummies from the despoiled tombs of the kings were the object of much anxious care to the kings of this dynasty; after being removed from one tomb to another, they were finally deposited in a shaft near the temple of Deir el Bahri, where they remained for nearly three thousand years, until the demand for antiquities at last brought the plunderer once more to their hiding-place; eventually they were all secured for the Cairo museum, where they may now be seen.

Libyan soldiers had long been employed in the army, and their military chiefs settled in the large towns and acquired wealth and power, while the native rulers grew weaker and weaker. The Tanite dynasty may have risen from a Libyan stock, though there is nothing to prove it; the XXIInd Dynasty are clearly from their names of foreign extraction, and their genealogy indicates distinctly a Libyan military origin in a family of rulers of Heracleopolis Magna, in Middle Egypt. Sheshonk (Shishak) I., the founder of the dynasty, c. 950 b.c., seems to have fixed his residence at Bubastis in the Delta, and his son married the daughter of the last king of the Tanite dynasty. Heracleopolis seems henceforth for several centuries to have been capital of Middle Egypt, which was considered as a more or less distinct province. Sheshonk secured Thebes, making one of his sons high priest of Ammon, and whereas Solomon appears to have dealt with a king of Egypt on something like an equal footing, Sheshonk re-established Egyptian rule in Palestine and Nubia, and his expedition in the fifth year of Rehoboam subdued Israel as well as Judah, to judge by the list of city names which he inscribed on the wall of the temple of Karnak. Osorkon I. inherited a prosperous kingdom from his father, but no further progress was made. It required a strong hand to curb the Libyan chieftains, and divisions soon began to show themselves in the kingdom. The XXIInd Dynasty lasted through many generations; but there were rival kings, and M. Legrain thinks that he has proof that the XXIIIrd Dynasty was contemporaneous with the end of the XXIInd. The kings of the XXIIIrd Dynasty had little hold upon the subject princes, who spent the resources of the country in feuds amongst themselves. A native kingdom had meanwhile been established in Ethiopia. Our first knowledge of it is at this moment, when the Ethiopian king Pankhi already held the Thebais. The energetic prince of Sais, Tefnakht, followed by most of the princes of the Delta, subdued most of Middle Egypt, and by uniting these forces threatened the Ethiopian border. Heracleopolis Magna, however, with its petty king Pefteuaubasti, held out against Tefnakht, and Pankhi coming to its aid not only drove Tefnakht out of Middle Egypt, but also captured Memphis and received the submission of the princes and chiefs; in all these included four “kings” and fourteen other chiefs. According to Diodorus the Ethiopian state was theocratic, ruled through the king by the priests of Ammon. The account is probably exaggerated; but even in Pankhi’s record the piety of the king, especially towards Ammon, is very marked.

The XXIVth Dynasty consisted of a single Saite king named Bocchoris (Bekerrinf), son of Tefnachthus, apparently the above Tefnakht. Another Ethiopian invader, Shabako (Sabacon), is said to have burnt Bocchoris alive. The Ethiopian Dynasty. Ethiopian rule of the XXVth Dynasty was now firmly established, and the resources of the two countries together might have been employed in conquest in Syria and Phoenicia; but at this very time the Assyrian empire, risen to the highest pitch of military greatness, began to menace Egypt. The Ethiopian could do no more than encourage or support the Syrians in their fight for freedom against Sargon and Sennacherib. Shabako was followed by Shebitku and Shebitku by Tirhaka (Tahrak, Taracos). Tirhaka was energetic in opposing the Assyrian advance, but in 670 b.c. Esarhaddon defeated his army on the border of Egypt, captured Memphis with the royal harem and took great spoil. The Egyptian resistance to the Assyrians was probably only half-hearted; in the north especially there must have been a strong party against the Ethiopian rule. Tirhaka laboured to propitiate the north country, and probably rendered the Ethiopian rule acceptable throughout Egypt. Notwithstanding, the Assyrian king entrusted the government and collection of tribute to the native chiefs; twenty princes in all are enumerated in the records, including one Assyrian to hold the key of Egypt at Pelusium. Scarcely had Esarhaddon withdrawn before Tirhaka returned from his refuge in the south and the Assyrian garrisons were massacred. Esarhaddon promptly prepared a second expedition, but died on the way to Egypt in 668 b.c.; his son Assur-bani-pal sent it forward, routed Tirhaka and reinstated the governors. At the head of these was Necho (Niku), king of Sais and Memphis, father of Psammetichus, the founder of the XXVIth Dynasty. We next hear that correspondence with Tirhaka was intercepted, and that Necho, together with Pekrûr of Psapt (at the entrance to the

Wadi Tumilat) and the Assyrian governor of Pelusium, was taken to Nineveh in chains to answer the charge of treason. Whatever may have occurred, it was deemed politic to send Necho back loaded with honours and surrounded by a retinue of Assyrian officials. Upper Egypt, however, was loyal to Tirhaka, and even at Memphis the burial of an Apis bull was dated by the priests as in his reign. Immediately afterwards he died. His nephew Tandamane, received by the Upper country with acclamations, besieged and captured Memphis, Necho being probably slain in the encounter. But in 661 (?) Assur-bani-pal drove the Ethiopian out of Lower Egypt, pursued him up the Nile and sacked Thebes. This was the last and most tremendous visitation of the Assyrian scourge.

Psammetichus (Psammêtk), 664-610 b.c., the son of Necho, succeeded his father as a vassal of Assyria in his possessions of Memphis and Sais, allied himself with Gyges, king of Lydia, and aided by Ionian and Carian mercenaries, XXVIth Dynasty. extended and consolidated his power.21 By the ninth year of his reign he was in full possession of Thebes. Assur-bani-pal's energies throughout this crisis were entirely occupied with revolts nearer home, in Babylon, Elam and Arabia. The Assyrian arms again triumphed everywhere, but at the cost of complete exhaustion. Under the firm and wise rule of Psammetichus, Egypt recovered its prosperity after the terrible losses inflicted by internal wars and the decade of Assyrian invasions. The revenue went up by leaps and bounds. Psammetichus guarded the frontiers of Egypt with three strong garrisons, placing the Ionian and Carian mercenaries especially at the Pelusiac Daphnae in the N.E., from which quarter the most formidable enemy was likely to appear. The Assyrians did not move against him, but a great Scythian horde, destroying all before it in its southward advance, is said by Herodotus to have been turned back by presents and entreaties. Diplomacy backed up by vigorous preparations may have deterred the Scythians from the dangerous enterprise of crossing the desert to Egypt. Before his death Psammetichus had advanced into southern Palestine and captured Azotus.

When Psammetichus began to reign the situation of Egypt was very different from what it had been under the Empire. The development of trade in the Mediterranean and contact with new peoples and new civilizations in peace and war had given birth to new ideas among the Egyptians and at the same time to a loss of confidence in their own powers. The Theban supremacy was gone and the Delta was now the wealthy and progressive part of Egypt; piety increased amongst the masses, unenterprising and unwarlike, but proud of their illustrious antiquity. Thebes and Ammon and the traditions of the Empire savoured too much now of the Ethiopian; the priests of the Memphite and Deltaic dynasty thereupon turned deliberately for their models to the times of the ancient supremacy of Memphis, and the sculptures and texts on tomb and temple had to conform as closely as possible to those of the Old Kingdom. In other than religious matters, however, the Egyptians were inventing and perhaps borrowing. To enumerate a few examples of this which are already definitely known: we find that the forms of legal and business documents became more precise; the mechanical arts of casting in bronze on a core and of moulding figures and pottery were brought to the highest pitch of excellence; and portraiture in the round on its highest plane was better than ever before and admirably lifelike, revealing careful study of the external anatomy of the individual.

Psammetichus died in the fifty-fourth year of his reign and was succeeded by his son Necho, 610-594 b.c. Taking advantage of the helpless state of the Assyrians, whose capital was assailed by the Medes and the Babylonians, the new Pharaoh prepared an expedition to recover the ancient possessions of the Empire in Syria. Josiah alone, faithful to the king of Assyria, opposed him with his feeble force at Megiddo and was easily overcome and slain. Necho went forward to the Euphrates, put the land to tribute, and, in the case of Judah at any rate, filled the throne with his own nominee (see Jehoiakim). The fall of Nineveh and the division of the spoil gave to Nabopolasser, king of Babylon, the inheritance of the Assyrians in the west, and he at once despatched his son Nebuchadrezzar to fight Necho. The Babylonian and Egyptian forces met at Carchemish (605), and the rout of the latter was so complete that Necho relinquished Syria and might have lost Egypt as well had not the death of Nabopolasser recalled the victor to Babylon. Herodotus relates that in Necho's reign a Phoenician ship despatched from Egypt actually circumnavigated Africa, and the attempt was made to complete a canal through the Wadi Tumilat, which connected the Mediterranean and Red Seas by way of the Lower Egyptian Nile. (See Suez.) The next king, Psammetichus II., 594-589 b.c., according to one account made an expedition to Syria or Phoenicia, and apparently sent a mercenary force into Ethiopia as far as Abu Simbel. Pharaoh Hophra (Apries), 589-570 b.c., fomented rebellion against the Babylonian suzerainty in Judah, but accomplished little there. Herodotus, however, describes his reign as exceedingly prosperous. The mercenary troops at Elephantine mutinied and attempted to desert to Ethiopia, but were brought back and punished. Later, however, a disastrous expedition sent to aid the Libyans against the Greek colony of Cyrene roused the suspicion and anger of the native soldiery at favours shown to the mercenaries, who of course had taken no part in it. Amasis (Aḥmosi) II. was chosen king by the former (570-525 b.c.), and his swarm of adherents overcame the Greek troops in Apries' pay (see Amasis). None the less Amasis employed Greeks in numbers, and cultivated the friendship of their tyrants. His rule was confined to Egypt (and perhaps Cyprus), but Egypt itself was very prosperous. At the beginning of his long reign of forty-four years he was threatened by Nebuchadrezzar; later he joined the league against Cyrus and saw with alarm the fall of his old enemy. A few months after his death, 525 b.c., the invading host of the Persians led by Cambyses reached Egypt and dethroned his son Psammetichus III.

Cambyses at first conciliated the Egyptians and respected their religion; but, perhaps after the failure of his expedition into Ethiopia, he entirely changed his policy, and his memory was generally execrated. He left Egypt so The Persian

period, XXVIIth Dynasty. completely crushed that the subsequent usurpation of the Persian throne was marked by no revolt in that quarter. Darius, 521-486 b.c., proved himself a beneficent ruler, and in a visit to Egypt displayed his consideration for the religion of the country. In the Great Oasis he built a temple to Ammon. The annual tribute imposed on the satrapy of Egypt and Cyrene was heavy, but it was probably raised with ease. The canal from the Nile to the Red Sea was completed or repaired, and commerce flourished. Documents dated in the thirty-fourth and thirty-fifth years of Darius are not uncommon, but apparently at the very end of his reign, some years after the disaster of Marathon, Egypt was induced to rebel. Xerxes, 486-467 b.c., who put down the revolt with severity, and his successor Artaxerxes, 466-425 b.c., like Cambyses, were hateful to the Egyptians. The disorders which marked the accession of Artaxerxes gave Egypt another opportunity to rebel. Their leaders were Inaros the Libyan of Marea and the Egyptian Amyrtaeus. Aided by an Athenian force, Inaros slew the satrap Achaemenes at the battle of Papremis and destroyed his army; but the garrison of Memphis held out, and a fresh host from Persia raised the siege and in turn besieged the Greek and Egyptian forces on the island of Papremis. At last, after two years, having diverted the river from its channel, they captured and burnt the Athenian ships and quickly ended the rebellion. The reigns of Xerxes II. and Darius II. are marked by no recorded incident in Egypt until a successful revolt about 405 b.c. interrupted the Persian domination.

Monuments of the Persian rule in Egypt are exceedingly scanty. The inscriptions of Pefteuauneit, priest of Neith at Sais, and from his position the native authority who was most likely to be consulted by Cambyses and Darius, tells of his relations with these two kings. For the following reigns Egyptian documents hardly exist, but some papyri written in Aramaic have been found at Elephantine and at Memphis. Those from the former locality show that a colony of Jews with a temple dedicated to Yahweh (Jehovah) had established themselves at that garrison and trading post (see Assuan). Herodotus visited Egypt in the reign of Artaxerxes, about 440 b.c. His description of Egypt, partly founded on Hecataeus, who had been there about fifty years earlier, is the chief source of information for the history of the Saite kings and for the manners of the times, but his statements prove to be far from correct when they can be checked by the scanty native evidence.

(F. Ll. G.)

Amyrtaeus (Amnertais) of Sais, perhaps a son of Pausiris and grandson of the earlier Amyrtaeus, revolted from Darius II. c. 405 b.c., and Egypt regained its independence for about sixty years. The next king Nefeurēt Dynasties XXVIII.-XXXI. (Nepherites I.) was a Mendesian and founded the XXIXth Dynasty. After Hakor and Nefeurēt II. the sovereignty passed to Dynasty XXX., the last native Egyptian line. Monuments of all these kings are known, and art flourished particularly under the Mendesian kings Nekhtharheb (Nectanebes or Nectanebus I.) and Nekhtnebf (Nectanebes II.). The former came to the throne when a Persian invasion was imminent, 378 b.c. Hakor had already formed a powerful army, largely composed of Greek mercenaries. This army Nekhtharheb entrusted to the Athenian Chabrias. The Persians, however, succeeded in causing his recall and in gaining the services of his fellow-countryman Iphicrates. The invading army consisted of 200,000 barbarians under Pharnabazus and 20,000 Greeks under Iphicrates. After the Egyptians had experienced a reverse, Iphicrates counselled an immediate advance on Memphis. His advice was not followed by Pharnabazus; the Egyptian king collected his forces and won a pitched battle near Mendes. Pharnabazus retreated and Egypt was free.

Nekhtharheb was succeeded by Tachos or Teos, whose short reign was occupied by a war with Persia, in which the king of Egypt secured the services of a body of Greek mercenaries under the Spartan king Agesilaus and a fleet under the Athenian general Chabrias. He entered Phoenicia with every prospect of success, but having offended Agesilaus he was dethroned in a military revolt which gave the crown to Nekhtnebf or Nectanebes II., the last native king of Egypt. At this moment a revolt broke out. The prince of Mendes almost succeeded in overthrowing the new king. Agesilaus defeated the rival pretender and left Nekhtnebf established on the throne. But the opportunity of a decisive blow against Persia was lost. The new king, Artaxerxes III. Ochus, determined to reduce Egypt. A first expedition was defeated by the Greek mercenaries of Nekhtnebf, but a second, commanded by Ochus himself, subdued Egypt with no further resistance than that of the Greek garrison of Pelusium. Nekhtnebf, instead of endeavouring to relieve them, retreated to Memphis and fled thence to Ethiopia, 340 (?) b.c. Thus miserably fell the monarchy of the Pharaohs, after an unexampled duration of 3000 years, or as some think far longer. More than 2000 years have since passed, and though Egypt has from time to time been independent, not one native prince has sat on the throne of the Pharaohs. “There shall be no more a prince of the land of Egypt” (Ezek. xxx. 13) was prophesied in the days of Apries as the final state of the land.

Ochus treated his conquest barbarously. From this brief re-establishment of Persian dominion (counted by Manetho as Dynasty XXXI.) no document survives except one papyrus that appears to be dated in the reign of Darius III.

See J. H. Breasted, *A History of Egypt from the Earliest Times to the Persian Conquest* (New York and London, 1905); *A History of the Ancient Egyptians* (New York and London, 1908); *Ancient Records of Egypt: Historical Documents from the Earliest Times to the Persian Conquest, collected, edited and translated* (5 vols., Chicago, 1906-1907); W. M. F. Petrie, *A History of Egypt* (from the earliest times to the XXXth Dynasty) (3 vols., London, 1899-1905); E. A. W. Budge, *A History of Egypt*, vols. i-vii. (London, 1902); G. Maspero, *Histoire ancienne des peuples de l’orient* (6th ed., 1904), *The Dawn of Civilization, The Struggle of the Nations, The Passing of the Empires* (London, 1904, &c.); P. E. Newberry and

J. Garstang, *A Short History of Ancient Egypt* (London, 1904); G. Steindorff, *Die Blütezeit des Pharaonenreiches* (Dyn. XVIII.) (Bielefeld and Leipzig, 1900); H. Winckler, *The Tell el Amarna Letters* (Berlin, London and New York, 1896).

The Conquest by Alexander.—When, in 332 b.c., after the battle of Issus, Alexander entered Egypt, he was welcomed as a deliverer. The Persian governor had not forces enough to oppose him, and he nowhere experienced even the show of resistance. He visited Memphis, founded Alexandria, and went on pilgrimage to the oracle of Ammon (Oasis of Siwa). The god declared him to be his son, renewing thus an old Egyptian convention or belief; Olympias was supposed to have been in converse with Ammon, even as the mothers of Hatshepsut and Amenophis III. are represented in the inscriptions of the Theban temples to have received the divine essence. At this stage of his career the treasure and tribute of Egypt were of great importance to the Macedonian conqueror. He conciliated the inhabitants by the respect which he showed for their religion; he organized the government of the natives under two officers, who must have been already known to them (of these Petisis, an Egyptian, soon resigned his share into the charge of his colleague Doloaspis, who bears a Persian name.) But Alexander designed his Greek foundation of Alexandria to be the capital, and entrusted the taxation of Egypt and the control of its army and navy to Greeks. Early in 331 b.c. he was ready to depart, and led his forces away to Phoenicia. A granite gateway to the temple of Khnūm at Elephantine bears his name in hieroglyphic, and demotic documents are found dated in his reign.

The Ptolemaic Period.—On the division of Alexander's dominions in 323 b.c., Egypt fell to Ptolemy the son of Lagus, the founder of the Ptolemaic dynasty (see Ptolemies). Under these rulers the rich kingdom was heavily taxed to supply the sinews of war and to support every kind of lavish expenditure. Officials, and the higher ones were nearly all Greeks, were legion, but the whole system was so judiciously worked that there was little discontent amongst the patient peasantry. During the reign of Philadelphus the land gained from the bed of the lake of Moeris was assigned to veteran soldiers; the great armies of the Ptolemies were rewarded or supported by grants of farm lands, and men of Macedonian, Greek and Hellenistic extraction were planted in colonies and garrisons or settled themselves in the villages throughout the country. Upper Egypt, farthest from the centre of government, was probably least affected by the new influences, though the first Ptolemy established the Greek colony of Ptolemais to be its capital. Intermarriages, however, gradually had their effect; after the revolt of the natives in the reign of Ptolemy V., we find the Greek and Egyptian elements closely intermingled. Ptolemy I. had established the cult of the Memphite Serapis in a Graeco-Egyptian form, affording a common ground for native and Hellenistic worshippers. The greater number of the temples to the native deities in Upper Egypt and in Nubia (to 50 m. south of the Cataract, within the Dodecaschoenus) were built under the Ptolemies. No serious effort was made to extend the Ptolemaic rule into Ethiopia, and Ergamenes, the Hellenizing king of Ethiopia, was evidently in alliance with Philopator; in the next reign two native kings, probably supported by Ethiopia, reigned in succession at Thebes. That famous city lost all except its religious importance under the Ptolemies; after the "destruction" or dismantling by Lathyrus it formed only a series of villages. The population of Egypt in the time of Ptolemy I. is put at 7,000,000 by Diodorus, who also says that it was greater then than it ever was before; at the end of the dynasty, in his own day, it was not much less though somewhat diminished. Civil wars and revolts must have greatly injured both Upper and Lower Egypt. It is remarkable that, while the building and decoration of temples continued in the reigns of Ptolemy Auletes and the later Ptolemies and Cleopatra, papyri of those times whether Greek or Egyptian are scarcely to be found.

The Roman Period.—In 30 b.c. Augustus took Egypt as the prize of conquest. He treated it as a part of his personal domain, free from any interference by the senate. In the main lines the Ptolemaic organization was preserved, but Romans were gradually introduced into the highest offices. On Egypt Rome depended for its supplies of corn; entrenched there, a revolting general would be difficult to attack, and by simply holding back the grain ships could threaten Rome with starvation. No senator therefore was permitted to take office or even to set foot in the country without the emperor's special leave, and by way of precaution the highest position, that of prefect, was filled by a Roman of equestrian rank only. As the representative of the emperor, this officer assumed the place occupied by the king under the old order, except that his power was limited by the right of appeal to Caesar. The first prefect, Cornelius Gallus, tamed the natives of Upper Egypt to the new yoke by force of arms, and meeting ambassadors from Ethiopia at Philae, established a nominal protectorate of Rome over the frontier district, which had been abandoned by the later Ptolemies. The third prefect, Gaius Petronius, cleared the neglected canals for irrigation; he also repelled an invasion of the Ethiopians and pursued them far up the Nile, finally storming the capital of Napata. But no attempt was made to hold Ethiopia. In succeeding reigns much trouble was caused by jealousies and quarrels between the Greeks and the Jews, to whom Augustus had granted privileges as valuable as those accorded to the Greeks. Aiming at the spice trade, Aelius Gallus, the second prefect of Egypt under Augustus, had made an unsuccessful expedition to conquer Arabia Felix; the valuable Indian trade, however, was secured by Claudius for Egypt at the expense of Arabia, and the Red Sea routes were improved. Nero's reign especially marks the commencement of an era of prosperity which lasted about a century. Under Vespasian the Jewish temple at Leontopolis in the Delta, which Onias had founded in the reign of Ptolemy Philometor, was closed; worse still, a great Jewish revolt and massacre of the Greeks in the reign of Trajan resulted, after a stubborn conflict of many months with the Roman army under Marcius Livianus Turbo, in the virtual extermination of the Jews in Alexandria and the loss of all their privileges. Hadrian, who twice visited Egypt (a.d. 130, 134), founded Antinoë in memory of his drowned favourite. From this reign onwards buildings in the Graeco-Roman style were erected throughout the country. A new Sothic cycle began in a.d. 139. Under Marcus Aurelius a revolt of the Bucolic or native

troops recruited for home service was taken up by the whole of the native population and was suppressed only after several years of fighting. The Bucolic war caused infinite damage to the agriculture of the country and marks the beginning of its rapid decline under a burdensome taxation. The province of Africa was now of equal importance with Egypt for the grain supply of the capital. Avidius Cassius, who led the Roman forces in the war, usurped the purple, and was acknowledged by the armies of Syria and Egypt. On the approach of Marcus Aurelius, the adherents of Cassius slew him, and the clemency of the emperor restored peace. After the downfall of the house of the Antonines, Pescennius Niger, who commanded the forces in Egypt, was proclaimed emperor on the death of Pertinax (a.d. 193). Severus overthrew his rival (a.d. 194) and, the revolt having been a military one, did not punish the province; in 202 he gave a constitution to Alexandria and the nome capitals. In his reign the Christians of Egypt suffered the first of their many persecutions. When Christianity was planted in the country we do not know, but it must very early have gained adherents among the Christianity. learned Jews of Alexandria, whose school of thought was in some respects ready to welcome it. From them it rapidly passed to the Greeks. Ultimately the new religion spread to the Egyptians; their own creed was worn out, and they found in Christianity a doctrine of the future life for which their old belief had made them not unready; while the social teaching of Christianity came with special fitness to a subject race. The history of the Coptic Version has yet to be written. It presents some features of great antiquity, and, unlike all others, has the truly popular character of being written in the three dialects of the language. Side by side there grew up an Alexandrian church, philosophic, disputative, ambitious, the very centre of Christian learning, and an Egyptian church, ascetic, contemplative, mystical. The two at length influenced one another; still we can generally trace the philosophic teachers to a Greek origin, the mystics to an Egyptian.

Caracalla, in revenge for an affront, massacred all the men capable of bearing arms in Alexandria. His granting of the Roman citizenship to all Egyptians in common with the other provincials was only to extort more taxes. Under Decius, a.d. 250, the Christians again suffered from persecution. When the empire broke up in the weak reign of Gallienus, the prefect Aemilianus, who took the surname Alexander or Alexandrinus, was made emperor by the troops at Alexandria, but was conquered by the forces of Gallienus. In his brief reign of only a few months he had driven back an invasion of the Blemmyes. This predatory tribe, issuing from Nubia, was long to be the terror of Upper Egypt. Zenobia, queen of Palmyra, after an unsuccessful invasion, on a second attempt conquered Egypt, which she added to her empire, but lost it when Aurelian made war upon her (a.d. 272). The province was, however, unsettled, and the conquest of Palmyra was followed in the same year by the suppression of a revolt in Egypt (a.d. 273). Probus, who had governed Egypt for Aurelian and Tacitus, was subsequently chosen by the troops to succeed Tacitus, and is the first governor of this province who obtained the whole of the empire. He expelled the Blemmyes, who were dominating the whole of the Thebaid. Diocletian invited the Nobatae to settle in the Dodecaschoenus as a barrier against their incursions, and subsidized both Blemmyes and Nobatae. The country, however, was still disturbed, and in a.d. 296 a formidable revolt broke out, led by Achilleus, who as emperor took the name Domitius Domitianus. Diocletian, finding his troops unable to determine the struggle, came to Egypt, captured Alexandria and put his rival to death (296). He then reorganized the whole province, and the well-known “Pompey’s Pillar” was set up by the grateful and repentant Alexandrians to commemorate his gift to them of part of the corn tribute.

The Coptic era of Diocletian or of the Martyrs dates from the accession of Diocletian (a.d. 284). The edict of a.d. 303 against the Christians, and those which succeeded it, were rigorously carried out in Egypt, where Paganism was still strong and face to face with a strong and united church. Galerius, who succeeded Diocletian in the government of the East, implacably pursued his policy, and this great persecution did not end until the persecutor, perishing, it is said, of the dire malady of Herod and Philip II. of Spain, sent out an edict of toleration (a.d. 311).

By the edict of Milan (a.d. 313), Constantine, with the agreement of his colleague Licinius, acknowledged Christianity as having at least equal rights with other religions, and when he gained sole power he wrote to all his subjects advising them, like him, to become Christians (a.d. 324). The Egyptian Church, hitherto free from schism, was now divided by a fierce controversy, in which we see two Greek parties, rather than a Greek and an Egyptian, in conflict. The council of Nicaea was called together (a.d. 325) to determine between the Orthodox and the party of the Alexandrian presbyter Arius. At that council the native Egyptian bishops were chiefly remarkable for their manly protest against enforcing celibacy on the clergy. The most conspicuous controversialist on the Orthodox side was the young Alexandrian deacon Athanasius, who returned home to be made archbishop of Alexandria (a.d. 326). After being four times expelled by the Arians, and once by the emperor Julian, he died, a.d. 373, at the moment when an Arian persecution began. So large a proportion of the population had taken religious vows that under Valens it became necessary to abolish the privilege of monks which exempted them from military service. The reign of Theodosius I. witnessed the overthrow of Arianism, and this was followed by the suppression of Paganism, against which a final edict was promulgated a.d. 390. In Egypt, the year before, the temple of Serapis at Alexandria had been captured after much bloodshed by the Christian mob and turned into a church. Generally the Coptic Christians were content to build their churches within the ancient temples, plastering over or effacing the sculptures which were nearest to the ground and in the way of the worshippers. They do not seem to have been very zealous in the work of destruction; the native religion was already dead and they had no fear of it. The prosperity of the church was the sign of its decay, and before long we find persecution and injustice disgracing the seat of Athanasius. Cyril, the patriarch of Alexandria (a.d. 415), expelled the Jews from the capital with the aid of the mob, and by the murder of the beautiful philosopher Hypatia marked the lowest depth to which ignorant fanaticism could

descend. A schism now produced lengthened civil war and alienated Egypt from the empire. The distinction between religion and politics seemed to be lost, and the government grew weaker and weaker. The system of local government by citizens had now entirely disappeared. Offices, with new Byzantine names, were now almost hereditary in the wealthy land-owning families. The Greek rulers of the Orthodox faith were unable to protect the tillers of the soil, and these being of the Monophysite persuasion and having their own church and patriarch, hated the Orthodox patriarch (who from the time of Justinian onwards was identical with the prefect) and all his following. Towards the middle of the 5th century, the Blemmyes, quiet since the reign of Diocletian, recommenced their incursions, and were even joined in them by the Nobatae. These tribes were twice brought to account severely for their misdoings, but not effectually checked. It was in these circumstances that Egypt fell without a conflict when attacked by Chosroës (a.d. 616). After ten years of Persian dominion the success of Heraclius restored Egypt to the empire, and for a time it again received a Greek governor. The Monophysites, who had taken advantage of the Persian occupation, were persecuted and their patriarch expelled. The Arab conquest was welcomed by the native Christians, but with it they ceased to be the Egyptian nation. Their language is still used in their churches, but it is no longer spoken, and its literature, which is wholly ecclesiastical, has been long unproductive.

The decline of Egypt was due to the purely military government of the Romans, and their subsequent alliance with the Greek party of Alexandria, which never represented the country. Under weak emperors, the rest of Egypt was exposed to the inroads of savages, and left to fall into a condition of barbarism. Ecclesiastical disputes tended to alienate both the native population and the Alexandrians. Thus at last the country was merely held by armed force, and the authority of the governor was little recognized beyond the capital, except where garrisons were stationed. There was no military spirit in a population unused to arms, nor any disinclination to be relieved from an arbitrary and persecuting rule. Thus the Moslem conquest was easy.

Bibliography.—*Hellenistic Period.*—See the special articles Alexandria, &c., and especially Ptolemies; J. P. Mahaffy, *The Empire of the Ptolemies* (London, 1895), *A History of Egypt under the Ptolemaic Dynasty* (London, 1899); A. Bouché-Leclercq, *Histoire des Lagides* (4 vols., Paris, 1903-); E. A. W. Budge, *A History of Egypt*, vols. vii.-viii. (London, 1902); J. G. Milne, *A History of Egypt under Roman Rule* (London, 1898); E. Gibbon, *Decline and Fall of the Roman Empire* (edited by J. B. Bury) (London, 1900). The administration and condition of Egypt under the Ptolemaic and Roman rules are abundantly illustrated in recently discovered papyri, see especially the English publications of B. P. Grenfell and A. S. Hunt (*Memoirs of the Graeco-Roman Branch of the Egypt Exploration Fund*) and F. G. Kenyon (British Museum Catalogues); also Mr Kenyon's annual summaries in the *Archaeological Report of the Egypt Exploration Fund*. An ample selection of the Greek inscriptions from Egypt is to be found in W. Dittenberger, *Orientis Graeci inscriptiones selectae* (2 vols., Leipzig, 1903-1905).

(R. S. P.; F. Ll. G.)

2. *Mahommedan Period.*

(1) *Moslem Conquest of Egypt.*—In accordance with the scheme of universal conquest conceived by the founder of Islam, an army of some 4000 men was towards the end of the year a.d. 639 sent against Egypt under the command of 'Amr (see 'Amr-ibn-el-Ass), by the second caliph, Omar I., who had some doubt as to the expediency of the enterprise. The commander marched from Syria through El-'Arīsh, easily took Farama or Pelusium, and thence proceeded to Bilbeis, where he was delayed for a month; having captured this place, he proceeded to a point on the Nile called Umm Dunain, the siege of which also occasioned him some difficulty. After taking it, he crossed the Nile to the Fayum. On the 6th of June of the following year (640) a second army of 12,000 men, despatched by Omar, arrived at Heliopolis (On). 'Amr recrossed the river and joined it, but presently was confronted by a Roman army, which he defeated at the battle of Heliopolis (July 640); this victory was followed by the siege of Babylon, which after some futile attempts at negotiation was taken partly by storm and partly by capitulation on Good Friday, the 6th of April 641. 'Amr next proceeded in the direction of Alexandria, which was surrendered to him by a treaty signed on the 8th of November 641, under which it was to be occupied by the Moslems on the 29th of September of the following year. The interval was spent by him in founding the city Fostat (Fusṭāṭ), near the modern Cairo, and called after the camp (*Fossatum*) occupied by him while besieging Babylon; and in reducing those coast towns that still offered resistance. The Thebaid seems to have surrendered with scarcely any opposition.

The ease with which this valuable province was wrenched from the Roman empire appears to have been due to the treachery of the governor of Egypt, Cyrus, patriarch of Alexandria, and the incompetence of the generals of the Roman forces. The former, called by the Arabs Mukaukis (Muqauqis) from his Coptic name Pkauchios, had for ten years before the arrival of 'Amr maintained a fierce persecution of the Jacobite sect, to which the bulk of the Copts belonged. During the siege of Babylon he had been recalled and exiled, but after the death of Heraclius had been reinstated as patriarch by Heraclonas, and been welcomed back to Alexandria with general rejoicing in September 641. Since Alexandria could neither have been stormed nor starved out by the Arabs, his motives for surrendering it, and with it the whole of Egypt, have been variously interpreted, some supposing him to have been secretly a convert to Islam. The notion that the Arab invaders were welcomed and assisted by the Copts, driven to desperation by the persecution of Cyrus, appears to be refuted by the fact that the invaders treated both Copts and Romans with the same ruthlessness; but the dissensions which prevailed in the Christian communities, leading to riots and even civil war in Alexandria and elsewhere, probably weakened resistance to the common enemy. An attempt was made in the year 645 with a force under Manuel, commander of the Imperial forces, to regain Alexandria for the Byzantine empire; the city was surprised, and held till the summer of 646, when it was again stormed by 'Amr. In 654 a fleet was equipped by Constans with a view to an invasion, but it was repulsed, and partly destroyed by storm. From that time no serious effort was made by the Eastern Empire to regain possession of the country. And it would appear that at the time of the attempt by Manuel the Arabs were actually assisted by the Copts, who at the first had found the Moslem lighter than the Roman yoke.

A question often debated by Arabic authors is whether Egypt was taken by storm or capitulation, but, so far as the transference of the country was accomplished by the first taking of Alexandria, there seems no doubt that the Terms of capitulation. latter view is correct. The terms were those on which conquered communities were ordinarily taken under Moslem protection. In return for a tribute of money (*jizyah*) and food for the troops of occupation (*ḍarībat-al-ṭa'ām*), the Christian inhabitants of Egypt were to be excused military service, and to be left free in the observance of their religion and the administration of their affairs.

From 639 to 968 Egypt was a province of the Eastern Caliphate, and was ruled by governors sent from the cities which at different times ranked as capitals. Like other provinces of the later Abbasid Caliphate its rulers were, during this period, able to establish quasi-independent dynasties, such being those of the Tulunids who ruled from 868 to 905, and the Ikshidis from 935-969. In 969 the country was conquered by Jauhar for the Fatimite caliph Mo'izz, who transferred his capital from Mahdia (*q.v.*) in the Maghrib to Cairo. This dynasty lasted till 1171, when Egypt was again embodied in the Abbasid empire by Saladin, who, however, was himself the founder of a quasi-independent dynasty called the Ayyubites

or Ayyubids, which lasted till 1252. The Ayyubites were followed by the Mameluke dynasties, usually classified as Baḥri from 1252-1382, and Burji from 1382-1517; these sovereigns were nominally under the suzerainty of Abbasid caliphs, who were in reality instruments of the Mameluke sultans, and resided at Cairo. In 1517 Egypt became part of the Ottoman empire and was governed by pashas sent from Constantinople, whose influence about 1707 gave way to that of officials chosen from the Mamelukes who bore the title Sheik al-balad. After the episode of the French occupation, government by pashas was restored; Mehemet Ali (appointed pasha in 1805) obtained from the Porte in 1841 the right to bequeath the sovereignty to his descendants, one of whom, Ismail Pasha, received the title Khedive, which is still held by Mehemet Ali's descendants.

(2) The following is a list of the governors of Egypt in these successive periods:—(a) *During the undivided Caliphate.*

'Amr-ibn-el-Ass, A.H. 18-24 (a.d. 639-645).

'Abdallah b. Sa'd b. Abī Sarh, 24-36 (645-656).

Qais b. Sa'd b. 'Ubādah, 36 (657-658).

Mahommed b. Abu Bekr, 37-38 (658).

Ashtar Mālik b. al-Hārith (appointed, but never governed).

'Amr-ibn-el-Ass, 38-43 (658-663).

'Utbah b. Abu Sofiān, 43-44 (664-665).

'Utbah b. 'Āmir, 44-45 (665).

Maslama b. Mukhallad, 45-62 (665-682).

Sa'īd b. Yazīd b. 'Alqamah, 62-64 (682-684).

Abdarrahman b. 'Utbah b. Jahdam, 64-65 (684).

Abdalazīz ('Abd al-'Azīz) b. Merwān, 65-86 (685-705).

'Abdallah b. 'Abd alMalik, 86-90 (705-708).

Qurrah b. Sharīk al-'Absī, 90-96 (709-714).

'Abd alMalik b. Rifā'ah al-Fahmī, 96-99 (715-717).

Ayyūb b. Shuraḥbīl al-Aṣbaḥī, 99-101 (717-720).

Bishr b. Ṣafwān al-Kalbī, 101-102 (720-721).

Ḥanzalah b. Ṣafwān, 102-105 (721-724).

Mahommed b. 'Abd alMalik, 105 (724).

Ḥurr b. Yūsuf, 105-108 (724-727).

Ḥafṣ b. al-Walīd, 108 (727).

'Abd alMalik b. Rifā'ah, 109 (727).

Walīd b. Rifā'ah, 109-117 (727-735).

'Abd al-Raḥmān b. Khālid, 117-118 (735).

Ḥanẓalah b. Ṣafwān, 118-124 (735-742).

Ḥafṣ b. al-Walīd, 124-127 (742-745).

Ḥassān b. 'Atāhiyah al-Tu'jibī, 127 (745).

Ḥafṣ b. al-Walīd, 127 (745).

Hautharah b. Suhail al-Bāhilī, 128-131 (745-749).

Mughīrah b. 'Ubaidallah al-Fazārī, 131-132 (749).

'Abd alMalik b. Marwān al-Lakhmī, 132 (750).

Ṣāliḥ b. ‘Alī, 133 (750-751).

Abū ‘Aun ‘Abdalmalik b. Yazīd, 133-136 (751-753).

Ṣāliḥ b. ‘Alī, 136-137 (753-755)—second time.

Abū ‘Aun, 137-141 (755-758)—second time.

Mūsā b. Ka’b b. ’Uyainah al-Tamīmī, 141 (758-759).

Mahommed b. al-Ash’ath b. ’Uqbah al-Khuzā ī, 141-143 (759-760).

Ḥumaid b. Qaḥṭabah b. Shabīb al-Ṭā’ī, 143-144 (760-762).

Yazīd b. Ḥātim b. Kabīsah al-Muhallabī, 144-152 (762-769).

‘Abdallah b. ‘Abdarraḥmān b. Moawiya b. Ḥudaij, 152-155 (769-772).

Mahommed b. Abdarraḥman b. Moawiya b. Ḥudaij, 155 (772).

Mūsā b. ’Ulayy b. Rabāh al-Lakhmī, 155-161 (772-778).

’Īsā b. Luqmān b. Mahommed al-Jumahī, 161-162 (778).

Wāḍiḥ, 162 (779).

Manṣūr b. Yazīd b. Manṣūr al-Ru’ainī, 162 (779).

Abū Ṣāliḥ Yaḥyā b. Dāwūd b. Mamdūd, 162-164 (779-780).

Sālim b. Sawādah al-Tamīmī, 164 (780-781).

Ibrāhīm b. Ṣāliḥ b. ‘Alī, 165-167 (781-784).

Mūsā b. Mus’ab b. al-Rabī al-Khath’amī, 167-168 (784-785).

Usāmah b. ‘Amr b. ‘Alqamah al-Ma’āfirī, 168 (785).

al Faḍl b. Ṣāliḥ b. ‘Alī al-‘Abbāsī, 168-169 (785-786).

‘Alī b. Sulaimān b. ‘Alī al-‘Abbāsī, 169-171 (786-787).

Mūsā b. ’Īsā b. Mūsā al-‘Abbāsī, 171-172 (787-789).

Maslamah b. Yaḥyā b. Qurrah al-Bājilī, 172-173 (789-790).

Mahommed b. Zuhair al-Azdī, 173 (790).

Dāwūd b. Yazīd b. Ḥātim al-Muhallabī, 174-175 (790).

Mūsā b. ’Īsā al-‘Abbāsī, 175-176 (790-792).

Ibrāhīm b. Ṣāliḥ, 176 (792).

Ṣāliḥ b. Ibrāhīm, 176 (792).

Abdallah b. al-Musayyib b. Zuhair al Ḍabbī, 176-177 (792-793).

Isḥāq b. Sulaimān b. ‘Alī al-‘Abbāsī, 177-178 (793-794).

Harthamah b. A’yan, 178 (794-795).

’Obaidallah b. al-Mahdī, 179 (795).

Mūsā b. ’Īsā al-‘Abbāsī, 179-180 (795-796).

’Obaidallah b. al-Mahdī, 180-181 (796-797)—second time.

Ismā’īl b. Ṣāliḥ b. ‘Alī al-‘Abbāsī, 181-182 (797-798).

Ismā’īl b. ’Īsā b. Mūsā al-‘Abbāsī, 182-183 (798).

Laith b. al-Faḍl al-Abīwardī, 183-187 (798-803).

Aḥmad b. Ismā'īl b. 'Alī al-'Abbāsī, 187-189 (803-805).

'Obaidallah b. Mahommed b. Ibrāhīm al-'Abbāsī, 189-190 (805-806).

Ḥusain b. Jamīl, 190-192 (806-808).

Mālik b. Dalham b. 'Īsā al-Kalbī, 192-193 (808).

Ḥasan b. al-Taḥtāḥ, 193-194 (808-809).

Ḥātim b. Harthamah b. A'yan, 194-195 (809-811).

Jābir b. al-Ash'ath b. Yaḥyā al-Ṭā'ī, 195-196 (811-812).

'Abbād b. Mahommed b. Ḥayyān al-Balkhī, 196-198 (812-813).

Moṭṭalib b. 'Abdallah b. Mālik al-Khuzā'ī, 198 (813-814).

'Abbās b. Mūsā b. 'Īsā al-'Abbāsī, 198-199 (814).

Moṭṭalib b. 'Abdallah, 199-200 (814-816)—second time.

Sarī b. al-Ḥakam b. Yūsuf, 200-201 (816).

Sulaimān b. Ghālib b. Jibrīl al-Bājilī, 201 (816-817).

Sarī b. al-Ḥakam, 201-205 (817-820).

Abū Naṣr Mahommed b. al-Sarī, 205 (820-821).

'Obaidallah b. al-Sarī, 205-211 (821-826).

'Abdallah b. Ṭāhir, 211-213 (826-829).

Mahommed b. Hārūn (al-Mo'tasim), 213-214 (829).

'Umair b. Al-Walīd al-Tamīmī al-Bādhaghīsī, 214 (829).

'Īsā b. Yazīd, 214 (829).

'Abduyah b. Jabalah, 215-216 (830-831).

'Īsā b. Manṣūr b. Mūsā al-Rāfi'ī, 216-217 (831-832).

Naṣr b. Abdallah Kaidar al-Ṣafadī, 217-219 (832-834).

Muzaffar b. Kaidar, 219 (834).

Mūsā b. Abi'l-'Abbās Thābit al-Hanafī, 219-224 (834-839).

Mālik b. Kaidar al Ṣafadī, 224-226 (839-841).

'Alī b. Yaḥyā abu l-Hasan al-Armanī, 226-228 (841-842).

'Isā b. Manṣūr al-Rāfi'ī, 229-233 (843-847).

Harthamah b. al-Naḍir al-Jabalī, 233-234 (848-849).

Ḥātim b. Harthamah, 234 (849).

'Alī b. Yaḥyā, 234-235 (849-850).

Ishāq b. Yaḥyā al-Khatlānī, 235-236 (850-851).

'Abd al-Wāhid b. Yaḥyā b. Manṣūr, 236-238 (851-852).

'Anbasa b. Ishāq b. Shamir, 238-242 (852-856).

Yazīd b. 'Abdallah b. Dīnār, 242-253 (856-867).

Muzāhim b. Khāqān al-Turkī, 253-254 (867-868).

Aḥmad b. Muzāhim b. Khāqān, 254 (868).

Urjūz b. Ulugh Ṭarkhān al-Turkī, 254 (868).

Tulunid house.

Aḥmad b. Ṭūlūn, 254-270 (868-884).

Khomārūya b. Aḥmad, 270-282 (884-896).

Jaish b. Khomārūya, 282 (896).

Hārūn b. Khomārūya, 283-292 (896-904).

Shaibān b. Aḥmad, 292 (905).

'Īsā b. Mahommed al-Naūsharī, 292 (905).

Mahommed b. 'Ali al-Khalanjī, 292-293 (905-906).

'Īsā al-Naūsharī, 293-297 (906-910)—second time.

Takīn b. Abdallah al-Khazarī, 297-302 (910-915).

Dhukā al-Rūmī, 303-307 (915-919).

Takīn b. 'Abdallah, 307-309 (919-921)—second time.

Abū Qābūs Maḥmūd b. Ḥamal, 309 (921).

Hilāl b. Badr, 309-311 (921-923).

Aḥmad b. Kaighlagh, 311 (923).

Takīn b. Abdallah, 311-321 (923-933)—third time.

Mahommed b. Takīn, 321 (933).

Ikshīdī house.

Mahommed b. Ṭughj al-Ikshīd, 321 (933).

[Aḥmad b. Kaighlagh, 321-322 (933-934)].

Mahommed b. Ṭughj, 323-334 (934-946)—second time.

Ūnjūr b. al-Ikshīd, 334-349 (946-961).

'Alī b. al-Ikshīd, 349-355 (961-966).

Kāfūr b. Abdallah al-Ikshīdī, 355-357 (966-968).

Abu'l-Fawāris Aḥmad b. 'Alī b. al-Ikshīd, 357 (968).

(b) Fāṭimite Caliphs, 357-567 (969-1171).

Mo'izz Abū Tamīm Ma'add (or li-dīn allāh), 357-365 (969-975).

'Azīz Abū Manṣūr Nizār (al-'Azīz billāh), 365-386 (975-996).

Ḥākim [Abū 'Alī Manṣūr], 386-411 (996-1020).

Ẓāhir [Abu'l-Ḥasan 'Alī], 411-427 (1020-1035).

Mostanṣir [Abū Tamīm Ma'add], 427-487 (1035-1094).

Mosta'lī [Abu'l-Qāsim Aḥmad], 487-495 (1094-1101).

Amir [Abū 'Alī Manṣūr], 495-524 (1101-1130).

Ḥāfiz [Abu'l-Maimūn 'Abd al-Majīd], 524-544 (1130-1149).

Ẓāfir [Abu'l-Manṣūr Ismā'īl], 544-549 (1149-1154).

Fā'iz [Abu'l-Qāsim 'Īsā], 549-555 (1154-1160).

'Ādid [Abū Mahommed 'Abdallah], 555-567 (1160-1171).

(c) Ayyūbite Sultans, 564-648 (1169-1250).

Malik al-Nāṣir Ṣalāḥ al-dīn Yūsuf b. Ayyūb (Saladin), 564-589 (1169-1193).

Malik al-'Azīz 'Imād al-dīn Othman, 589-595 (1193-1198).

Malik al-Manṣūr Mahommed, 595-596 (1198-1199).

Malik al-'Adil Saif al-dīn Abū Bakr, 596-615 (1199-1218).

Malik al-Kāmil Mahommed, 615-635 (1218-1238).

Malik al-'Ādil II. Saif al-dīn Abū Bakr, 635-637 (1238-1240).

Malik al-Ṣāliḥ Najm al-dīn Ayyūb, 637-647 (1240-1249).

Malik al-Mo'azzam Tūrānshāh, 647-648 (1249-1250).

Malik al-Ashraf Mūsā, 648-650 (1250-1252).

(d) Baḥri Mamelukes, 648-792 (1250-1390).

Shajar al-durr, 648 (1250).

Malik al-Mo'izz 'Izz al-dīn Aibek, 648-655 (1250-1257).

Malik al-Manṣūr Nureddin 'Alī, 655-657 (1257-1259).

Malik al-Moẓaffar Saif al-dīn Kotuz, 657-658 (1259-1260).

Malik al-Ẓāhir [Rukn al-dīn (Rukneddin) Bibars Bundukdārī], 658-676 (1260-1277).

Malik al-Sa'id Nāṣir al-dīn Barakah Khān, 676-678 (1277-1279).

Malik al-'Ādil Badr al-dīn Salāmish, 678 (1279).

Malik al-Manṣūr Saif al-dīn Qalā'ūn, 678-689 (1279-1290).

Malik al-Ashraf [Ṣalāḥ al-dīn Khalīl], 689-693 (1290-1293).

Malik al-Nāṣir [Nāṣir al-dīn Mahommed], 693-694 (1293-1294).

Malik al-'Ādil [Zain al-dīn Kitboga], 694-696 (1294-1296).

Manṣūr [Ḥusām al-dīn Lājīn], 696-698 (1296-1298).

Nāṣir Mahommed (again), 698-708 (1298-1308).

Moẓaffar [Rukn al-dīn Bibars Jāshengīr], 708-709 (1308-1310).

Nāṣir Mahommed (third time), 709-741 (1310-1341).

Manṣūr [Saif al-dīn Abū Bakr], 741-742 (1341).

Ashraf [Ala'u 'l-dīn Kuchuk], 742 (1341-1342).

Nāṣir [Shihāb al-dīn Aḥmad], 742-743 (1342).

Ṣāliḥ 'Imād al-dīn Ismā'īl], 743-746 (1342-1345).

Kāmil [Saif al-dīn Sha'ban], 746-747 (1345-1346).

Moẓaffar [Saif al-dīn Ḥajji], 747-748 (1346-1347).

Nāṣir [Nāṣir al-dīn Ḥasan], 748-752 (1347-1351).

Ṣāliḥ [Ṣalāḥ al-dīn Ṣāliḥ], 752-755 (1351-1354).

Nāṣir [Ḥasan] (again), 755-762 (1354-1361).

Manṣūr [Ṣalāḥ al-dīn Mahommed], 762-764 (1361-1363).

Ashraf [Nāṣir al-dīn Sha'bān], 764-778 (1363-1377).

Manṣūr ['Alā'u 'l-dīn 'Alī], 778-783 (1377-1381).

Ṣāliḥ [Ṣalāḥ al-dīn Ḥājjī, 783-784 (1381-1382).

Barḳūḳ or Barqūq (see below), 784-791 (1382-1389).

Ḥājjī again, with title of Moẓaffar, 791-792 (1389-1390).

(e) Burji Mamelukes, 784-922 (1382-1517).

Ẓāhir [Saif al-dīn Barqūq], 784-801 (1382-1398) [interrupted by Ḥājjī, 791-792].

Nāṣir [Nāṣir al-dīn Faraj], 801-808 (1398-1405).

Manṣūr ['Izz al-dīn Abdalaziz ('Abd al-'Azīz)], 808-809 (1405-1406).

Nāṣir Faraj (again), 809-815 (1406-1412).

'Ādil Mosta'īn (Abbasid caliph), 815 (1412).

Mu'ayyad [Sheikh], 815-824 (1412-1421).

Moẓaffar [Aḥmad], 824 (1421).

Ẓāhir [Saif al-dīn Tatār], 824 (1421).

Ṣāliḥ [Nāṣir al-dīn Mahommed], 824-825 (1421-1422).

Ashraf [Saif al-dīn Barsbai], 825-842 (1422-1438).

'Azīz [Jamāl al-dīn Yūsuf], 842 (1438).

Ẓāhir [Saif al-dīn Jakmak], 842-857 (1438-1453).

Manṣūr [Fakhr al-dīn Othman], 857 (1453).

Ashraf [Saif al-dīn Īnāl], 857-865 (1453-1461).

Mu'ayyad [Shihāb al-dīn Aḥmad], 865 (1461).

Ẓāhir [Saif al-dīn Khoshkadam], 865-872 (1461-1467).

Ẓāhir [Saif al-dīn Yelbai or Bilbai], 872 (1467).

Ẓāhir [Tīmūrboghā], 872-873 (1467-1468).

Ashraf [Saif al-dīn (Kait Bey)], 873-901 (1468-1495).

Nāṣir [Mahommed], 901-904 (1495-1498).

Ẓāhir [Kānsūh], 904-905 (1498-1499).

Ashraf [Jānbalāt or Jan Belāt], 905-906 (1499-1501).

'Ādil Tumanbey, 906 (1501).

Ashraf [Kānsūh Ghūri], 906-922 (1501-1516).

Ashraf [Tūmānbey], 922 (1516-1517).

(f) Turkish Governors after the Ottoman Conquest.

Khair Bey, 923 (1517).
Muṣṭafā Pasha, 926 (1520).
Aḥmad, 929 (1523).
Qāsim, 930 (1524).
Ibrāhīm, 931 (1525).
Suleimān, 933 (1527).
Dāwūd, 945 (1538).
‘Alī, 956 (1549).
Mahommed, 961 (1554).
Iskandar, 963 (1556).
‘Alī al-Khādim, 968 (1561).
Muṣṭafā, 969 (1561).
‘Alī al-Sūfī, 971 (1563).
Maḥmūd, 973 (1566).
Sinān, 975 (1567).
Ḥosain, 980 (1573).
Masīḥ, 982 (1575).
Ḥasan al-Khādim, 988 (1580).
Ibrāhīm, 991 (1583).
Sinān, 992 (1584).
Uwais, 994 (1585).
Ḥāfiz Aḥmad, 999 (1591).
Kurṭ, 1003 (1595).
Sayyid Mahommed, 1004 (1596).
Khiḍr, 1006 (1598).
‘Alī al-Silaḥdār, 1009 (1601).
Ibrāhīm, 1012 (1604).
Mahommed al-Kūrjī, 1013 (1605).
Ḥasan, 1014 (1605).
Mahommed al-Sūfī, 1016 (1607).
Aḥmad al-Daftardār, 1022 (1613).
Muṣṭafā Lafakli, 1026 (1617).
Ja’far, 1027 (1618).
Muṣṭafā, 1028 (1619).
Ḥosain, 1028 (1619).
Mahommed, 1031 (1622).
Ibrāhīm, 1031 (1622).
Muṣṭafā, 1032 (1623).
‘Alī, 1032 (1623).
Muṣṭafā, 1032 (1624).
Bairām, 1036 (1626).
Mahommed, 1037 (1627).
Mūsā, 1040 (1631).
Khalīl al-Bustānjī, 1041 (1631).
Aḥmad al-Kūrjī, 1042 (1633).
Ḥosain, 1045 (1636).
Mahommed b. Aḥmad, 1047 (1638).
Muṣṭafā al-Bustānjī, 1049 (1639).
Maqsūd, 1050 (1641).
Suyān Bey, 1054 (1644).
Ayyūb, 1055 (1645).
Mahommed b. Ḥaidar, 1057 (1647).
Aḥmad, 1058 (1648).
‘Abd al-Raḥmān, 1061 (1651).
Mahommed al-Silaḥdār, 1062 (1652).
Ghāzī, 1066 (1655).
Ḥosain, 1085 (1674).
Ḥasan al-Jānbalāṭ, 1087 (1676).
Othmān, 1091 (1680).
Ḥasan al-Silaḥdār, 1099 (1688).
Aḥmad, 1101 (1690).
‘Alī Qilij, 1102 (1691).
Ismā‘īl, 1107 (1696).
Ḥosain, 1109 (1697).
Qarā Mahommed or Aḥmad, 1111 (1699).
Mahommed Rāmī, 1116 (1704).
‘Alī Muslim, 1118 (1706).
Ḥosain Ketkhudā, 1119 (1707).
Ibrāhīm Qabūdān, 1121 (1709).
Khalīl, 1122 (1710).
Walī, 1123 (1711).
’Ābidīn, 1127 (1715).
‘Alī Izmīrli, 1129 (1717).
Rajab, 1130 (1718).
Mahommed al-Bāshimī, 1132 (1720).
‘Alī, 1138 (1728).
Bākīr, 1141 (1729).
‘Abdallah Kubūrlu, 1142 (1729).
Mahommed Silaḥdār, 1144 (1732).
Othman Ḥalabī, 1146 (1733).
Bākīr, 1148 (1735).
Muṣṭafā, 1149 (1736).
Sulaimān b. al-‘Azīm, 1152 (1739).
‘Alī Ḥakīm Oghlu, 1153 (1740).
Yaḥyā, 1154 (1741).
Mahommed Yedkeshi, 1156 (1743).
Mahommed Rāghib, 1158 (1745).
Aḥmad Kuruzīr, 1161 (1748).
Sharīf ‘Abdallāh, 1163 (1750).
Mahommed Amīn, 1166 (1753).
Muṣṭafā, 1166 (1753).
‘Alī Ḥakīm Oghlu, 1169 (1756).
Mahommed Sa’īd, 1171 (1758).
Muṣṭafā, 1173 (1759).
Aḥmad Kāmil, 1174 (1761).
Bākīr, 1175 (1761).
Ḥasan, 1176 (1761).
Ḥamzah, 1179 (1765).
Mahommed Rāqim, 1181 (1767).
Mahommed Urflu, 1182 (1768).
Aḥmad, 1183 (1770).
Qara Khalīl, 1184 (1770).
Muṣṭafā Nābulsī, 1188 (1774).
Ibrāhīm ‘Arabgīrli, 1189 (1775).
Mahommed ‘Izzet, 1190 (1776).
Ismā‘īl, 1193 (1779).
Mahommed Mālik, 1195 (1781).
Sharīf ‘Alī Qaṣṣāb, 1196 (1782).
Mahommed Silaḥdār, 1198 (1783).
Mahommed Yeyen, 1200 (1785).
‘Ābidīn Sharīf, 1201 (1787).
Ismā‘īl Tūnisī, 1203 (1788).

Omar, 1067 (1652).
Aḥmad, 1077 (1666).
Ibrāhīm, 1078 (1667).
Ṣāliḥ Qaisarli, 1209 (1794).
Abū Bakr Ṭarābulsī, 1211 (1796).

French Occupation.

Khosrev, 1216 (1802). Ali Jazā'irlī' or Ṭarābulsī, 1218 (1803).
Ṭāhir, 1218 (1803). Khorshīd, 1219 (1804).

(g) Hereditary Pashas (later Khedives), from 1220 (from 1805).

Mehemet 'Alī, 1220-1264 (1805-1848). Ismā'īl 1280-1300 (1863-1882).
Ibrāhīm, 1264 (1848). Tewfīk, 1300-1309 (1882-1892).
'Abbās I., 1264-1270 (1848-1854). Abbās II., 1309 (1892).
Sa'īd, 1270-1280 (1854-1863).

(3) *Period under Governors sent from the Metropolis of the eastern Caliphate.*—The first governor of the newly acquired province was the conqueror 'Amr, whose jurisdiction was presently restricted to Lower Egypt; Upper Egypt, which was divided into three provinces, being assigned to Abdallāh b. Sa'd, on whom the third caliph conferred the government of Lower Egypt also, 'Amr being recalled, owing to his unwillingness to extort from his subjects as much money as would satisfy the caliph. In the troubles which overtook the Islamic empire with the accession of Othman, Egypt was greatly involved, and it had to be reconquered from the adherents of Ali for Moawiya (Mo'awiyah) by 'Amr, who in A.H. 38 was rewarded for his services by being reinstated as governor, with the right to appropriate the surplus revenue instead of sending it as tribute to the metropolis. In the confusion which followed on the death of the Omayyad caliph Yazīd the Egyptian Moslems declared themselves for Abdallāh b. Zobair, but their leader was defeated in a battle near Ain Shams (December 684) by Merwān b. Ḥakam (Merwān I.), who had assumed the Caliphate, and the conqueror's son Abd al-'Azīz was appointed governor. They also declared themselves against the usurper Merwān II. in 745, whose lieutenant al-Ḥautharah had to enter Fostat at the head of an army. In 750 Merwān II. himself came to Egypt as a fugitive from the Abbasids, but found that the bulk of the Moslem population had already joined with his enemies, and was defeated and slain in the neighbourhood of Giza in July of the same year. The Abbasid general, Ṣāliḥ b. Ali, who had won the victory, was then appointed governor.

During the period that elapsed between the Moslem conquest and the end of the Omayyad dynasty the nature of the Arab occupation had changed from what had originally been intended, the establishment of garrisons, to systematic colonization. Conversions of Copts to Islam were at first rare, and the old system of taxation was maintained for the greater part of the first Islamic century. This was at the rate of a dinar per *feddan*, of which the proceeds were used in the first place for the pay of the troops and their families, with about half the amount in kind for the rations of the army. The process by which the first of these contributions was turned into coin is still obscure; it is clear that the corn when threshed was taken over by certain public officials who deducted the amount due to the state. In general the system is well illustrated by the papyri forming the Schott-Reinhardt collection at Heidelberg (edited by C.H. Becker, 1906), which contain a number of letters on the subject from Qurrah b. Sharīk, governor from A.H. 90 to 96. The old division of the country into districts (*nomoi*) is maintained, and to the inhabitants of these districts demands are directly addressed by the governor of Egypt, while the head of the community, ordinarily a Copt, but in some cases a Moslem, is responsible for compliance with the demand. An official called "receiver" (*qabbāl*) is chosen by the inhabitants of each district to take charge of the produce till it is delivered into the public magazines, and receives 5% for his trouble. Some further details are to be found in documents preserved by the archaeologist Maqrīzī, from which it appears that the sum for which each district was responsible was distributed over the unit in such a way that artisans and tradesmen paid at a rate similar to that which was enforced on those employed in agriculture. It is not known at what time the practice of having the amount due settled by the community was altered into that according to which it was settled by the governor, or at what time the practice of deducting from the total certain expenses necessary for the maintenance of the community was abandoned. The researches of Wellhausen and Becker have made it clear that the difference which is marked in later Islam between a poll-tax (*jizyah*) and a land-tax (*kharāj*) did not at first exist: the papyri of the 1st century know only of the jizyah, which, however, is not a poll-tax but a land-tax (in the main). The development of the poll-tax imposed on members of tolerated cults seems to be due to various causes, chief of them the acquisition of land by Moslems, who were not at first allowed to possess any, the conversion of Coptic landowners to Islam, and the enforcement (towards the end of the 1st century of Islam) of the poll-tax on monks. The treasury could not afford to lose the land-tax, which it would naturally forfeit by the first two of the above occurrences, and we read of various expedients being tried to prevent this loss. Such were making the Christian community to which the proselyte had belonged pay as much as it had paid when his lands belonged to it, making proselytes pay as before their conversion, or compelling them to abandon their lands on conversion. Eventually the theory spread that all land paid land-tax, whereas members of tolerated sects paid a personal tax also; but during the evolution of this doctrine the relations between conquerors and conquered became more and more strained, and from the time when the control of the finance was separated from the administration of the country (a.d. 715) complaints of

extortion became serious; under the predecessor of Qurrah, ‘Abdallāh b. ‘Abd alMalik, the country suffered from famine, and under this ruler it was unable to recover. Under the finance minister Obaidallah b. Ḥabḥāb (720-734) the first government survey by Moslems was made, followed by a census; but before this time the higher administrative posts had been largely taken out of the hands of Copts and filled with Arabs. The resentment of the Copts finally Coptic revolt. expressed itself in a revolt, which broke out in the year 725, and was suppressed with difficulty. Two years after, in order that the Arab element in Egypt might be strengthened, a colony of North Arabians (Qaisites) was sent for and planted near Bilbeis, reaching the number of 3000 persons; this immigration also restored the balance between the two branches of the Arab race, as the first immigrants had belonged almost exclusively to the South Arabian stock. Meanwhile the employment of the Arabic language had been steadily gaining ground, and in 706 it was made the official language of the bureaux, though the occasional use of Greek for this purpose is attested by documents as late as the year 780. Other revolts of the Copts are recorded for the year 739 and 750, the last year of Omayyad domination. The outbreaks in all cases are attributed to increased taxation.

The Abbasid period was marked at its commencement by the erection of a new capital to the north of Fostat, bearing the name *‘Askar* or “camp.” Apparently at this time the practice of farming the taxes began, which naturally led to even greater extortion than before; and a fresh rising of the Copts is recorded for the fourth year of Abbasid rule. Governors, as will be seen from the list, were frequently changed. The three officials of importance whose nomination is mentioned by the historians in addition to that of the governor were the commander of the bodyguard, the minister of finance and the judge. Towards the beginning of the 3rd Islamic century the practice of giving Egypt in fief to a governor was resumed by the caliph Mamūn, who bestowed this privilege on ‘Abdallāh b. Ṭāhir, who in 827 was sent to recover Alexandria, which for some ten years had been held by exiles from Spain. ‘Abdallāh b. Ṭāhir decided to reside at Bagdad, sending a deputy to Egypt to govern for him; and this example was afterwards followed. In 828, when Mamūn’s brother Motaṣim was feudal lord, a violent insurrection broke out in the Ḥauf, occasioned, as usual, by excessive taxation; it was partly quelled in the next year by Motaṣim, who marched against the rebels with an army of 4000 Turks. The rebellion broke out repeatedly in the following years, and in 831 the Copts joined with the Arabs against the government; the state of affairs became so serious that the caliph Mamūn himself visited Egypt, arriving at Fostat in February 832; his general Afshīn fought a decisive battle with the rebels at Bāsharūd in the Ḥauf region, at which the Copts were compelled to surrender; the males were massacred and the women and children sold as slaves.

This event finally crushed the Coptic nation, which never again made head against the Moslems. In the following year the caliph Motaṣim, who surrounded himself with a foreign bodyguard, withdrew the stipends of the Arab soldiers in Egypt; this measure caused some of the Arab tribes who had been long settled in Egypt to revolt, but their resistance was crushed, and the domination of the Arab element in the country from this time gave way to that of foreign mercenaries, who, belonging to one nation or another, held it for most of its subsequent history. Egypt was given in fief to a Turkish general Ashnās (Ashinas), who never visited the country, and the rule of individuals of Turkish origin prevailed till the rise of the Fāṭimites, who for a time interrupted it. The presence of Turks in Egypt is attested by documents as early as 808. While the governor Turkish governors appointed. was appointed by the feudal lord, the finance minister continued to be appointed by the caliph. On the death of Ashnās in 844 Egypt was given in fief to another Turkish general Ītākh, but in 850 this person fell out of favour, and the fief was transferred to Montaṣir, son of the caliph Motawakkil. In 856 it was transferred from him to the vizier Fatḥ b. Khāqān, who for the first time appointed a Turkish governor. The chief places in the state were also filled with Turks. The period between the rise of the Abbasids and the quasi-independent dynasties of Egypt was marked by much religious persecution, occasioned by the fanaticism of some of the caliphs, the victims being generally Moslem sectarians. (For Egypt under Motawakkil see Caliphate, § c. par. 10.) The policy of these caliphs also led to severe measures being taken against any members of the Alid family or adherents of their cause who were to be found in Egypt.

In the year 868 Egypt was given in fief to a Turkish general Bayikbeg, who sent thither as his representative his stepson Aḥmad b. Ṭūlūn, the first founder of a quasi-independent dynasty. This personage was himself the Ṭūlūnid Dynasty. son of a Turk who, originally sent as a slave to Bagdad, had risen to high rank in the service of the caliphs. Aḥmad b. Ṭūlūn spent some of his early life in Tarsus, and on his return distinguished himself by rescuing his caravan, which conveyed treasure belonging to the caliph, from brigands who attacked it; he afterwards accompanied the caliph Mosta‘īn into exile, and displayed some honourable qualities in his treatment of the fallen sovereign. He found a rival in Egypt in the person of Ibn al-Modabbir, the finance minister, who occupied an independent position, and who started the practice of surrounding himself with an army of his own slaves or freedmen; of these Ibn Ṭūlūn succeeded in depriving the finance minister, and they formed the nucleus of an army by which he eventually secured his own independence. Insurrections by adherents of the Alids gave him the opportunity to display his military skill; and when in 870 his stepfather died, by a stroke of luck the fief was given to his father-in-law, who retained Aḥmad in the lieutenancy, and indeed extended his authority to Alexandria, which had till that time been outside it. The enterprise of a usurper in Syria in the year 872 caused the caliph to require the presence of Aḥmad in that country at the head of an army to quell it; and although this army was not actually employed for the purpose, it was not disbanded by Aḥmad, who on his return founded a fresh city called Kaṭā’i‘, “the fiefs,” S.E. of modern Cairo, to house it. On the death of Aḥmad’s father-in-law in the same year, when Egypt was given in fief to the caliph’s brother Mowaffaq (famous for his defeat of the Zanj), Aḥmad secured himself in his post by extensive bribery at headquarters; and in the following year the administration of the Syrian frontier was

conferred on him as well. By 875 he found himself strong enough to refuse to send tribute to Bagdad, preferring to spend the revenues of Egypt on the maintenance of his army and the erection of great buildings, such as his famous mosque; and though Mowaffaq advanced against him with an army, the project of reducing Aḥmad to submission had to be abandoned for want of means. In 877 and 878 Aḥmad advanced into Syria and obtained the submission of the chief cities, and at Tarsus entered into friendly relations with the representatives of the Byzantine emperor. During his absence his son ‘Abbās revolted in Egypt; on the news of his father’s return he fled to Barca, whence he endeavoured to conquer the Aghlabite dominions in the Maghrib; he was, however, defeated by the Aghlabite ruler, and returned to Barca, where he was again defeated by his father’s forces and taken prisoner.

In 882 relations between Aḥmad and Mowaffaq again became strained, and the former conceived the bold plan of getting the caliph Mo’tamid into his power, which, however, was frustrated by Mowaffaq’s vigilance; but an open rupture was the result, as Mowaffaq formally deprived Aḥmad of his lieutenancy, while Aḥmad equally formally declared that Mowaffaq had forfeited the succession. A revolt that broke out at Tarsus caused Aḥmad to traverse Syria once more in 883, but illness compelled him to return, and on the 10th of May 884 he died at his residence in Kaṭā’i‘. He was the first to establish the claim of Egypt to govern Syria, and from his time Egypt grew more and more independent of the Eastern caliphate. He appears to have invented the fiction which afterwards was repeatedly employed, by which the money spent on mosque-building was supposed to have been furnished by discoveries of buried treasure.

He was succeeded by his son Khomārūya, then twenty years of age, who immediately after his accession had to deal with an attempt on the part of the caliph to recover Syria; this attempt failed chiefly through dissensions between the caliph’s officers, but partly through the ability of Khomārūya’s general, who succeeded in winning a battle after his master had run away from the field. By 886 Mowaffaq found it expedient to grant Khomārūya the possession of Egypt, Syria, and the frontier towns for a period of thirty years, and ere long, owing to the disputes of the provincial governors, Khomārūya found it possible to extend his domain to the Euphrates and even the Tigris. On the death of Mowaffaq in 891 the Egyptian governor was able to renew peaceful relations with the caliphs, and receive fresh confirmation in his possessions for thirty years. The security which he thereby gained gave him the opportunity to indulge his taste for costly buildings, parks and other luxuries, of which the chroniclers give accounts bordering on the fabulous. After the marriage of his daughter to the caliph, which was celebrated at enormous expense, an arrangement was made giving the Ṭūlūnid sovereign the viceroyalty of a region extending from Barca on the west to Hīt on the east; but tribute, ordinarily to the amount of 300,000 dinars, was to be sent to the metropolis. His realm enjoyed peace till his death in 896, when he fell a victim to some palace intrigue at Damascus.

His son and successor Abu’l-‘Asākir Jaish was fourteen years old at his accession, and being without adequate guidance soon revealed his incompetence, which led to his being murdered after a reign of six months by his troops, who gave his place to his brother Hārūn, who was of about the same age. In the eight years of his government the Ṭūlūnid empire contracted, owing to the revolts of the deputies which Hārūn was unable to quell, though in 898 he endeavoured to secure a new lease of the sovereignty in Egypt and Syria by a fresh arrangement with the caliph, involving an increase of tribute. The following years witnessed serious troubles in Syria caused by the Carmathians, which called for the intervention of the caliph, who at last succeeded in defeating these fanatics; the officer Mahommed b. Solaimān, to whom the victory was due, was then commissioned by the caliph to reconquer Egypt from the Ṭūlūnids, and after securing the allegiance of the Syrian prefects he invaded Egypt by sea and land at once. Before the arrival of these troops Hārūn had met his death at the hands of an assassin, or else in an affray, and his uncle Shaibān, who was placed on the throne, found himself without the means to collect an army fit to grapple with the invaders. Fostat was taken by Mahommed b. Solaimān after very slight resistance, at the beginning of 905, and after the infliction of severe punishment on the inhabitants Egypt was once more put under a deputy, ’Īsā al-Nausharī, appointed directly by the caliph.

The old régime was not restored without an attempt made by an adherent of the Ṭūlūnids to reconquer Egypt ostensibly for their benefit, and for a time the caliph’s viceroy had to quit the capital. The vigorous measures of the authorities at Bagdad speedily quelled this rebellion, and the Ṭūlūnid palace at Kaṭā’i‘ was then destroyed in order that there might be nothing to remind the Egyptians of the dynasty. In the middle of the year 914 Egypt was invaded for the first time by a Fāṭimite force sent by the caliph al-Mahdī ’Obaidallah, now established at Kairawān. The Mahdi’s son succeeded in taking Alexandria, and advancing as far as the Fayūm; but once more the Abbasid caliph sent a powerful army to assist his viceroy, and the invaders were driven out of the country and pursued as far as Barca; the Fāṭimite caliph, however, continued to maintain active propaganda in Egypt. In 919 Alexandria was again seized by the Mahdi’s son, afterwards the caliph al-Qā’im, and while his forces advanced northward as far as Ushmunain (Eshmunain) he was reinforced by a fleet which arrived at Alexandria. This fleet was destroyed by a far smaller one sent by the Bagdad caliph to Rosetta; but Egypt was not freed from the invaders till the year 921, when reinforcements had been repeatedly sent from Bagdad to deal with them. The extortions necessitated by these wars for the maintenance of armies and the incompetence of the viceroys brought Egypt at this time into a miserable condition; and the numerous political crises at Bagdad prevented for a time any serious measures being taken to improve it. After a struggle between various pretenders to the viceroyalty, in which some pitched battles were fought, Mahommed b. Ṭughj, son of a Ṭūlūnid prefect of Damascus, was sent by the caliph to restore order; he had to force his entrance into the country by an engagement with one of the pretenders, Ibn Kaighlagh, in which he was victorious, and entered Fostat in August 935.

Mahommed b. Ṭughj was the founder of the Ikshīdī dynasty, so called from the title Ikshīd, conferred on him at his request by the caliph shortly after his appointment to the governorship of Egypt; it is said to have had the Ikshidite Dynasty. sense of “king” in Ferghana, whence this person’s ancestors had come to enter the service of the caliph Motaṣim. He had himself served under the governor of Egypt, Takīn, whose son he displaced, in various capacities, and had afterwards held various governorships in Syria. One of the historians represents his appointment to Egypt as effected by bribery and even forgery. He united in his person the offices of governor and minister of finance, which had been separate since the time of the Ṭūlūnids. He endeavoured to replenish the treasury not only by extreme economy, but by inflicting fines on a vast scale on persons who had held offices under his predecessor and others who had rendered themselves suspect. The disaffected in Egypt kept up communications with the Fāṭimites, against whom the Ikshīd collected a vast army, which, however, had first to be employed in resisting an invasion of Egypt threatened by Ibn Rāiq, an adventurer who had seized Syria; after an indecisive engagement at Lajūn the Ikshīd decided to make peace with Ibn Rāiq, undertaking to pay him tribute. The favour afterwards shown to Ibn Rāiq at Bagdad nearly threw the Ikshīd into the arms of the Fāṭimite caliph, with whom he carried on a friendly correspondence, one letter of which is preserved. He is even said to have given orders to substitute the name of the Fāṭimite caliph for that of the Abbasid in public prayer, but to have been warned of the unwisdom of this course. In 941, after the death of Ibn Rāiq, the Ikshīd took the opportunity of invading Syria, which the caliph permitted him to hold with the addition of the sacred cities of Mecca and Medina, which the Ṭūlūnids had aspired to possess. He is said at this time to have started (in imitation of Aḥmad Ibn Ṭūlūn) a variety of vexatious enactments similar to those afterwards associated with the name of Hākim, *e.g.* compelling his soldiers to dye their hair, and adding to their pay for the purpose.

In the year 944 he was summoned to Mesopotamia to assist the caliph, who had been driven from Bagdad by Tūzūn and was in the power of the Ḥamdānids; and he proposed, though unsuccessfully, to take the caliph with him to Egypt. At this time he obtained hereditary rights for his family in the government of that country and Syria. The Ḥamdānid Saif addaula shortly after this assumed the governorship of Aleppo, and became involved in a struggle with the Ikshīd, whose general, Kāfūr, he defeated in an engagement between Homs and Hamah (Hamath). In a later battle he was himself defeated by the Ikshīd, when an arrangement was made permitting Saif addaula to retain most of Syria, while a prefect appointed by the Ikshīd was to remain in Damascus. The Buyid ruler, who was now supreme at Bagdad, permitted the Ikshīd to remain in possession of his viceroyalty, but shortly after receiving this confirmation he died at Damascus in 946.

The second of this dynasty was the Ikshīd’s son Ūnjūr, who had been proclaimed in his father’s time, and began his government under the tutelage of the negro Kāfūr. Syria was immediately overrun by Saif addaula, but he was defeated by Kāfūr in two engagements, and was compelled to recognize the overlordship of the Egyptian viceroy. At the death of Ūnjūr in 961 his brother Abu’l-Ḥasan ‘Alī was made viceroy with the caliph’s consent by Kāfūr, who continued to govern for his chief as before. The land was during this period threatened at once by the Fāṭimites from the west; the Nubians from the south, and the Carmathians from the east; when the second Ikshīdī died in 965, Kāfūr at first made a pretence of appointing his young son Aḥmad as his successor, but deemed it safer to assume the viceroyalty himself, setting an example which in Mameluke times was often followed. He occupied the post little more than three years, and on his death in 968 the aforementioned Aḥmad, called Abu’l-Fawāris, was appointed successor, under the tutelage of a vizier named Ibn Furāt, who had long served under the Ikshīdīs. The accession of this prince was followed by an incursion of the Carmathians into Syria, before whom the Ikshīdī governor fled into Egypt, where he had for a time to undertake the management of affairs, and arrested Ibn Furāt, who had proved himself incompetent.

The administration of Ibn Furāt was fatal to the Ikshīdīs and momentous for Egypt, since a Jewish convert, Jacob, son of Killis, who had been in the Ikshīd’s service, and was ill-treated by Ibn Furāt, fled to the Fāṭimite sovereign, and persuaded him that the time for invading Egypt with a prospect of success had arrived, since there was no one in Fostat capable of organizing a plan of defence, and the dissensions between the Buyids at Bagdad rendered it improbable that any succour would arrive from that quarter. The Fāṭimite caliph Mo’izz li-dīn allāh was also in correspondence with other residents in Egypt, where the Alid party from the beginning of Abbasid times had always had many supporters; and the danger from the Carmathians rendered the presence of a strong government necessary. The Fāṭimite general Jauhar (variously represented as of Greek, Slav and Sicilian origin), who enjoyed the complete confidence of the Fāṭimite sovereign, was placed at the head of an army of 100,000 men—if Oriental numbers are to be trusted—and started from Rakkāda at the beginning of March 969 with the view of seizing Egypt.

Before his arrival the administration of affairs had again been committed to Ibn Furāt, who, on hearing of the threatened invasion, at first proposed to treat with Jauhar for the peaceful surrender of the country; but though at first there was a prospect of this being carried out, the majority of the troops at Fostat preferred to make some resistance, and an advance was made to meet Jauhar in the neighbourhood of Giza. He had little difficulty in defeating the Egyptian army, and on the 6th of July 969 entered Fostat at the head of his forces. The name of Mo’izz was immediately introduced into public prayer, and coins were struck in his name. The Ikshīdī governor of Damascus, a cousin of Abu’l-Fawāris Aḥmad, endeavoured to save Syria, but was defeated at Ramleh by a general sent by Jauhar and taken prisoner. Thus the Ikshīdī Dynasty came to an end, and Egypt was transferred from the Eastern to the Western caliphate, of which it furnished the metropolis.

(4) *The Fāṭimite period* begins with the taking of Fostat by Jauhar, who immediately began the building of a new city, al-Kāhira or Cairo, to furnish quarters for the army which he had brought. A palace for the caliph and a mosque for the army were immediately constructed, the latter still famous as al-Azhar, and for many centuries the centre of Moslem learning. Almost immediately after the conquest of Egypt, Jauhar found himself engaged in a struggle with the Carmathians (*q.v.*), whom the Ikshīdī prefect of Damascus had pacified by a promise of tribute; this promise was of course not held binding by the Fāṭimite general (Ja'far b. Falāh) by whom Damascus was taken, and the Carmathian leader al-Ḥasan b. Aḥmad al-A'ṣam received aid from Bagdad for the purpose of recovering Syria to the Abbasids. The general Ja'far, hoping to deal with this enemy independently of Jauhar, met the Carmathians without waiting for reinforcements from Egypt, and fell in battle, his army being defeated. Damascus was taken by the Carmathians, and the name of the Abbasid caliph substituted for that of Mo'izz in public worship. Ḥasan al-A'ṣam advanced from Damascus through Palestine to Egypt, encountering little resistance on the way; and in the autumn of 971 Jauhar found himself besieged in his new city. By a timely sortie, preceded by the administration of bribes to various officers in the Carmathian host, Jauhar succeeded in inflicting a severe defeat on the besiegers, who were compelled to evacuate Egypt and part of Syria.

Meanwhile Mo'izz had been summoned to enter the palace that had been prepared for him, and after leaving a viceroy to take charge of his western possessions he arrived in Alexandria on the 31st of May 973, and proceeded to instruct his new subjects in the particular form of religion (Shī'ism) which his family represented. As this was in origin identical with that professed by the Carmathians, he hoped to gain the submission of their leader by argument; but this plan was unsuccessful, and there was a fresh invasion from that quarter in the year after his arrival, and the caliph found himself besieged in his capital. The Carmathians were gradually forced to retreat from Egypt and then from Syria by some successful engagements, and by the judicious use of bribes, whereby dissension was sown among their leaders. Mo'izz also found time to take some active measures against the Byzantines, with whom his generals fought in Syria with varying fortune. Before his death he was acknowledged as caliph in Mecca and Medina, as well as Syria, Egypt and North Africa as far as Tangier.

In the reign of the second Egyptian Fāṭimite 'Azīz billah, Jauhar, who appears to have been cashiered by Mo'izz, was again employed at the instance of Jacob b. Killis, who had been raised to the rank of vizier, to deal with the situation in Syria, where a Turkish general Aftakīn had gained possession of Damascus, and was raiding the whole country; on the arrival of Jauhar in Syria the Turks called the Carmathians to their aid, and after a campaign of many vicissitudes Jauhar had to return to Egypt to implore the caliph himself to take the field. In August 977 'Azīz met the united forces of Aftakīn and his Carmathian ally outside Ramleh in Palestine and inflicted a crushing defeat on them, which was followed by the capture of Aftakīn; this able officer was taken to Egypt, and honourably treated by the caliph, thereby incurring the jealousy of Jacob b. Killis, who caused him, it is said, to be poisoned. This vizier had the astuteness to see the necessity of codifying the doctrines of the Fāṭimites, and himself undertook this task; in the newly-established mosque of el-Azhar he got his master to make provision for a perpetual series of teachers and students of his manual. It would appear, however, that a large amount of toleration was conceded by the first two Egyptian Fāṭimites to the other sects of Islam, and to other communities. Indeed at one time in 'Azīz's reign the vizierate of Egypt was held by a Christian, Jesus, son of Nestorius, who appointed as his deputy in Syria a Jew, Manasseh b. Abraham. These persons were charged by the Moslems with unduly favouring their co-religionists, and the belief that the Christians of Egypt were in league with the Byzantine emperor, and even burned a fleet which was being built for the Byzantine war, led to some persecution. Azīz attempted without success to enter into friendly relations with the Buyid ruler of Bagdad, 'Aḍod addaula, who was disposed to favour the 'Alids, but caused the claim of the Fāṭimites to descend from 'Ali to be publicly refuted. He then tried to gain possession of Aleppo, as the key to 'Irāk, but this was prevented by the intervention of the Byzantines. His North African possessions were maintained and extended by 'Ali, son of Bulukkīn, whom Mo'izz had left as his deputy; but the recognition of the Fāṭimite caliph in this region was little more than nominal.

His successor *Abū 'Alī al-Manṣūr*, who reigned under the title *al-Hāḳim bi'amr allāh*, came to the throne at the age of eleven, being the son of 'Azīz by a Christian mother. He was at first under the tutelage of the Slav Burjuwān, whose policy it was to favour the Turkish element in the army as against the Maghribine, on which the strength of the Fāṭimites had till then rested; his conduct of affairs was vigorous and successful, and he concluded a peace with the Greek emperor. After a few years' regency he was assassinated at the instance of the young sovereign, who at an early age developed a dislike for control and jealousy of his rights as caliph. He is branded by historians as the Caligula of the East, who took a delight in imposing on his subjects a variety of senseless and capricious regulations, and persecuting different sections of them by cruel and arbitrary measures. It is observable that some of those with which Ḥākim is credited are also ascribed to Ibn Ṭūlūn and the Ikshīd (Mahommed b. Tughj). He is perhaps best remembered by his destruction of the church of the Holy Sepulchre at Jerusalem (1010), a measure which helped to provoke the Crusades, but was only part of a general scheme for converting all Christians and Jews in his dominions to his own opinions by force. A more reputable expedient with the same end in view was the construction of a great library in Cairo, with ample provision for students; this was modelled on a similar institution at Bagdad. It formed part of the great palace of the Fāṭimites, and was intended to be the centre of their propaganda. At times, however, he ordered the destruction of all Christian churches in Egypt, and the banishment of all who did not adopt Islam. It is strange that in the midst of these persecutions he continued to employ Christians in high official positions. His system of persecution was not abandoned till in the last year of his reign (1020) he thought fit to claim divinity, a doctrine which is perpetuated by the Druses (*q.v.*),

called after one Darazī, who preached the divinity of Ḥākim at the time; the violent opposition which this aroused among the Moslems probably led him to adopt milder measures towards his other subjects, and those who had been forcibly converted were permitted to return to their former religion and rebuild their places of worship. Whether his disappearance at the beginning of the year 1021 was due to the resentment of his outraged subjects, or, as the historians say, to his sister's fear that he would bequeath the caliphate to a distant relative to the exclusion of his own son, will never be known. In spite of his caprices he appears to have shown competence in the management of external affairs; enterprises of pretenders both in Egypt and Syria were crushed with promptitude; and his name was at times mentioned in public worship in Aleppo and Mosul.

His son *Abū'l-Ḥasan 'Ali*, who succeeded him with the title *al-Ẓāhir li'i'zāz dīn allāh*, was sixteen years of age at the time, and for four years his aunt Sitt al-Mulk acted as regent; she appears to have been an astute but utterly unscrupulous woman. After her death the caliph was in the power of various ministers, under whose management of affairs Syria was for a time lost to the Egyptian caliphate, and Egypt itself raided by the Syrian usurpers, of whom one, Ṣāliḥ b. Mirdās, succeeded in establishing a dynasty at Aleppo, which maintained itself after Syria and Palestine had been recovered for the Fāṭimites by Anushtakin al-Dizbarī at the battle of Ukhuwānah in 1029. His career is said to have been marked by some horrible caprices similar to those of his father. After a reign of nearly sixteen years he died of the plague.

His successor, *Abū Tamīm Ma'add*, who reigned with the title *al-Mostanṣir*, was also an infant at the time of his accession, being little more than seven years of age. The power was largely in the hands of his mother, a negress, who promoted the interests of her kinsmen at court, where indeed even in Ḥākim's time they had been used as a counterpoise to the Maghribine and Turkish elements in the army. In the first years of this reign affairs were administered by the vizier al-Jarjarā'ī, by whose mismanagement Aleppo was lost to the Fāṭimites. At his death in 1044 the chief influence passed into the hands of Abu Sa'd, a Jew, and the former master of the queen-mother, and at the end of four years he was assassinated at the instance of another Jew (Ṣadaḳah, perhaps Zedekiah, b. Joseph al-Falāḥī), whom he had appointed vizier. In this reign Mo'izz b. Badis, the 4th ruler of the dependent Zeirid dynasty which had ruled in the Maghrib since the migration of the Fāṭimite Mo'izz to Egypt, definitely abjured his allegiance (1049) and returned to Sunnite principles and subjection to the Bagdad caliphate. The Zeirids maintained Mahdia (see Algiers), while other cities of the Maghrib were colonized by Arab tribes sent thither by the Cairene vizier. This loss was more than compensated by the enrolment of Yemen among the countries which recognized the Fāṭimite caliphate through the enterprise of one 'Ali b. Mahommed al-Ṣulaiḥī, while owing to the disputes between the Turkish generals who claimed supremacy at Bagdad, Mostanṣir's name was mentioned in public prayer at that metropolis on the 12th of January 1058, when a Turkish adventurer Basāsīrī was for a time in power. The Egyptian court, chiefly owing to the jealousy of the vizier, sent no efficient aid to Basāsīrī, and after a year Bagdad was retaken by the Seljūk Toghrul Beg, and the Abbasid caliph restored to his rights. In the following years the troubles in Egypt caused by the struggles between the Turkish and negro elements in Mostanṣir's army nearly brought the country into the dominion of the Abbasids. After several battles of various issue the Turkish commander Nāṣir addaula b. Hamdān got possession of Cairo, and at the end of 1068 plundered the caliph's palace; the valuable library which had been begun by Ḥākim was pillaged, and an accidental fire caused great destruction. The caliph and his family were reduced to destitution, and Nāṣir addaula began negotiations for restoring the name of the Abbasid caliph in public prayer; he was, however, assassinated before he could carry this out, and his assassin, also a Turk, appointed vizier. Mostanṣir then summoned to his aid Badr al-Jamālī, an Armenian who had displayed competence in various posts which he had held in Syria, and this person early in 1074 arrived in Cairo accompanied by a bodyguard of Armenians; he contrived to massacre the chiefs of the party at the time in possession of power, and with the title Amīr al-Juyūsh ("prince of the armies") was given by Mostanṣir complete control of affairs. The period of internal disturbances, which had been accompanied by famine and pestilence, had caused usurpers to spring up in all parts of Egypt, and Badr was compelled practically to reconquer the country. During this time, however, Syria was overrun by an invader in league with the Seljūk Malik Shah, and Damascus was permanently lost to the Fāṭimites; other cities were recovered by Badr himself or his officers. He rebuilt the walls of Cairo, of more durable material than that which had been employed by Jauhar—a measure rendered necessary partly by the growth of the metropolis, but also by the repeated sieges which it had undergone since the commencement of Fāṭimite rule. The time of Mostanṣir is otherwise memorable for the rise of the Assassins (*q.v.*), who at the first supported the claims of his eldest son Nizār to the succession against the youngest Aḥmed, who was favoured by the family of Badr. When Badr died in 1094 his influence was inherited by his son al-Afḍal Shāhinshāh, and this, at the death of Mostanṣir in the same year, was thrown in favour of *Aḥmed*, who succeeded to the caliphate with the title *al-Mosta'lī billāh*.

Mosta'lī's succession was not carried through without an attempt on the part of Nizār to obtain his rights, the title which he chose being *al-Moṣṭafā lidīn allāh*; for a time he maintained himself in Alexandria, but the energetic The Crusades. measures of his brother soon brought the civil war to an end. The beginning of this reign coincided with the beginning of the Crusades, and al-Afḍal made the fatal mistake of helping the Franks by rescuing Jerusalem from the Ortokids, thereby facilitating its conquest by the Franks in 1099. He endeavoured to retrieve his error by himself advancing into Palestine, but he was defeated in the neighbourhood of Ascalon, and compelled to retire to Egypt. Many of the Palestinian possessions of the Fāṭimites then successively fell into the hands of the Franks. After a reign of seven years Mosta'lī died and the caliphate was given by al-Afḍal to an infant son, aged five years at the time, who was placed on the throne with the title *al-Āmir biahkām allāh*, and for twenty years was under the tutelage of al-Afḍal. He made repeated

attempts to recover the Syrian and Palestinian cities from the Franks, but with poor success. In 1118 Egypt was invaded by Baldwin I., who burned the gates and the mosques of Farama, and advanced to Tinnis, whence illness compelled him to retreat. In August 1121 al-Afḍal was assassinated in a street of Cairo, it is said, with the connivance of the caliph, who immediately began the plunder of his house, where fabulous treasures were said to be amassed. The vizier's offices were given to one of the caliph's creatures, Mahommed b. Fātik al-Batā'iḥī, who took the title *al-Ma'mūn*. His external policy was not more fortunate than that of his predecessor, as he lost Tyre to the Franks, and a fleet equipped by him was defeated by the Venetians. On the 4th of October 1125 he with his followers was seized and imprisoned by order of the Caliph Āmir, who was now resolved to govern by himself, with the assistance of only subordinate officials, of whom two were drawn from the Samaritan and Christian communities. The vizier was afterwards crucified with his five brothers. The caliph's personal government appears to have been incompetent, and to have been marked by extortions and other arbitrary measures. He was assassinated in October 1129 by some members of the sect who believed in the claims of Nizār, son of Mostanṣir.

The succeeding caliph, *Abu'l-Maimūn 'Abd al-Majīd*, who took the title *al-Ḥāfiẓ lidīn allāh*, was not the son but the cousin of the deceased caliph, and of ripe age, being about fifty-eight years old at the time; for more than a year he was kept in prison by the new vizier, a son of al-Afḍal, whom the army had placed in the post; but towards the end of 1131 this vizier fell by the hand of assassins, and the caliph was set free. The reign of Ḥāfiẓ was disturbed by the factions of the soldiery, between which several battles took place, ending in the subjection of the caliph for a time to various usurpers, one of these being his own son Ḥasan, who had been provoked to rebel by the caliph nominating a younger brother as his successor. For some months the caliph was under this son's control; but the latter, who aimed at conciliating the people, speedily lost his popularity with the troops, and his father was able to get possession of his person and cause him to be poisoned (beginning of 1135).

His son *Abu'l-Manṣūr Ismā'īl*, who was seventeen years old at the time of Ḥāfiẓ's death, succeeded him with the title *al-Zāfir lia'dā allāh*. From this reign to the end of the Fāṭimite period we have the journals of two eminent men, Usāmah b. Muniqdh and Umārah of Yemen, which throw light on the leading characters. The civil dissensions of Egypt were notorious at the time. The new reign began by an armed struggle between two commanders for the post of vizier, which in January 1150 was decided in favour of the Amir Ibn Sallār. This vizier was presently assassinated by the direction of his stepson 'Abbās, who was raised to the vizierate in his place. This event was shortly followed by the loss to the Fāṭimites of Ascalon, the last place in Syria which they held; its loss was attributed to dissensions between the parties of which the garrison consisted. Four years later (April 1154) the caliph was murdered by his vizier 'Abbās, according to Usāmah, because the caliph had suggested to his favourite, the vizier's son, to murder his father; and this was followed by a massacre of the brothers of Zāfir, followed by the raising of his infant son *Abu'l-Qāsim 'Īsā* to the throne.

The new caliph, who was not five years old, received the title *al-Fā'iz binaṣr allāh*, and was at first in the power of 'Abbās. The women of the palace, however, summoned to their aid Ṭalā'i' b. Ruzzīk, prefect of Ushmunain, at whose arrival in Cairo the troops deserted 'Abbās, who was compelled to flee into Syria, taking his son and Usāmah with him. 'Abbās was killed by the Franks near Ascalon, his son sent in a cage to Cairo where he was executed, while Usāmah escaped to Damascus.

The infant Fā'iz, who had been permanently incapacitated by the scenes of violence which accompanied his accession, died in 1160. Ṭalā'i' chose to succeed him a grandson of Ẓāfir, who was nine years of age, and received the title *al-'Āḍid lidīn allāh*. Ṭalā'i', who had complete control of affairs, introduced the practice of farming the taxes for periods of six months instead of a year, which led to great misery, as the taxes were demanded twice. His death was brought on by the rigour with which he treated the princesses, one of whom, with or without the connivance of the caliph, organized a plot for his assassination, and he died in September 1160. His son Ruzzīk inherited his post and maintained himself in it for more than a year, when another prefect of Upper Egypt, Shāwar b. Mujīr, brought a force to Cairo, before which Ruzzīk fled, to be shortly afterwards captured and beheaded. Shāwar's entry into Cairo was at the beginning of 1163; after nine months he was compelled to flee before another adventurer, an officer in the army named Ḍirghām. Shāwar's flight was directed to Damascus, where he was favourably received by the prince Nureddin, who sent with him to Cairo a force of Kurds under Asad al-dīn Shīrgūh. At the same time Egypt was invaded by the Franks, who raided and did much damage on the coast. Dirghām was defeated and killed, but a dispute then arose between Shāwar and his Syrian allies for Frankish invasion. the possession of Egypt. Shāwar, being unable to cope with the Syrians, demanded help of the Frankish king of Jerusalem Amalric (Amauri) I., who hastened to his aid with a large force, which united with Shāwar's and besieged Shīrgūh in Bilbeis for three months; at the end of this time, owing to the successes of Nureddin in Syria, the Franks granted Shīrgūh a free passage with his troops back to Syria, on condition of Egypt being evacuated (October 1164). Rather more than two years later Shīrgūh persuaded Nureddin to put him at the head of another expedition to Egypt, which left Syria in January 1167, and, entering Egypt by the land route, crossed the Nile at Itfīḥ (Atfih), and encamped at Giza; a Frankish army hastened to Shāwar's aid. At the battle of Bābain (April 11th, 1167) the allies were defeated by the forces commanded by Shīrgūh and his nephew Saladin, who was Saladin. presently made prefect of Alexandria, which surrendered to Shīrgūh without a struggle. Saladin was soon besieged by the allies in Alexandria; but after seventy-five days the siege was raised, Shīrgūh having made a threatening movement on Cairo, where a Frankish garrison had been admitted by Shāwar. Terms were then made by which both Syrians and Franks were to quit Egypt, though the garrison of Cairo remained; the hostile attitude of the Moslem population to this garrison led to another invasion at the beginning of 1168 by King Amalric, who after taking Bilbeis advanced to Cairo. The caliph, who up to this time appears to have left the administration to the viziers, now sent for Shīrgūh, whose speedy arrival in Egypt caused the Franks to withdraw. Reaching Cairo on the 6th of January 1169, he was soon able to get possession of Shāwar's person, and after the prefect's execution, which happened some ten days later, he was appointed vizier by the caliph. After two months Shīrgūh died of indigestion (23rd of March 1169), and the caliph appointed Saladin as successor to Shīrgūh; the new vizier professed to hold office as a deputy of Nureddin, whose name was mentioned in public worship after that of the caliph. By appropriating the fiefs of the Egyptian officers and giving them to his Kurdish followers he stirred up much ill-feeling, which resulted in a conspiracy, of which the object was to recall the Franks with the view of overthrowing the new régime; but this conspiracy was revealed by a traitor and crushed. Nureddin loyally aided his deputy in dealing with Frankish invasions of Egypt, but the anomaly by which he, being a Sunnite, was made in Egypt to recognize a Fāṭimite caliph could not long continue, and he ordered Saladin to weaken the Fāṭimite by every available means, and then substitute the name of the Abbasid for his in public worship. Saladin and his ministers were at first afraid lest this step might give rise to disturbances among the people; but a stranger undertook to risk it on the 17th of September 1171, and the following Friday it was repeated by official order; the caliph himself died during the interval, and it is uncertain whether he ever heard of his deposition. The last of the Fāṭimite caliphs was not quite twenty-one years old at the time of his death.

(5) *Ayyubite Period.*—Saladin by the advice of his chief Nureddin cashiered the Fāṭimite judges and took steps to encourage the study of orthodox theology and jurisprudence in Egypt by the foundation of colleges and chairs. On the death of the ex-caliph he was confirmed in the prefecture of Egypt as deputy of Nureddin; and on the decease of the latter in 1174 (12th of April) he took the title sultan, so that with this year the Ayyubite period of Egyptian history properly begins. During the whole of it Damascus rather more than Cairo counted as the metropolis of the empire. The Egyptian army, which was motley in character, was disbanded by the new sultan, whose troops were Kurds. Though he did not build a new metropolis he fortified Cairo with the addition of a citadel, and had plans made for a new wall to enclose both it and the double city; this latter plan was never completed, but the former was executed after his death, and from this time till the French occupation of Egypt the citadel of Cairo was the political centre of the country. It was in 1183 that Saladin's rule over Egypt and North Syria was consolidated. Much of Saladin's time was spent in Syria, and his famous wars with the Franks belong to the history of the Crusades and to his personal biography. Egypt was largely governed by his favourite Karākūsh, who lives in popular legend as the "unjust judge," though he does not appear to have deserved that title.

Saladin at his death divided his dominions between his sons, of whom 'Othman succeeded to Egypt with the title *Malik*

al-Azīz ʻImāl al-aīn. The division was not satisfactory to the heirs, and after three years (beginning of 1196) the Egyptian sultan conspired with his uncle Malik al-ʻĀdil to deprive Saladin's son al-Afḍal of Damascus, which had fallen to his lot. The war between the brothers was continued with intervals of peace, during which al-ʻĀdil repeatedly changed sides: eventually he with al-ʻAzīz besieged and took Damascus, and sent al-Afḍal to Sarkhad, while al-ʻĀdil remained in possession of Damascus. On the death of al-ʻAzīz on the 29th of November 1198 in consequence of a hunting accident, his infant son Mahommed was raised to the throne with the title *Malik al-Manṣūr Nāṣir al-dīn*, and his uncle al-Afḍal sent for from Sarkhad to take the post of regent or Atābeg. So soon as al-Afḍal had got possession of his nephew's person, he started on an expedition for the recovery of Damascus: al-ʻĀdil not only frustrated this, but drove him back to Egypt, where on the 25th of January 1200 a battle was fought between the armies of the two at Bilbeis, resulting in the defeat of al-Afḍal, who was sent back to Sarkhad, while al-ʻĀdil assumed the regency, for which after a few months he substituted the sovereignty, causing his nephew to be deposed. He reigned under the title *Malik al-ʻĀdil Saif al-dīn*. His name was Abū Bakr.

Though the early years of his reign were marked by numerous disasters, famine, pestilence and earthquake, of which the second seems to have been exceedingly serious, he reunited under his sway the whole of the empire which had belonged to his brother, and his generals conquered for him parts of Mesopotamia and Armenia, and in 1215 he got possession of Yemen. He followed the plan of dividing his empire between his sons, the eldest Mahommed, called *Malik al-Kāmil*, being his viceroy in Egypt, while al-Muʻazzam ʼĪsā governed Syria, al-Ashraf Mūsā his eastern and al-Malik al-Auḥad Ayyūb his northern possessions. His attitude towards the Franks was at the first peaceful, but later in his reign he was compelled to adopt more strenuous measures. His death occurred at Alikin (1218), a village near Damascus, while the Franks were besieging Damietta—the first operation of the Fifth Crusade—which was defended by al-Kāmil, to whom his father kept sending reinforcements. The efforts of al-Kāmil after his accession to the independent sovereignty were seriously hindered by the endeavour of an amir named Aḥmed b. Mashṭūb to depose him and appoint in his place a brother called al-Fāʼiz Sābiq al-dīn Ibrāhīm: this attempt was frustrated by the timely interposition of al-Muʻazzam ʼĪsā, who came to Egypt to aid his brother in February 1219, and compelled al-Fāʼiz to depart for Mosul. After a siege of sixteen and a half months Damietta was taken by the Franks on Tuesday the 6th of November 1219; al-Kāmil thereupon proclaimed the Jihād, and was joined at his fortified camp, afterwards the site of Manṣūra, by troops from various parts of Egypt, Syria and Mesopotamia, including the forces of his brothers ʼĪsā and Mūsā. With these allies, and availing himself of the advantages offered by the inundation of the Nile, al-Kāmil was able to cut off both the advance and the retreat of the invaders, and on the 31st of August 1221 a peace was concluded, by which the Franks evacuated Egypt.

For some years the dominions of al-ʻĀdil remained divided between his sons: when the affairs of Egypt were settled, al-Kāmil determined to reunite them as before, and to that end brought on the Sixth Crusade. Various cities in Palestine and Syria were yielded to Frederick II. as the price of his help against the son of Muʻazzam ʼĪsā, who reigned at Damascus with the title of Malik al-Nāṣir. About 1231-32 Kāmil led a confederacy of Ayyūbite princes against the Seljuk Kaikobad into Asia Minor, but his allies mistrusted him and victory rested with Kaikobad (see Seljuks). Before Kāmil's death he was mentioned in public prayer at Mecca as lord of Mecca (Hejāz), Yemen, Zabīd, Upper and Lower Egypt, Syria and Mesopotamia.

At his death (May 8th, 1238) at Damascus, his son Abū Bakr was appointed to succeed with the title *Malik al-ʻĀdil Saif al-dīn*; but his elder brother Malik al-Sāliḥ Najm al-dīn Ayyūb, having got possession of Damascus, immediately started for Egypt, with the view of adding that country to his dominions: meanwhile his uncle Ismāʼil, prince of Hamath, with the prince of Homs, seized Damascus, upon hearing which the troops of Najm al-dīn deserted him at Nablus, when he fell into the hands of Malik al-Nāṣir, prince of Kerak, who carried him off to that city and kept him a prisoner there for a time; after which he was released and allowed to return to Nablus. On the 31st of May 1240 the new sultan was arrested at Bilbeis by his own amirs, who sent for Najm al-dīn to succeed him; and on the 19th of June of the same year Najm al-dīn entered Cairo as sultan, and imprisoned his brother in the citadel, where he died in 1248. Meanwhile in 1244 Jerusalem had been finally wrested from the Franks. The administration of Najm al-dīn is highly praised by Ibn Khallikan, who lived under it. He made large purchases of slaves (Mamelukes) for his army, and when the inhabitants of Cairo complained of their lawlessness, he built barracks for them on the island of Roda (Rauḍa), whence they were called Bahrī or Nile Mamelukes, which became the name of the first dynasty that originated from them. Much of his time was spent in campaigns in Syria, where the other Ayyūbites allied themselves against him with the Crusaders, whereas he accepted the services of the Khwarizmians: eventually he succeeded in recovering most of the Syrian cities. His name is commemorated by the town of Salihia, which he built in the year 1246 as a resting-place for his armies on their marches through the desert from Egypt to Palestine. In 1249 he was recalled from the siege of Homs by the news of the invasion of Egypt by Louis IX. (the Seventh Crusade), and in spite of illness he hastened to Ushmum Tannā, in the neighbourhood of Damietta, which he provisioned for a siege. Damietta was taken on the 6th of June 1249, owing to the desertion of his post by the commander Fakhr ud-dīn, and the Banū Kinānah, to whom the defence of the place had been entrusted: fifty-four of their chieftains were afterwards executed by the sultan for this proceeding. On the 22nd of November the sultan died of disease at Manṣūra, but his death was carefully concealed by the amirs Lājīn and Aktai, acting in concert with the Queen Shajar al-durr, till the arrival from Syria of the heir to the throne, *Tūrānshāh*, who was proclaimed some four months later. At the battle of Fāriskūr, 6th of April 1250, the invaders were utterly routed and the French king fell into the hands of the Egyptian sultan. The Egyptian authorities now resolved to raze Damietta, which,

however, was rebuilt shortly after. The sultan, who himself had had no share in the victory, advanced after it from Manṣūra to Fāriskūr, where his conduct became menacing to the amirs who had raised him to the throne, and to Shajar al-durr; she in revenge organized an attack upon him which was successful, fire, water, and steel contributing to his end.

(6) *Period of Baḥrī Mamelukes.*—The dynasties that succeeded the Ayyūbites till the conquest of Egypt by the Ottomans bore the title Dynasties of the Turks, but are more often called Mameluke dynasties, because the sultans were drawn from the enfranchised slaves who constituted the court, and officered the army. The family of the fourth of these sovereigns, Ka'ā'ūn (Qalā'ūn), reigned for 110 years, but otherwise no sultan was able to found a durable dynasty: after the death of a sultan he was usually succeeded by an infant son, who after a short time was dethroned by a new usurper.

After the death of the Sultan Tūrānshāh, his step-mother at first was raised to the vacant throne, when she committed the administration of affairs to the captain of the retainers, Aibek; but the rule of a queen caused scandal to the Moslem world, and Shajar al-durr gave way to this sentiment by marrying Aibek and allowing the title sultan to be conferred on him instead of herself. For policy's sake, however, Aibek nominally associated with himself on the throne a scion of the Ayyūbite house, Malik al-Ashraf Musa, who died in prison (1252 or 1254). Aibek meanwhile immediately became involved in war with the Ayyūbite Malik al-Nāṣir, who was in possession of Syria, with whom the caliph induced him after some indecisive actions to make peace: he then successfully quelled a mutiny of Mamelukes, whom he compelled to take refuge with the last Abbasid caliph Mostasim in Bagdad and elsewhere. On the 10th of April 1257 Aibek was murdered by his wife Shajar al-durr, who was indignant at his asking for the hand of another queen: but Aibek's followers immediately avenged his death, placing on the throne his infant son *Malik al-Manṣūr*, who, however, was almost immediately displaced by his guardian *Koṭuz*, on the plea that the Mongol danger necessitated the presence of a grown man at the head of affairs. In 1260 the Syrian kingdom of al-Nāṣir was destroyed by Hulaku (Hulagu), the great Mongol chief, founder of the Ilkhan Dynasty (see Mongols), who, having finally overthrown the caliph of Bagdad (see Caliphate, sect. c. § 37), also despatched a threatening letter to Koṭuz; but later in the same year Syria was invaded by Koṭuz, who defeated Hulagu's lieutenant at the battle of 'Ain Jālūt (3rd of September 1260), in consequence of which event the Syrian cities all rose against the Mongols, and the Egyptian sultan became master of the country with the exception of such places as were still held by the Crusaders.

Before Koṭuz had reigned a year he was murdered at Sālihia by his lieutenant Bibars (October 23rd, 1260), who was piqued, it is said, at the governorship of Aleppo being withheld from him. The sovereignty was seized by this Rule of Bibars. person with the title of *Malik al-Qāhir*, presently altered to *al-Zāhir*. He had originally been a slave of Malik al-Sāliḥ, had distinguished himself at the battle after which Louis IX. was captured, and had helped to murder Tūrānshāh. Sultan Bibars, who proved to be one of the most competent of the Baḥrī Mamelukes, made Egypt the centre of the Moslem world by re-establishing in theory the Abbasid caliphate, which had lapsed through the taking of Bagdad by Hulagu, followed by the execution of the caliph. Bibars recognized the claim of a certain Abu'l-Qāsim Aḥmed to be the son of Zāhir, the 35th Abbasid caliph, and installed him as Commander of the Faithful Abbasid caliphate revived. at Cairo with the title *al-Mostanṣir billāh*. Mostanṣir then proceeded to confer on Bibars the title sultan, and to address to him a homily, explaining his duties. This document is preserved in the MS. life of Bibars, and translated by G. Weil. The sultan appears to have contemplated restoring the new caliph to the throne of Bagdad: the force, however, which he sent with him for the purpose of reconquering Irak was quite insufficient for the purpose, and Mostanṣir was defeated and slain. This did not prevent Bibars from maintaining his policy of appointing an Abbasid for the purpose of conferring legitimacy on himself; but he encouraged no further attempts at re-establishing the Abbasids at Bagdad, and his principle, adopted by successive sultans, was that the caliph should not leave Cairo except when accompanying the sultan on an expedition.

The reign of Bibars was spent largely in successful wars against the Crusaders, from whom he took many cities, notably Safad, Caesarea and Antioch; the Armenians, whose territory he repeatedly invaded, burning their capital Sis; and the Seljukids of Asia Minor. He further reduced the Ismā'īlians or Assassins, whose existence as a community lasted on in Syria after it had nearly come to an end in Persia. He made Nubia tributary, therein extending Moslem arms farther south than they had been extended by any previous sultan. His authority was before his death recognized all over Syria (with the exception of the few cities still in the power of the Franks), over Arabia, with the exception of Yemen, on the Euphrates from Birah to Kerkesia (Circesium) on the Chaboras (Khabur), whilst the amirs of north-western Africa were tributary to him. His successes were won not only by military and political ability, but also by the most absolute unscrupulousness, neither flagrant perjury nor the basest treachery being disdained. He was the first sultan who acknowledged the equal authority of the four schools of law, and appointed judges belonging to each in Egypt and Syria; he was thus able to get his measures approved by one school when condemned by another.

On the 1st of July 1277 Bibars died, and the events that followed set an example repeatedly followed during the period of the Mamelukes. The sultan's son *Malik al-Sa'īd* ascended the throne; but within little more than two Kalā'ūn. years he was compelled to abdicate in favour of his father-in-law *Kalā'ūn*, a Mameluke who had risen high in the former sovereign's service. The accession of Kalā'ūn was also marked by an attempt on the part of the governor of Damascus to form Syria into an independent kingdom, an attempt frequently imitated on similar occasions. The Syrian forces were

defeated at the battle of Jazūrah (April 26th, 1280) and Kalā'ūn resumed possession of the country; but the disaffected Syrians entered into relations with the Mongols, who proceeded to invade Syria, but were finally defeated by Kalā'ūn on the 30th of October 1281 under the walls of Homs (Emesa).

The conversion to Islam of Nikudar Aḥmad, the third of the Ilkhan rulers of Persia, and the consequent troubles in the western Mongol empire, let to a suspension of hostilities between Egypt and the Ilkhans (see Persia: *History*, § B), though the latter did not cease to agitate in Europe for a renewal of the Crusades, with little result. Kalā'ūn, without pursuing any career of active conquest, did much to consolidate his dominions, and especially to extend Egyptian commerce, for which purpose he started passports enabling merchants to travel with safety through Egypt and Syria as far as India. After the danger from the Mongols had ceased, however, Kalā'ūn directed his energies towards capturing the last places that remained in the hands of the Franks, and proceeded to take Markab, Latakia, and Tripoli (April 26th, 1289). In 1290 he planned an attack on Acre, but died (November 10th) in the middle of all his preparations. Under Kalā'ūn we first hear of the Burjite Mamelukes, who owe their name to the citadel (Burj) of Cairo, where 3700 of the whole number of 12,000 Mamelukes maintained by this sovereign were quartered. He also set an example, frequently followed, of the practice of dismissing all non-Moslems from government posts: this was often done by his successors with the view of conciliating the Moslems, but it was speedily found that the services of the Jewish and Christian clerks were again required. He further founded a hospital for clinical research on a scale formerly unknown.

Kalā'ūn was followed by his son *Khalīl* (*Malik al-Ashraf Salāh al-dīn*), who carried out his father's policy of driving the Franks out of Syria and Palestine, and proceeded with the siege of Acre, which he took (May 18th, 1291) after a siege of forty-three days. The capture and destruction of this important place were followed by the capture of Tyre, Sidon, Haifa, Athlit and Beirut, and thus Syria was cleared of the Crusaders. He also planned an expedition against the prince of Lesser Armenia, which was averted by the surrender of Behesna, Marash and Tell Hamdūn. The disputes between his favourite, the vizier Ibn al-Sa'lūs, and his viceroy Baidara, led to his being murdered by the latter (December 12th, 1293), who was proclaimed sultan, but almost immediately fell a victim to the vengeance of the deceased sultan's party, who placed a younger son of Kalā'ūn, Malik al-Nāṣir. *Mahommed Malik al-Nāṣir*, on the throne. This prince had the singular fortune of reigning three times, being twice dethroned: he was first installed on the 14th of December 1293, when he was nine years old, and the affairs of the kingdom were undertaken by a cabinet, consisting of a vizier ('Alam al-dīn Sinjar), a viceroy (Kitboga), a war minister (Ḥusām al-dīn Lājīn al-Rūmī), a prefect of the palace (Rokneddin Bibars Jāshengir) and a secretary of state (Rokneddin Bibars Manṣūrī). This cabinet naturally split into rival camps, in consequence of which Kitboga, himself a Mongol, with the aid of other Mongols who had come into Egypt after the battle of Homs, succeeded in ousting his rivals, and presently, with the aid of the surviving assassins of the former sultan, compelling Malik al-Nāṣir to abdicate in his favour (December 1st, 1294). The usurper was, however, able to maintain himself for two years only, famine and pestilence which prevailed in Egypt and Syria during his reign rendering him unpopular, while his arbitrary treatment of the amirs also gave offence. He was dethroned in 1296, and one of the murderers of Khalil, Ḥusām al-dīn *Lājīn*, son-in-law of the sultan Bibars and formerly governor of Damascus, installed in his palace (November 26th, 1296). It had become the practice of the Egyptian sultans to bestow all offices of importance on their own freedmen (Mamelukes) to the exclusion of the older amirs, whom they could not trust so well, but who in turn became still more disaffected. Ḥusām al-dīn fell a victim to the jealousy of the older amirs whom he had incensed by bestowing arbitrary power on his own Mongol Wars. Mameluke Mengutimur, and was murdered on the 16th of January 1299. His short reign was marked by some fairly successful incursions into Armenia, and the recovery of the fortresses Marash and Tell Hamdūn, which had been retaken by the Armenians. He also instituted a fresh survey and division of land in Egypt and Syria, which occasioned much discontent. After his murder the deposed sultan Malik al-Nāṣir, who had been living in retirement at Kerak, was recalled by the army and reinstated as sultan in Cairo (February 7th, 1299), though still only fourteen years of age, so that public affairs were administered not by him, but by Salār the viceroy, and Bibars Jāshengir, prefect of the palace. The 7th Ilkhan, Ghazan Mahmud, took advantage of the disorder in the Mameluke empire to invade Syria in the latter half of 1299, when his forces inflicted a severe defeat on those of the new sultan, and seized several cities, including the capital Damascus, of which, however, they were unable to storm the citadel; in 1300, when a fresh army was collected in Egypt, the Mongols evacuated Damascus and made no attempt to secure their other conquests. The fear of further Mongolian invasion led to the imposition of fresh taxes in both Egypt and Syria, including one of 33% on rents, which occasioned many complaints. The invasion did not take place till 1303, when at the battle of Marj al-Ṣaffar (April 20th) the Mongols were defeated. This was the last time that the Ilkhans gave the Egyptian sultans serious trouble; and in the letter written in the sultan's name to the Ilkhan announcing the victory, the former suggested that the caliphate of Bagdad should be restored to the titular Abbasid caliph who had accompanied the Egyptian expedition, a suggestion which does not appear to have led to any actual steps being taken. The fact that the Mongols were in ostensible alliance with Christian princes led to a renewal by the sultan of the ordinances against Jews and Christians which had often been abrogated, as often renewed and again fallen into abeyance; and their renewal led to missions from various Christian princes requesting milder terms for their co-religionists. The amirs Salār and Bibars having usurped the whole of the sultan's authority, he, after some futile attempts to free himself of them, under the pretext of pilgrimage to Mecca, retired in March 1309 to Kerak, whence he sent his abdication to Cairo; in consequence of which, on the 5th of April 1309, *Bibars Jāshengir* was proclaimed sultan, with the title *Malik al-Moẓaffar*. This prince was originally a freedman of Kalā'ūn, and was the first Circassian who ascended the throne of Egypt. Before the year was out the new sultan had been rendered unpopular by the occurrence of a famine, and Malik al-Nāṣir was easily able to induce

the Syrian amirs to return to his allegiance, in consequence of which Bibars in his turn abdicated, and Malik al-Nāṣir re-entered Cairo as sovereign on the 5th of March 1310. He soon found the means to execute both Bibars and Salār, while other amirs who had been eminent under the former régime fled to the Mongols. The relations between their Ilkhan and the Egyptian sultan continued strained, and the 8th Ilkhan Oeljeitu (1304-1316) addressed letters to Philip the Fair and the English king Edward I. (answered by Edward II. in 1307), desiring aid against Malik al-Nāṣir; and for many years the courts of the sultan and the Ilkhan continued to be the refuge of malcontents from the other kingdom. Finally in 1322 terms of peace and alliance were agreed on between the sultan and Abū Sa'īd the 9th Ilkhan. The sultan also entered into relations with the Mongols of the Golden Horde and in 1319 married a daughter of the reigning prince Uzbeg Khan (see Mongols: *Golden Horde*). Much of Malik al-Nāṣir's third administration was spent in raids into Nubia, where he endeavoured to set up a creature of his own as sovereign, in attempts at bringing the Bedouins of south-eastern Egypt into subordination, and in persecuting the Nosairīs, whose heresy became formidable about this time. Like other Egyptian sultans he made considerable use of the Assassins, 124 of whom were sent by him into Persia to execute Kara Sonkor, at one time governor of Damascus, and one of the murderers of Malik al-Ashraf; but they were all outwitted by the exile, who was finally poisoned by the Ilkhan in recompense for a similar service rendered by the Egyptian sultan. For a time Malik al-Nāṣir was recognized as suzerain in north Africa, the Arabian Irak, and Asia Minor, but he was unable to make any permanent conquests in any of these countries. He brought Medina, which had previously been governed by independent sherīfs, to acknowledge his authority. His diplomatic relations were more extensive than those of any previous sultan, and included Bulgarian, Indian, and Abyssinian potentates, as well as the pope, the king of Aragon and the king of France. He appears to have done his utmost to protect his Christian subjects, incurring thereby the reproaches of the more fanatical Moslems, especially in the year 1320 when owing to incendiarism in Cairo there was danger of a general massacre of the Christian population. His internal administration was marked by gross extravagance, which led to his viziers being forced to practise violent extortion for which they afterwards suffered. He paid considerable attention to sheep-breeding and agriculture, and by a canal which he had dug from Fuah to Alexandria not only assisted commerce but brought 100,000 feddans under cultivation. His taste for building and street improvement led to the beautifying of Cairo, and his example was followed by the governors of other great cities in the empire, notably Aleppo and Damascus. He paid exceptionally high prices for Mamelukes, many of whom were sold by their Mongol parents to his agents, and accustomed them to greater luxury than was usual under his predecessors. In 1315 he instituted a survey of Egypt, and of the twenty-four parts into which it was divided ten were assigned to the sultan and fourteen to the amirs and the army. He took occasion to abolish a variety of vexatious imposts, and the new budget fell less heavily on the Christians than the old. Among the literary ornaments of his reign was the historian and geographer Ismā'īl Abulfeda (*q.v.*), to whom Malik al-Nāṣir restored the government of Hamath, which had belonged to his ancestors, and even gave the title sultan. He died on the 7th of June 1341. The son, *Abu Bakr*, to whom he had left the throne, was able to maintain himself only a few months on it, being compelled to abdicate on the 4th of August 1341 in favour of his infant brother *Kuchuk*; the revolution was brought about by Kausūn, a powerful Mameluke of the preceding monarch. This person's authority was, however, soon overthrown by a party formed by the Syrian prefects, and on the 11th of January *Malik al-Nāṣir Aḥmad*, an elder son of the former sultan of the same title, was installed in his place, though he did not actually arrive in Cairo till the 6th of November, being unwilling to leave Kerak, where he had been living in retirement. After a brief sojourn in Cairo he speedily returned thither, thereby forfeiting his throne, which was conferred by the amirs on his brother *Ismā'īl al-Malik al-Sāliḥ* (June 27th, 1342). This sultan was mainly occupied during his short reign with besieging and taking Kerak, whither Aḥmad had taken refuge, and himself died on the 3rd of August 1345, when another son of Malik al-Nāṣir, named *Sha'bān*, was placed on the throne. The constant changes of sultan led to Decline of the Bahri power. great disorder in the provinces, and many of the subject principalities endeavoured to shake off the Egyptian yoke. Sha'bān proved no more competent than his predecessors, being given to open debauchery and profligacy, an example followed by his amirs; and fresh discontent led to his being deposed by the Syrian amirs, when his brother *Ḥājjī* was proclaimed sultan in his place (September 18th, 1346). Ḥājjī was deposed and killed on the 10th of December 1347, and another infant son of Malik al-Nāṣir, *Ḥasan*, who took his father's title, was proclaimed, the real power being shared by three amirs, Sheikhun, Menjek and Yelbogha Arus. During this reign (1348-1349) Egypt was visited by the "Black Death," which is said to have carried off 900,000 of the inhabitants of Cairo and to have raged as far south as Assuan. Towards the beginning of 1351 the sultan got rid of his guardians and attempted to rule by himself; but though successful in war, his arbitrary measures led to his being dethroned on the 21st of August 1351 by the amirs, who proclaimed his brother Sāliḥ with the title of *Malik al-Sāliḥ*. He too was only fourteen years of age. The power was contested for by various groups of amirs, whose struggles ended with the deposition of the sultan Sāliḥ on the 20th of October 1354, and the reinstatement of his brother *Ḥasan*, who was again dethroned on the 16th of March 1361 by an amir Yelbogha, whom he had offended, and who, having got possession of the sultan's person, murdered him. The next day a son of the dethroned sultan Ḥājjī was proclaimed sultan with the title *Malik al-Manṣūr*. On the 29th of May 1363 this sultan was also dethroned on the ground of incompetence, and his place was given to another grandson of Malik al-Nāṣir, *Sha'bān*, son of Ḥosain, then ten years old. The amir Yelbogha at first held all real power and is said to have acquired a degree of authority which no other subject ever held. During this reign, on the 8th of October 1365, a landing was effected at Alexandria by a Frankish fleet under Peter I. of Cyprus, which presently took possession of the city; the Franks were speedily compelled to embark again after plundering the city, for which compensation was afterwards demanded by Yelbogha from the Christian population of Egypt and Syria. Alexandria was further made the seat of a viceroy, having previously only had a prefect. On the 11th of December 1366 Yelbogha was himself attacked by the

sultan, captured and slain. His successor in the office of first minister was a mere tool in the hands of his Mamelukes, who compelled him to institute and depose governors, &c., at their pleasure. In 1374 the Egyptians raided Cilicia and captured Leo VI., prince of Lesser Armenia, which now became an Egyptian province with a Moslem governor. On the 15th of March 1377 the sultan was murdered by the Mamelukes, owing to his refusing a largess of money which they demanded. The infant son of the late sultan *'Alī*, a lad of eight years, was proclaimed with the title *Malik al-Manṣūr*; the power was in the hands of the ministers Kartai and Ibek, the latter of whom overthrew the former with the aid of his own Mamelukes, Berekeh and Barkūk. An insurrection in Syria which spread to Egypt presently caused the fall of Ibek, and led to the occupation of the highest posts by the Circassian freedmen Berekeh and Barkūk, of whom the latter ere long succeeded in ousting the former and usurping the sultan's place; on the 19th of May 1381, when the sultan 'Alī died, his place was given to an infant brother Ḥājjī, but on the 26th of November 1382, *Barkūk* set this child aside and had himself proclaimed sultan (with the title *Malik al-Zāhir*), thereby ending the Bahrī dynasty and commencing that of the Circassians. For a short period, however, Ḥājjī was restored, when on the 1st of June 1389 Cairo was taken by Yelbogha, governor of Damascus, and Barkūk expelled; Ḥājjī reigned at first under the guardianship of Yelbogha, who was then overthrown by Mintāsh; Barkūk, who had been relegated to Kerak, succeeded in again forming a party, and in a battle fought at Shakhab, January 1390, succeeded in gaining possession of the person of the sultan Ḥājjī, and on the 21st of January he was again proclaimed sultan in Cairo.

(7) *Period of Burjī Mamelukes.*—Barkūk presently entered into relations with the Ottoman sultan Bāyezīd I., and by slaying an envoy of Timur incurred the displeasure of the world-conqueror; and in 1394 led an army into Syria with the view of restoring the Jelairid Ilkhan Aḥmad to Bagdad (as Barkūk's vassal), and meeting the Mongol invasion. Barkūk, however, died (June 20th, 1399) before Timur had time to invade Syria. According to the custom that had so often proved disastrous, a young son of Barkūk, *Faraj*, then aged thirteen, was appointed sultan under the guardianship of two amirs. Incursions were immediately made by the Ottoman sultan into the territory of Egyptian vassals at Derendeh and Albistan (Ablestin), and Malatia was besieged by his forces. Timur, who was at this time beginning his campaign against Bāyezīd, turned his attention Timur in Syria. first to Syria, and on the 30th of October 1400 defeated the Syrian amirs near Aleppo, and soon got possession of the city and the citadel. He proceeded to take Hamah, Homs (Emesa) and other towns, and on the 20th of December started for Damascus. An endeavour was made by the Egyptian sultan to relieve Damascus, but the news of an insurrection in Cairo caused him to retire and leave the place to its fate. In the first three months of 1401 the whole of Northern Syria suffered from Timur's marauders. In the following year (September 29th, 1402) Timur who had in the interval inflicted a crushing defeat on the Ottoman sultan, sent to demand homage from Faraj, and his demand was readily granted, together with the delivery of the princes who had sought refuge from Timur in Egyptian territory. The death of Timur in February 1405 restored Egyptian authority in Syria, which, however, became a rendezvous for all who were discontented with the rule of Faraj and his amirs, and two months after Timur's death was in open rebellion against Faraj. Although Faraj succeeded in defeating the rebels, he was compelled by insubordination on the part of his Circassian Mamelukes to abdicate (September 20th, 1405), when his brother *Abd al-al-'aziz* was proclaimed with the title *Malik al-Manṣūr*; after two months this prince was deposed, and Faraj, who had been in hiding, recalled. Most of his reign was, however, occupied with revolts on the part of the Syrian amirs, to quell whom he repeatedly visited Syria; the leaders of the rebels were the amirs Newruz and Sheik Maḥmūdī, afterwards sultan. Owing to disturbances and misgovernment the population of Egypt and Syria is said to have shrunk to a third in his time, and he offended public sentiment not only by debauchery, but by having his image stamped on his coins. On the 23rd of May 1412, after being defeated and shut up in Damascus, he was compelled by Sheik Maḥmūdī to abdicate, and an Abbasid caliph, Mosta'īn, was proclaimed sultan, only to be forced to abdicate on the 6th of November of the same year in *Sheik's* favour, who took the title *Malik al-Mu'ayyad*, his colleague Newruz having been previously sent to Syria, where he was to be autocrat by the terms of their agreement. In the struggle which naturally followed between the two, Newruz was shut up in Damascus, defeated and slain. Sheik himself invaded Asia Minor and forced the Turkoman states to acknowledge his suzerainty. After the sultan's return they soon rebelled, but were again brought into subjection by Sheik's son Ibrāhīm; his victories excited the envy of his father, who is said to have poisoned him. Sheik himself died a few months after the decease of his son (January 13th, 1421), and another infant son, *Aḥmad*, was proclaimed with the title *Malik al-Moẓaffar*, the proclamation being followed by the usual dissensions between the amirs, ending with the assumption of supreme power by the amir *Tatar*, who, after defeating his rivals, on the 29th of August 1421 had himself proclaimed sultan with the title *Malik al-Ẓāhir*. This usurper, however, died on the 30th of November of the same year, leaving the throne to an infant son *Mohammed*, who was given the title *Malik al-Ṣāliḥ*; the regular intrigues between the amirs followed, leading to his being dethroned on the following 1st of April 1422, when the amir appointed to be his tutor, *Barsbai*, was proclaimed sultan with the title *Malik al-Ashraf*. Wars with European Powers. This sultan avenged the attacks on Alexandria repeatedly made by Cyprian ships, for he sent a fleet which burned Limasol, and another which took Famagusta (August 4th, 1425), but failed in the endeavour to annex the island permanently. An expedition sent in the following year (1426) succeeded in taking captive the king of Cyprus, who was brought to Cairo and presently released for a ransom of 200,000 dinars, on condition of acknowledging the suzerainty of the Egyptian sultan and paying him an annual tribute. Barsbai appears to have excelled his predecessors in the invention of devices for exacting money from merchants and pilgrims, and in juggling with the exchange. This led to a naval demonstration on the part of the Venetians, who secured better terms for their trade, and to the seizure of Egyptian vessels by the king of Aragon and the prince of Catalonia. In a census made during Barsbai's reign, it was found that the total number of towns and villages in Egypt had sunk to 2170, whereas in the 4th century A.H. it had stood at 10,000. Much of Barsbai's attention was

occupied with raids into Asia Minor, where the Dhu 'l-Kadiri Turkomans frequently rebelled, and with wars against Kara Yelek, prince of Amid, and Shah Rokh, son of Timur. Barsbai died on the 7th of June 1438. In accordance with the custom of his predecessors he left the throne to a son still in his minority, *Abu'l-Mahāsin Yūsuf*, who took the title *Malik al-'Azīz*, but as usual after a few months he was displaced by the regent *Jakmak*, who on the 9th of September 1438 was proclaimed sultan with the title *Malik al-Ẓāhir*. In the years 1442-1444 this sultan sent three fleets against Rhodes, where the third effected a landing, but was unable to make any permanent conquest. In consequence of a lengthy illness Jakmak abdicated on the 1st of February 1453, when his son *'Othman* was proclaimed sultan with the title *Malik al-Manṣūr*. Though not a minor, he had no greater success than the sons of the usurpers who preceded him, being dethroned after six weeks (March 15th, 1453) in favour of the amir *Inal al-'Alā'ī*, who took the title *Malik al-Ashraf*. His reign was marked by friendly relations with the Ottoman sultan Mahommed II., whose capture of Constantinople (1453) was the cause of great rejoicings in Egypt, but also by violent excesses on the part of the Mamelukes, who dictated the sultan's policy. On his death on the 26th of February 1461 his son *Aḥmad* was proclaimed sultan with the title *Malik al-Mu'ayyad*; he had the usual fate of sultans' sons, earned in his case by an attempt to bring the Mamelukes under discipline; he was compelled to abdicate on the 28th of June 1461, when the amir *Khoshkadam*, who had served as a general, was proclaimed sultan. Unlike the other Mameluke sovereigns, who were Turks or Circassians, this man had originally been a Greek slave.

In his reign (1463) there began the struggle between the Egyptian and the Ottoman sultanates which finally led to the incorporation of Egypt in the Ottoman empire. The dispute began with a struggle over the succession in Early relations with Turkey. the principality of Karaman, where the two sultans favoured rival candidates, and the Ottoman sultan Mahommed II. supported the claim of his candidate with force of arms, obtaining as the price of his assistance several towns in which the suzerainty of the Egyptian sultan had been acknowledged. Open war did not, however, break out between the two states in Khoshkadam's time. This sultan is said to have taken money to permit innocent persons to be ill-treated or executed. He died on the 9th of October 1467, when the Atābeg *Yelbai* was selected by the Mamelukes to succeed him, and was proclaimed sultan with the title of *Malik al-Ẓāhir*. This person, proving incompetent, was deposed by a revolution of the Mamelukes on the 4th of December 1467, when the Atābeg *Timurbogha* was proclaimed with the title *Malik al-Ẓāhir*. In a month's time, however, there was another palace revolution, and the new Atābeg *Kait Bey* or *Kaietbai* (January 31st, 1468) was proclaimed sultan, the dethroned Timurbogha being, however, permitted to go free whither he pleased. Much of Kait Bey's reign was spent in struggles with Ūzūn Hasan, prince of Diārbekr, and Shah Siwār, chief of the Dhu'l-Kādiri Turkomans. He also offended the Ottoman sultan Bāyezid II. by entertaining his brother Jem, who was afterwards poisoned in Europe. Owing to this, and also to the fact that an Indian embassy to the Ottoman sultan was intercepted by the agents of Kait Bey, Bāyezid II. declared war against Egypt, and seized Adana, Tarsus and other places within Egyptian territory; extraordinary efforts were made by Kait Bey, whose generals inflicted a severe defeat on the Ottoman invaders. In 1491, however, after the Egyptians had repeatedly defeated the Ottoman troops, Kait Bey made proposals of peace which were accepted, the keys of the towns which the Ottomans had seized being restored to the Egyptian sultan. Kait Bey endeavoured to assist his co-religionists in Spain who were threatened by King Ferdinand, by threatening the pope with reprisals on Syrian Christians, but without effect. As the consequence of a palace intrigue, which Kait Bey was too old to quell, on the 7th of August 1496, a day before his death, his son *Mahommed* was proclaimed sultan with the title *Malik al-Nāṣir*; this was in order to put the supreme power into the hands of the Atābeg Kānsūh, since the new sultan was only fourteen years old. An attempt of the Atābeg to oust the new sultan, however, failed. After a reign of little more than two years, filled mainly with struggles between rival amirs, *Malik al-Nāṣir* was murdered (October 31st, 1498), and his uncle and vizier *Kānsūh* proclaimed sultan with the title *Malik al-Ẓāhir*. His reign only lasted about twenty months; on the 30th of June 1500 he was dethroned by Tūmānbey, who caused *Jān Belāt*, the Atābeg, to be proclaimed sultan. A few months later *Tūmānbey*, at the suggestion of Kasrawah, governor of Damascus, whom he had been sent to reduce to subjection, ousted Jān Belāt, and was himself proclaimed sultan with the title *Malik al-'Ādil* (January 25th, 1501). His reign lasted only one hundred days, when he was displaced by *Kānsūh al-Ghūrī* (April 20th, 1501). His reign was remarkable for a naval conflict between the Egyptians and the Portuguese, whose fleet interfered with the pilgrim route from India to Mecca, and also with the trade between India and Egypt; Kānsūh caused a fleet to be built which fought naval battles with the Portuguese with varying results.

In 1515 there began the war with the Ottoman sultan Selim I. which led to the close of the Mameluke period, and the incorporation of Egypt and its dependencies in the Ottoman empire (see Turkey: *History*). Kānsūh was charged The Turkish conquest. by Selim with giving the envoys of the Ṣafawid Isma'il passage through Syria on their way to Venice to form a confederacy against the Turks, and with harbouring various refugees. The actual declaration of war was not made by Selim till May 1515, when the Ottoman sultan had made all his preparations; and at the battle of Merj Dabik, on the 24th of August 1515, Kānsūh was defeated by the Ottoman forces and fell fighting. Syria passed quickly into the possession of the Turks, whose advent was in many places welcome as meaning deliverance from the Mamelukes. In Cairo, when the news of the defeat and death of the Egyptian sultan arrived, the governor who had been left by Kānsūh, *Tūmānbey*, was proclaimed sultan (October 17th, 1516). On the 20th of January 1517 Cairo was taken by the Ottomans, and Selim shortly after declared sultan of Egypt. Tūmānbey continued the struggle for some months, but was finally defeated, and after being captured and kept in prison seventeen days was executed on the 15th of April 1517.

(8) *The Turkish Period.*—The sultan Selim left with his viceroy Khair Bey a guard of 5000 janissaries, but otherwise

made few changes in the administration of the country. The register by which a great portion of the land was a fief of the Mamelukes was left unchanged, and it is said that a proposal made by the sultan's vizier to appropriate these estates was punished with death. The Mameluke amirs were to be retained in office as heads of twelve sanjaks into which Egypt was divided; and under the next sultan, Suleiman I., two chambers were created, called respectively the Greater and the Lesser Divan, in which both the army and the ecclesiastical authorities were represented, to aid the pasha by their deliberations. Six regiments altogether were constituted by the conqueror Selim for the protection of Egypt; to these Suleiman added a seventh, of Circassians. As will be seen from the tables, it was the practice of the Porte to change the governor of Egypt at very short intervals—after a year or even some months. The third governor, Aḥmad Pasha, hearing that orders for this execution had come from Constantinople, endeavoured to make himself an independent ruler and had coins struck in his own name. His schemes were frustrated by two of the amirs whom he had imprisoned and who, escaping from their confinement, attacked him in his bath and killed him. In 1527 the first survey of Egypt under the Ottomans was made, in consequence of the official copy of the former registers having perished by fire; yet this new survey did not come into use until 1605. Egyptian lands were divided in it into four classes—the sultan's domain, fiefs, land for the maintenance of the army, and lands settled on religious foundations.

It would seem that the constant changes in the government caused the army to get out of control at an early period of the Ottoman occupation, and at the beginning of the 11th Islamic century mutinies became common; in 1013 Troubles with the army. (1604) the governor Ibrahim Pasha was murdered by the soldiers, and his head set on the Bab Zuwēla. The reason for these mutinies was the attempt made by successive pashas to put a stop to the extortion called *Tulbah*, a forced payment exacted by the troops from the inhabitants of the country by the fiction of debts requiring to be discharged, which led to grievous ill-usage. In 1609 something like civil war broke out between the army and the pasha, who had on his side some loyal regiments and the Bedouins. The soldiers went so far as to choose a sultan, and to divide provisionally the regions of Cairo between them. They were defeated by the governor Mahommed Pasha, who on the 5th of February 1610 entered Cairo in triumph, executed the ringleaders, and banished many others to Yemen. The contemporary historian speaks of this event as a second conquest of Egypt for the Ottomans. A great financial reform was now effected by Mahommed Pasha, who readjusted the burdens imposed on the different communities of Egypt in accordance with their means. With the troubles that beset the metropolis of the Ottoman empire, the governors appointed thence came to be treated by the Egyptians with continually decreasing respect. In July 1623 there came an order from the Porte dismissing Muṣṭafā Pasha and appointing 'Alī Pasha governor in his place. The officers met and demanded from the newly-appointed governor's deputy the customary gratuity; when this was refused they sent letters to the Porte declaring that they wished to have Muṣṭafā Pasha and not 'Alī Pasha as governor. Meanwhile 'Alī Pasha had arrived at Alexandria, and was met by a deputation from Cairo telling him that he was not wanted. He returned a mild answer; and, when a rejoinder came in the same style as the first message, he had the leader of the deputation arrested and imprisoned. Hereupon the garrison of Alexandria attacked the castle and rescued the prisoner; whereupon 'Alī Pasha was compelled to embark. Shortly after a rescript arrived from Constantinople confirming Muṣṭafā Pasha in the governorship. Similarly in 1631 the army took upon themselves to depose the governor Mūsā Pasha, in indignation at his execution of Kītās Bey, an officer who was to have commanded an Egyptian force required for service in Persia. The pasha was ordered either to hand over the executioners to vengeance or to resign his place; as he refused to do the former he was compelled to do the latter, and presently a rescript came from Constantinople, approving the conduct of the army and appointing one Khalīl Pasha as Mūsā's successor. Not only was the governor unsupported by the sultan against the troops, but each new governor regularly inflicted a fine upon his outgoing predecessor, under the name of money due to the treasury; and the outgoing governor would not be allowed to leave Egypt till he had paid it. Besides the extortions to which this practice gave occasion the country suffered greatly in these centuries from famine and pestilence. The latter in the spring of 1619 is said to have carried off 635,000 persons, and in 1643 completely desolated 230 villages.

By the 18th century the importance of the pasha was quite superseded by that of the beys, and two offices, those of Sheik al-Balad and Amīr al-Ḥājj, which were held by these persons, represented the real headship of the community. Rise of the Beys. The process by which this state of affairs came about is somewhat obscure, owing to the want of good chronicles for the Turkish period of Egyptian history. In 1707 the Sheik al-Balad, Qāsim Iywāz, is found at the head of one of two Mameluke factions, the Qāsimites and the Fiqārites, between whom the seeds of enmity were sown by the pasha of the time, with the result that a fight took place between the factions outside Cairo, lasting eighty days. At the end of that time Qāsim Iywāz was killed and the office which he had held was given to his son Ismā'īl. Ismā'īl held this office for sixteen years, while the pashas were constantly being changed, and succeeded in reconciling the two factions of Mamelukes. In 1724 this person was assassinated through the machinations of the pasha, and Shirkas Bey, of the opposing faction, elevated to the office of Sheik al-Balad in his place. He was soon driven from his post by one of his own faction called Dhu'l-Fiqār, and fled to Upper Egypt. After a short time he returned at the head of an army, and some engagements ensued, in the last of which Shirkas Bey met his end by drowning; Dhu'l-Fiqār was himself assassinated in 1730 shortly after this event. His place was filled by Othman Bey, who had served as his general in this war. In 1743 Othman Bey, who had governed with wisdom and moderation, was forced to fly from Egypt by the intrigues of two adventurers, Ibrāhīm and Riḍwān Bey, who, when their scheme had succeeded, began a massacre of beys and others thought to be opposed to them; they then proceeded to govern Egypt jointly, holding the two offices mentioned above in alternate years. An attempt made by one of the pashas to rid himself of these two persons by a *coup d'état* signally failed

owing to the loyalty of their armed supporters, who released Ibrāhīm and Riḍwān from prison and compelled the pasha to fly to Constantinople. An attempt made by a subsequent pasha in accordance with secret orders from Constantinople was so far successful that some of the beys were killed. Ibrāhīm and Riḍwān escaped, and compelled the pasha to resign his governorship and return to Constantinople. Ibrāhīm shortly afterwards fell by the hand of an assassin who had aspired to occupy one of the vacant beyships himself, which was conferred instead on ‘Alī, who as ‘Alī Bey was destined to play an important part in the history of Egypt. The murder of Ibrāhīm Bey took place in 1755, and his colleague Riḍwān perished in the disputes that followed upon it.

‘Alī Bey, who had first distinguished himself by defending a caravan in Arabia against bandits, set himself the task of avenging the death of his former master Ibrāhīm, and spent eight years in purchasing Mamelukes and winning ‘Alī Bey. other adherents. He thereby excited the suspicions of the Sheik al-Balad Khalīl Bey, who organized an attack upon him in the streets of Cairo, in consequence of which he fled to Upper Egypt. Here he met one Ṣālḥ Bey, who had injuries to avenge on Khalīl Bey, and the two organized a force with which they returned to Cairo and defeated Khalīl, who was forced to fly to Ṭanṭa, where for a time he concealed himself; eventually, however, he was discovered, sent to Alexandria and finally strangled. The date of ‘Alī Bey’s victory was 1164 A.H. (a.d. 1750), and after it he was made Sheik al-Balad. In that capacity he executed the murderer of his former master Ibrāhīm; but the resentment which this act aroused among the beys caused him to leave his post and fly to Syria, where he won the friendship of the governor of Acre, Ẓāhir b. Omar, who obtained for him the goodwill of the Porte and reinstatement in his post as Sheik al-Balad. In 1766, after the death of his supporter the grand vizier Rāghib Pasha, he was again compelled to fly from Egypt to Yemen, but in the following year he was told that his party at Cairo was strong enough to permit of his return. Resuming his office he raised eighteen of his friends to the rank of bey, among them Ibrāhīm and Murād, who were afterwards at the head of affairs, as well as Mahommed Abu’l-Dhahab, who was closely connected with the rest of ‘Alī Bey’s career. He appears to have done his utmost to bring Egyptian affairs into order, and by very severe measures repressed the brigandage of the Bedouins of Lower Egypt. He appears to have aspired to found an independent monarchy, and to that end endeavoured to disband all forces except those which were exclusively under his own control. In 1769 a demand came to ‘Alī Bey for a force of 12,000 men to be employed by the Porte in the Russian war. It was suggested, however, at Constantinople that ‘Alī would employ this force when he collected it for securing his own independence, and a messenger was sent by the Porte to the pasha with orders for his execution. ‘Alī, being apprised by his agents at the metropolis of the despatch of this messenger, ordered him to be waylaid and killed; the despatches were seized and read by ‘Alī before an assembly of the beys, who were assured that the order for execution applied to all alike, and he urged them to fight for their lives. His proposals were received with enthusiasm by the beys whom he had created. Egypt was declared independent and the pasha given forty-eight hours to quit the country. Ẓāhir Pasha of Acre, to whom was sent official information of the step taken by ‘Alī Bey, promised his aid and kept his word by compelling an army sent by the pasha of Damascus against Egypt to retreat.

The Porte was not able at the time to take active measures for the suppression of ‘Alī Bey, and the latter endeavoured to consolidate his dominions by sending expeditions against marauding tribes, both in north and south Egypt, reforming the finance, and improving the administration of justice. His son-in-law, Abu’l-Dhahab, was sent to subject the Hawwārah, who had occupied the land between Assuan and Assiut, and a force of 20,000 was sent to conquer Yemen. An officer named Ismā‘īl Bey was sent with 8000 to acquire the eastern shore of the Red Sea, and one named Ḥasan Bey to occupy Jidda. In six months the greater part of the Arabian peninsula was subject to ‘Alī Bey, and he appointed as sherīf of Mecca a cousin of his own, who bestowed on ‘Alī by an official proclamation the titles Sultan of Egypt and Khākān of the Two Seas. He then, in virtue of this authorization, struck coins in his own name (1185 A.H.) and ordered his name to be mentioned in public worship.

His next move turned out fatally. Abu’l-Dhahab was sent with a force of 30,000 men in the same year (a.d. 1771) to conquer Syria; and agents were sent to negotiate alliances with Venice and Russia. Abu’l-Dhahab’s progress through Palestine and Syria was triumphant. Reinforced by ‘Alī Bey’s ally Ẓāhir, he easily took the chief cities, ending with Damascus; but at this point he appears to have entered into secret negotiations with the Porte, by which he undertook to restore Egypt to Ottoman suzerainty. He then proceeded to evacuate Syria, and marched with all the forces he could collect to Upper Egypt, occupying Assiut in April 1772. Having collected some additional troops from the Bedouins, he marched on Cairo. Ismā‘īl Bey was sent by ‘Alī Bey with a force of 3000 to check his advance; but at Basātīn Ismā‘īl with his troops joined Abu’l-Dhahab. ‘Alī Bey intended at first to defend himself so long as possible in the citadel at Cairo; but receiving information to the effect that his friend Ẓāhir of Acre was still willing to give him refuge, he left Cairo for Syria (8th of April 1772), one day before the entrance of Abu’l-Dhahab.

At Acre ‘Alī’s fortune seemed to be restored. A Russian vessel anchored outside the port, and, in accordance with the agreement which he had made with the Russian empire, he was supplied with stores and ammunition, and a force of 3000 Albanians. He sent one of his officers, ‘Alī Bey al-Ṭanṭāwī, to recover the Syrian towns evacuated by Abu’l-Dhahab, and now in the possession of the Porte. He himself took Jaffa and Gaza, the former of which he gave to his friend Ẓāhir of Acre. On the 1st of February 1773 he received information from Cairo that Abu’l-Dhahab had made himself Sheik al-Balad, and in that capacity was practising unheard-of extortions, which were making Egypt with one voice call for the return of ‘Alī Bey. He accordingly started for Egypt at the head of an army of 8000 men, and on the 19th of April

met the army of Abu'l-Dhahab at Sālihia. 'Alī's forces were successful at the first engagement; but when the battle was renewed two days later he was deserted by some of his officers, and prevented by illness and wounds from himself taking the conduct of affairs. The result was a complete defeat for his army, after which he declined to leave his tent; he was captured after a brave resistance, and taken to Cairo, where he died seven days later.

After 'Alī Bey's death Egypt became once more a dependency of the Porte, governed by Abu'l-Dhahab as Sheik al-Balad with the title pasha. He shortly afterwards received permission from the Porte to invade Syria, with the view of punishing 'Alī Bey's supporter Ẓāhir, and left as his deputies in Cairo Ismā'īl Bey and Ibrāhīm Bey, who, by deserting 'Alī at the battle of Sālihia, had brought about his downfall. After taking many cities in Palestine Abu'l-Dhahab died, the cause being unknown; and Murād Bey (another of the deserters at Sālihia) brought his forces back to Egypt (26th of May 1775).

Ismā'īl Bey now became Sheik al-Balad, but was soon involved in a dispute with Ibrāhīm and Murād, who after a time succeeded in driving Ismā'īl out of Egypt and establishing a joint rule (as Sheik al-Balad and Amīr al-Ḥājj respectively) similar to that which had been tried previously. The two were soon involved in quarrels, which at one time threatened to break out into open war; but this catastrophe was averted, and the joint rule was maintained till 1786, when an expedition was sent by the Porte to restore Ottoman supremacy in Egypt. Murād Bey attempted to resist, but was easily defeated; and he with Ibrāhīm decided to fly to Upper Egypt and await the trend of events. On the 1st of August 1782 the Turkish commander entered Cairo, and, after some violent measures had been taken for the restoration of order, Ismā'īl Bey was again made Sheik al-Balad and a new pasha installed as governor. In January 1791 a terrible plague began to rage in Cairo and elsewhere in Egypt, to which Ismā'īl Bey and most of his family fell victims. Owing to the need for competent rulers Ibrāhīm and Murād Bey were sent for from Upper Egypt and resumed their dual government. These two persons were still in office when Bonaparte entered Egypt.

Moslem Authorities.—Arabic literature being cosmopolitan, and Arabic authors accustomed to travel from place to place to collect traditions and obtain oral instruction from contemporary authorities, or else to enjoy the patronage of Maecenates, the literary history of Egypt cannot be dissociated from that of the other Moslem countries in which Arabic was the chief literary vehicle. Hence the list of authors connected with Egypt, which occupies pages 161-275 of Suyūṭī's work, *Husn al-muḥādarah fi akhbāri Misr wal-Qāhirah* (Cairo, 1321 A.H.), contains the names of persons like Mutanabbī, who stayed there for a short time in the service of some patron; Abū Tammām, who lived there before he acquired fame as a poet; 'Umāra of Yemen, who came there at a mature age to spend some years in the service of Fāṭimite viziers; each of whom figures in lists of authors belonging to some other country also. So long as the centre of the Islamic world was not in Egypt, the best talent was attracted elsewhere; but after the fall of Bagdad, Cairo became the chief seat of Islamic learning, and this rank, chiefly owing to the university of Azhar, it has ever since continued to maintain. The following composed special histories of Egypt: Ibn 'Abd al-Ḥakam, d. 257 A.H.; 'Abd al-Raḥīm b. Yūnus, d. 347; Mahommed b. Yūsuf al-Kindī, d. somewhat later; Ibn Zūlāq, d. 387; 'Izz al-Mulk Mahommed al-Musabbihī, d. 420; Mahommed b. Salāmah al-Qodā'ī, d. 454; Jamāl al-dīn 'Alī al-Qifṭī, d. 568; Jamāl al-dīn al-Ḥalabī, d. 623; 'Abd al-Laṭīf al-Baghdādī, d. 629; Mahommed b. 'Abd al-Azīz al-Idrīsī (history of Upper Egypt), d. 649; his son Ja'far (history of Cairo), d. 676; Ibn Sa'īd, d. 685; Ibrāhīm b. Waṣīf Shāh; Ibn al-Mutawwaj, d. 703; Mahommed b. Dani'āl, d. 710; Ja'far b. Tha'lab Kamāl al-dīn al-Adfu'ī (history of Upper Egypt), d. 730; 'Abd al-Qarūn al-Ḥalabī, d. 735; Ibn Ḥabīb, d. 779; Ibn Duqmāq, d. 790; Ibn Tughān, Shihāb al-dīn al-Auḥadī, d. 790; Ibn al-Mulaqqin, d. 806; Maqrīzī, Taqiyy al-dīn Aḥmad, d. 840; Ibn Ḥajar al-'Asqalānī, d. 852; al-Sakhāwī, d. 902; Abu'l-Mahāsin b. Taghrībirdī, d. 874; Jalāl al-dīn al-Suyūṭī, d. 911; Ibn Zunbul al-Rammāl; Ibn Iyās, d. after 928; Mahommed b. Abī Surūr, d. after 1017; Zain al-dīn al Karamī, d. 1033; 'Abd al-Raḥmān Jabartī, d. after 1236. Of many of the Mameluke sultans there are special chronicles preserved in various European and Oriental libraries. The works of many of the authors enumerated are topographical and biographical as well as purely historical. To these there should be added the Survey of Egypt, called *al-tuḥfah al-saniyyah* of Ibn Jī'ān, belonging to the time of Kait Bey; the treatise on the Egyptian constitution called *Zubdat Kashf al-Mamālik*, by Khalīl al-Ẓāhirī, of the same period; and the encyclopaedic work on the same subject called *Ṣubḥ al-Inshā*, by al-Qalqashandī, d. 821.

Arabic poetry is in the main encomiastic and personal, and from the beginning of the Omayyad period sovereigns and governors paid poets to celebrate their achievements; of those of importance who are connected with Egypt we may mention Nusaib, encomiast of 'Abd al-Azīz b. Merwān, d. 180; the greater Nāshi (Abu l-Abbās 'Abdallah), d. 293; Ibn Ṭabāṭabā, d. 345; Abu'l-Raqa'maq, encomiast of al-Mo'izz, d. 399; Ṣarī' al-Dilā ('Alī b. 'Abd al-Wāhid), encomiast of the Fāṭimite al-Ẓāhir, d. 412; Sanajāt al-ḍauḥ (Mahommed b. al-Qāsim), encomiast of Ḥākim; 'Alī b. 'Abbād al-Iskandarī, encomiast of the vizier al-Afḍal, executed by Ḥāfiẓ; Ibn Qalāqis al-Iskandarī, encomiast of the Ayyūbites, d. 607; Muhaddhab b. Mamētī, encomiast of the Ayyūbites, d. 616; Ibn Sana' al-Mulk, encomiast of the Ayyūbites, d. 658; Ibn al-Munajjim, d. 626; Ibn Maṭrūḥ, encomiast of the Ayyūbites, d. 654; Bahā' al-dīn Zuhair, encomiast of al-Ṣāliḥ, d. 656; Ibn 'Ammār, d. 675; al-Mi'mār, d. 749; Ibn Nubātah, d. 768; Ibn Abī Ḥajalah, d. 776; Burhān al-din al-Qīrāṭī, d. 801; Ibn Mukānis, d. 864; Ibn Ḥijjah al-Ḥamawī, d. 837. Poets distinguished for special lines are al-Ḥakīm b. Dānī' āl, d. 608, author of the Shadow-play; and al-Būsīrī (Mahommed b. Sa'īd), d. 694, author of the ode in praise of the prophet called Burdah. The poets of Egypt are reckoned with those of Syria in the *Yatīmah* of Tha' ālibī; a special work upon them was written by Ibn Faḍl allāh (d. 740); and a list of poets of the 11th century is given by Khafājī in his *Raiḥānat al-alibbā*.

The needs of the Egyptian court produced a number of elegant letter-writers, of whom the most famous were 'Abd al-Raḥīm b. 'Alī al-Baisāni, ordinarily known as al-Qāḍī' al-Fāḍil, d. 596, secretary of state to Saladin and other Ayyūbite sultans; 'Imād al-dīn al-Ispahānī, d. 597, also secretary of state and official chronicler; and Ibn 'Abd al-Ẓāhir, d. 692, secretary of state to Bibars I. and succeeding sultans; he was followed by his son Faṭḥ al-dīn, to whom the title "Secret writer" was first given.

In the subject of law Egypt boasts that the Imām Shāfi'ī, founder of one of the schools, resided at Fosṭāṭ from 195 till his death in 204; his system, though displaced for a time by that invented by the Fāṭimites, and since the Turkish conquest by the Ḥanifite system, has always been popular in Egypt: in Ayyūbite times it was dominant, whereas in Mameluke times all four systems were officially recognized. The eminent jurists who flourished in Moslem Egypt form a very lengthy list. Among the Egyptian traditionalists the most eminent is Dāraquṭnī, d. 385.

Among Egyptian mystics the most famous as authors are the poet Ibn al-Fāriḍ, d. 632, and Abd al-Wahhāb Sha rānī, d. 973. Abu'l-Ḥasan al-Shādhilī (d. 656) is celebrated as the founder of the Shādhilī order; but there were many others of note. The dictionary of physicians, compiled in the 7th century, enumerates nearly sixty men of science who resided in Egypt; the best-known among them are Sa'īd b. Biṭrīq, Moses Maimonides and Ibn Baiṭār. Of Egyptian miscellaneous writers two of the most celebrated are Ibn Daqīq al'-īd, d. 702, and Jalāl al-din Suyūṭī.

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(D. S. M.*)

(9) *From the French Occupation to the Rise of Mehemet Ali.*—The ostensible object of the French expedition to Egypt was to reinstate the authority of the Sublime Porte, and suppress the Mamelukes; and in the proclamation printed with the Arabic types brought from the Propaganda press, and issued shortly after the taking of Alexandria, Bonaparte declared that he reverenced the prophet Mahomet and the Koran far more than the Mamelukes reverenced either, and argued that all men were equal except so far as they were distinguished by their intellectual and moral excellences, of neither of which the Mamelukes had any great share. In future all posts in Egypt were to be open to all classes of the inhabitants; the conduct of affairs was to be committed to the men of talent, virtue, and learning; and in proof of the statement that the French were sincere Moslems the overthrow of the papal authority in Rome was alleged. That there might be no doubt of the friendly feeling of the French to the Porte, villages and towns which capitulated to the invaders were required to hoist the flags of both the Porte and the French republic, and in the thanksgiving prescribed to the Egyptians for their deliverance from the Mamelukes, prayer was to be offered for both the sultan and the French army. It does not appear that the proclamation convinced many of the Egyptians of the truth of these professions. After the battle of Ambabah, at which the forces of both Murād Bey and Ibrāhīm Bey were dispersed, the populace readily plundered the houses of the beys, and a deputation was sent from al-Azhar to Bonaparte to ascertain his intentions; these proved to be a repetition of the terms of his proclamation, and, though the combination of loyalty to the French with loyalty to the sultan was unintelligible, a good understanding was at first established between the invaders and the Egyptians. A municipal council was established in Cairo, consisting of persons taken from the ranks of the sheiks, the Mamelukes and the French; and presently delegates from Alexandria and other important towns were added. This council did little more than register the decrees of the French commander, who continued to exercise dictatorial power. The Battle of the Nile. destruction of the French fleet at the battle of the Nile, and the failure of the French forces sent to Upper Egypt (where they reached the first cataract) to obtain possession of the person of Murād Bey, shook the faith of the Egyptians in their invincibility; and in consequence of a series of unwelcome innovations the relations between conquerors and conquered grew daily more strained, till at last, on the occasion of the introduction of a house tax, an insurrection broke out in Cairo on the 22nd of October 1798, of which the headquarters were in the Moslem university of Azhar. On this occasion the French general Dupuy, lieutenant-governor of Cairo, was killed. The prompt measures of Bonaparte, aided by the arrival from Alexandria of General J. B. Kléber, quickly suppressed this rising; but the stabling of the French cavalry in the mosque of Azhar gave great and permanent offence. In consequence of this affair, the deliberative council was suppressed, but on the 25th of December a fresh proclamation was issued, reconstituting the two divans which had been created by the Turks; the special divan was to consist of 14 persons chosen by lot out of 60 government nominees, and was to meet daily. The general divan was to consist of functionaries, and to meet on emergencies.

In consequence of despatches which reached Bonaparte on the 3rd of January 1799, announcing the intention of the Porte to invade the country with the object of recovering it by force, Bonaparte resolved on his Syrian expedition, and appointed governors for Cairo, Alexandria, and Upper Egypt, to govern during his absence. From that ill-fated expedition he returned at the beginning of June. Advantage had been taken of this opportunity by Murād Bey and Ibrāhīm Bey to collect their forces and attempt a joint attack on Cairo, but this Bonaparte arrived in time to defeat, and in the last week of July he inflicted a crushing defeat on the Turkish army that had landed at Aboukir, aided by the British fleet commanded by Sir Sidney Smith. Shortly after his victory Bonaparte left Egypt, having appointed Kléber to govern in his absence, which he informed the sheiks of Cairo was not to last more than three months. Kléber himself regarded the condition of the French invaders as extremely perilous, and wrote to inform the French republic of the facts. A double expedition shortly after Bonaparte's departure was sent by the Porte for the recovery of Egypt, one force being despatched by sea to Damietta, while another under Yūsuf Pasha took the land route from Damascus by al-Arish. Over the first some success was won, in consequence of which the Turks agreed to a convention (signed January 24, 1800), by virtue of which the French were to quit Egypt. The Turkish troops advanced to Bilbeis, where they were received by the sheiks from Cairo, and the Mamelukes also returned to that city from their hiding-places. Before the preparations for the departure of the French were completed, orders came to Sir Sidney Smith from the British government, forbidding the carrying out of the convention unless the French army were treated as prisoners of war; and when these were communicated to Kléber he cancelled the orders previously given to the troops, and proceeded to put the country in a state of defence. His departure with most of the army to attack the Turks at Mataria led to riots in Cairo, in the course of which many Christians were slaughtered; but the national party were unable to get possession of the citadel, and Kléber, having defeated the Turks, was soon able to return to the capital. On the 14th of April he bombarded Bulak, and proceeded to bombard Cairo itself, which was taken the following night. Order was soon restored, and a fine of twelve million francs imposed on the rioters. Murād Bey sought an interview with Kléber and succeeded in obtaining from him the government of Upper Egypt. He died shortly afterwards and was succeeded by Osman Bey al-Bardīsī.

On the 14th of June Kléber was assassinated by a fanatic named Suleiman of Aleppo, said to have been incited to the deed by a Janissary refugee at Jerusalem, who had brought letters to the sheiks of the Azhar, who, however, refused to give him any encouragement. Three of these, nevertheless, were executed by the French as accessories before the fact, and the assassin himself was impaled, after torture, in spite of a promise of pardon having been made to him on condition of his naming his associates. The command of the army then devolved on General J. F. (Baron de) Menou (1750-1810), a man who had professed Islam, and who endeavoured to conciliate the Moslem population by various measures, such as excluding all Christians (with the exception of one Frenchman) from the divan, replacing the Copts who were in government service by Moslems, and subjecting French residents to taxes. Whatever popularity might have been gained by these measures was counteracted by his declaration of a French protectorate over Egypt, which was to count as a French colony.

In the first weeks of March 1801 the English, under Sir R. Abercromby, effected a landing at Aboukir, and proceeded to invest Alexandria, where on the 21st they were attacked by Menou; the French were repulsed, but the English French evacuation. commander was mortally wounded in the action. On the 25th fresh reinforcements arrived under Husain, the Kapudan Pasha, or high admiral; and a combined English and Turkish force was sent to take Rosetta. On the 30th of May, General A. D. Belliard, who had been left in charge at Cairo, was assailed on two sides by the British forces under General John Hely Hutchinson (afterwards 2nd earl of Donoughmore), and the Turkish under Yūsuf Pasha; after negotiations Belliard agreed to evacuate Cairo and to sail with his 13,734 troops to France. On the 30th of August, Menou at Alexandria was compelled to accept similar conditions, and his force of 10,000 left for Europe in September. This was the termination of the French occupation of Egypt, of which the chief permanent monument was the *Description de l'Égypte*, compiled by the French savants who accompanied the expedition. Further than this, "it brought to the attention of a few men in Egypt a keen sense of the great advantage of an orderly government, and a warm appreciation of the advance that science and learning had made in Europe" (Hajji Browne, *Bonaparte in Egypt and the Egyptians of to-day*, 1907, p. 268).

Soon after the evacuation of Egypt by the French, the country became the scene of more severe troubles, in consequence of the attempts of the Turks to destroy the power of the Mamelukes. In defiance of promises to the British government, orders were transmitted from Constantinople to Husain Pasha, the Turkish high admiral, to ensnare and put to death the principal beys. Invited to an entertainment, they were, according to the Egyptian contemporary historian al-Jabarti, attacked on board the flag-ship; Sir Robert Wilson and M. F. Mengin, however, state that they were fired on, in open boats, in the Bay of Aboukir. They offered an heroic resistance, but were overpowered, and some killed, some made prisoners; among the last was Osman Bey al-Bardīsī, who was severely wounded. General Hutchinson, British, Turks and Mamelukes. informed of this treachery, immediately assumed threatening measures against the Turks, and in consequence the killed, wounded and prisoners were given up to him. At the same time Yūsuf Pasha arrested all the beys in Cairo, but was shortly compelled by the British to release them. Such was the beginning of the disastrous struggle between the Mamelukes and the Turks.

Mahommed Khosrev was the first Turkish governor of Egypt after the expulsion of the French. The form of government, however, was not the same as that before the French invasion, for the Mamelukes were not reinstated. The pasha, and through him the sultan, endeavoured on several occasions either to ensnare them or to beguile them into submission; but these efforts failing, Mahommed Khosrev took the field, and a Turkish detachment 7000 strong was despatched against them to Damanhur, whither they had descended from Upper Egypt, and was defeated by a small force under al-Alfī; or, as Mengin says, by 800 men commanded by al-Bardīsī, when al-Alfī had left the field. Their ammunition and guns fell into the hands of the Mamelukes.

In March 1803 the British evacuated Alexandria, and Mahommed Bey al-Alfī accompanied them to England to consult respecting the means to be adopted for restoring the former power of the Mamelukes, who meanwhile took Minia and interrupted communication between Upper and Lower Egypt. About six weeks after, the Arnaut (or Albanian) soldiers in the service of Khosrev tumultuously demanded their pay, and surrounded the house of the defterdār (or finance minister), who in vain appealed to the pasha to satisfy their claims. The latter opened fire from the artillery of his palace on the insurgent soldiery in the house of the defterdār, across the Ezbekia. The citizens of Cairo, accustomed to such occurrences, immediately closed their shops, and every man who possessed any weapon armed himself. The tumult continued all the day, and the next morning a body of troops sent out by the pasha failed to quell it. Tāhir, the commander of the Albanians, then repaired to the citadel, gained admittance through an embrasure, and, having obtained possession of it, began to cannonade the pasha over the roofs of the intervening houses, and then descended with guns to the Ezbekia and laid close siege to the palace. On the following day Mahommed Khosrev made good his escape, with his women and servants and his regular troops, and fled to Damietta by the river. This revolt marks the beginning in Egypt of the breach between the Albanians and Turks, which ultimately led to the expulsion of the latter, and of the rise to power of the Albanian Mehemet Ali (*q.v.*), who was destined to rule the country for nearly forty years and be the cause of serious European complications.

Tāhir Pasha assumed the government, but in twenty-three days he met with his death from exactly the same cause as that of the overthrow of his predecessor. He refused the pay of certain of the Turkish troops, and was immediately First

appearance of Mehemet Ali. assassinated. A desperate conflict ensued between the Albanians and Turks; and the palace was set on fire and plundered. The masters of Egypt were now split into these two factions, animated with the fiercest animosity against each other. Mehemet Ali, then in command of an Albanian regiment, became the head of the former, but his party was the weaker, and he therefore entered into an alliance with the Mameluke leaders Ibrahim Bey and 'Osmān Bey al-Bardīsī. A certain Ahmed Pasha, who was about to proceed to a province in Arabia, of which he had been appointed governor, was raised to the important post of pasha of Egypt, through the influence of the Turks and the favour of the sheiks; but Mehemet Ali, who with his Albanians held the citadel, refused to assent to their choice; the Mamelukes moved over from El-Giza, whither they had been invited by Tāhir Pasha, and Ahmed Pasha betook himself to the mosque of al-Ẓāhir, which the French had converted into a fortress. He was compelled to surrender by the Albanians; the two chiefs of the Turks who killed Tāhir Pasha were taken with him and put to death, and he himself was detained a prisoner. In consequence of the alliance between Mehemet Ali and al-Bardīsī, the Albanians gave the citadel over to the Mamelukes; and soon after, these allies marched against Khosrev Pasha, who having been joined by a considerable body of Turks, and being in possession of Damietta, was enabled to offer an obstinate resistance. After much loss on both sides, he was taken prisoner and brought to Cairo; but he was treated with respect. The victorious soldiery sacked the town of Damietta, and were guilty of the barbarities usual with them on such occasions.

A few days later, Ali Pasha Jazāirli landed at Alexandria with an imperial firmān constituting him pasha of Egypt, and threatened the beys, who now were virtual masters of Upper Egypt, as well as of the capital and nearly the whole of Lower Egypt. Mehemet Ali and al-Bardīsī therefore descended to Rosetta, which had fallen into the hands of a brother of Ali Pasha, and having captured the town and its commander, al-Bardīsī purposed to proceed against Alexandria; but the troops demanded arrears of pay which it was not in his power to give, and the pasha had cut the dyke between the lakes of Aboukir and Mareotis, thus rendering the approach to Alexandria more difficult. Al-Bardīsī and Mehemet Ali therefore returned to Cairo. The troubles of Egypt were now increased by an insufficient inundation, and great scarcity prevailed, aggravated by the taxation to which the beys were compelled to resort in order to pay the troops; while murder and rapine prevailed in the capital, the riotous soldiery being under little or no control. Meanwhile, Ali Pasha, who had been behaving with violence towards the Franks in Alexandria, received a *hatt-i-sherif* from the sultan, which he sent by his secretary to Cairo. It announced that the beys should live peaceably in Egypt, with an annual pension each of fifteen purses (a "purse" = 500 piastres) and other privileges, but that the government should be in the hands of the pasha. To this the beys assented, but with considerable misgivings; for they had intercepted letters from Ali to the Albanians, endeavouring to alienate them from their side to his own. Deceptive answers were returned The Mamelukes and Ali Pasha. to these, and Ali was induced by them to advance towards Cairo at the head of 3000 men. The forces of the beys, with the Albanians, encamped near him at Shalakān, and he fell back on a place called Zufeyta. They next seized his boats conveying soldiers, servants, and his ammunition and baggage; and, following him, they demanded wherefore he brought with him so numerous a body of men, in opposition to usage and to their previous warning. Finding they would not allow his troops to advance, forbidden himself to retreat with them to Alexandria, and being surrounded by the enemy, he would have hazarded a battle, but his men refused to fight. He therefore went to the camp of the beys, and his army was compelled to retire to Syria. In the hands of the beys Ali Pasha again attempted treachery. A horseman was seen to leave his tent one night at full gallop; he was the bearer of a letter to Osmān Bey Hasan, the governor of Kine. This offered a fair pretext to the Mamelukes to rid themselves of a man proved to be a perfidious tyrant. He was sent under a guard of forty-five men towards the Syrian frontier; and about a week after, news was received that in a skirmish with some of his own soldiers he had fallen mortally wounded.

The death of Ali Pasha produced only temporary tranquillity; in a few days (February 12, 1804) the return of Mahommed Bey al-Alfī (called the Great) from England was the signal for fresh disturbances, which, by splitting the Mamelukes into two parties, accelerated their final overthrow. An ancient jealousy existed between al-Alfī and the other most powerful bey, al-Bardīsī. The latter was now supreme among the Mamelukes, and this fact considerably heightened their old enmity. While the guns of the citadel, those at Old Cairo, and even those of the palace of al-Bardīsī, were thrice fired in honour of al-Alfī, preparations were immediately begun to oppose him. His partisans were collected opposite Cairo, and al-Alfī the Less held Giza; but treachery was among them; Husain Bey (a relative of al-Alfī) was assassinated by emissaries of al-Bardīsī, and Mehemet Ali, with his Albanians, gained possession of Giza, which was, as usual, given over to the troops to pillage. In the meanwhile al-Alfī the Great embarked at Rosetta, and not apprehending opposition, was on his way to Cairo, when a little south of the town of Manūf he encountered a party of Albanians, and with difficulty made his escape. He gained the eastern branch of the Nile, but the river had become dangerous, and he fled to the desert. There he had several hairbreadth escapes, and at last secreted himself among a tribe of Arabs at Rās al-Wādī. A change in the fortune of al-Bardīsī, however, favoured his plans for the future. That chief, in order to satisfy the demands of the Albanians for their pay, gave orders to levy heavy contributions from the citizens of Cairo; and this new oppression roused them to rebellion. The Albanians, alarmed for their safety, assured the populace that they would not allow the order to be executed; and Mehemet Ali himself caused a proclamation to be made to that effect. Thus the Albanians became the favourites of the people, and took advantage of their opportunity. Three days later (March 12th, 1804) they beset the house of the aged Ibrahim Bey, and that of al-Bardīsī, both of whom effected their escape with difficulty. The Mamelukes in the citadel directed a fire of shot and shell on the houses of the Albanians which were situated in the Ezbekīa; but, on hearing of the flight of their chiefs, they evacuated the place; and Mehemet Ali, on gaining possession of it, once more proclaimed Mahommed Khosrev pasha of Egypt. For one day and a half he enjoyed the title; the friends

of the late Tāhir Pasha then accomplished his second degradation,22 and Cairo was again the scene of terrible enormities, the Albanians revelling in the houses of the Mameluke chiefs, whose hareems met with no mercy at their hands. These events were the signal for the reappearance of al-Alfī.

The Albanians now invited Ahmed Pasha Khorshīd to assume the reins of government, and he without delay proceeded from Alexandria to Cairo. The forces of the partisans of al-Bardīsī were ravaging the country a few miles south of the capital and intercepting the supplies of corn by the river; a little later they passed to the north of Cairo and successively took Bilbeis and Kalyub, plundering the villages, destroying the crops, and slaughtering the herds of the inhabitants. Cairo was itself in a state of tumult, suffering severely from a scarcity of grain, and the heavy exactions of the pasha to meet the demands of his turbulent troops, at that time augmented by a Turkish detachment. The shops were closed, and the unfortunate people assembled in great crowds, crying "Yā Latīf! Yā Latīf!" ("O Gracious [God]!") Al-Alfī and Osmān Bey Hasan had professed allegiance to the pasha; but they soon after declared against him, and they were now approaching from the south; and having repulsed Mehemet Ali, they took the two fortresses of Turā. These Mehemet Ali speedily retook by night with 4000 infantry and cavalry; but the enterprise was only partially successful. On the following day the other Mamelukes north of the metropolis actually penetrated into the suburbs; but a few days later were defeated in a battle fought at Shubra, with heavy loss on both sides. This reverse in a measure united the two great Mameluke parties, though their chiefs remained at enmity. Al-Bardīsī passed to the south of Cairo, and the Mamelukes gradually retreated towards Upper Egypt. Thither the pasha despatched three successive expeditions (one of which was commanded by Mehemet Ali), and many battles were fought, but without decisive result.

At this period another calamity befell Egypt; about 3000 Delīs (Kurdish troops) arrived in Cairo from Syria. These troops had been sent for by Khorshīd in order to strengthen himself against the Albanians; and the events of this portion of the history afford sad proof of their ferocity and brutal enormities, in which they far exceeded the ordinary Turkish soldiers and even the Albanians. Their arrival immediately recalled Mehemet Ali and his party from the war, and instead of aiding Khorshīd was the proximate cause of his overthrow.

Cairo was ripe for revolt; the pasha was hated for his tyranny and extortion, and execrated for the deeds of his troops, especially those of the Delīs: the sheiks enjoined the people to close their shops, and the soldiers clamoured for pay. At this juncture a firmān arrived from Constantinople conferring on Mehemet Ali the pashalic of Jedda; but the occurrences of a few days raised him to that of Egypt.

On the 12th of Safar 1220 (May 12th, 1805) the sheiks, with an immense concourse of the inhabitants, assembled in the house of the ḳāḍī; and the ulemā, amid the prayers and cries of the people, wrote a full statement of the heavy Struggle between Khorshīd and Mehemet Ali. wrongs which they had endured under the administration of the pasha. The ulemā, in answer, were desired to go to the citadel; but they were apprised of treachery; and on the following day, having held another council at the house of the ḳāḍī, they proceeded to Mehemet Ali and informed him that the people would no longer submit to Khorshīd. "Then whom will ye have?" said he. "We will have *thee*," they replied, "to govern us according to the laws; for we see in thy countenance that thou art possessed of justice and goodness." Mehemet Ali seemed to hesitate, and then complied, and was at once invested. On this, a bloody struggle began between the two pashas. Khorshīd, being informed of the insurrection, immediately prepared to stand a siege in the citadel. Two chiefs of the Albanians joined his party, but many of his soldiers deserted. Mehemet Ali's great strength lay in the devotion of the citizens of Cairo, who looked on him as a deliverer from their afflictions; and great numbers armed themselves, advising constantly with Mehemet Ali, having the sayyid Omar and the sheiks at their head, and guarding the town at night. On the 19th of the same month Mehemet Ali began to besiege Khorshīd. After the siege had continued many days, Khorshīd gave orders to cannonade and bombard the town; and for six days his commands were executed with little interruption, the citadel itself also lying between two fires. Mehemet Ali's position at this time was very critical: his troops became mutinous for their pay; the silāhdār, who had commanded one of the expeditions against the Mamelukes, advanced to the relief of Khorshīd; and the latter ordered the Delīs to march to his assistance. The firing ceased on the Friday, but began again on the eve of Saturday and lasted until the next Friday. On the day following (May 28th) news came of the arrival at Alexandria of a messenger from Constantinople. The ensuing night in Cairo presented a curious spectacle; many of the inhabitants, believing that this envoy would put an end to their miseries, fired off their weapons as they paraded the streets with bands of music. The silāhdār, imagining the noise to be a fray, marched in haste towards the citadel, while its garrison sallied forth and began throwing up entrenchments in the quarter of Arab al-Yesār, but were repulsed by the armed inhabitants and the soldiers stationed there; and during all this time the cannonade and bombardment from the citadel, and on it from the batteries on the hill, continued unabated.

The envoy brought a firmān confirming Mehemet Ali and ordering Khorshīd to go to Alexandria, there to await further orders; but this he refused to do, on the ground that he had been appointed by a *hatt-i-sherīf*. The firing Mehemet Ali granted the pashalic. ceased on the following day, but the troubles of the people were rather increased than assuaged; murders and robberies were daily committed by the soldiery, the shops were all shut and some of the streets barricaded. While these scenes were being enacted, al-Alfī was besieging Damanhur, and the other beys were returning towards Cairo, Khorshīd having called them to his assistance; but Mehemet Ali forced them to retreat.

Soon after this, a squadron under the command of the Turkish high admiral arrived at Aboukir Bay, with despatches confirming the firmān brought by the former envoy, and authorizing Mehemet Ali to continue to discharge the functions of governor. Khorshīd at first refused to yield; but at length, on condition that his troops should be paid, he evacuated the citadel and embarked for Rosetta.

Mehemet Ali now possessed the title of Governor of Egypt, but beyond the walls of Cairo his authority was everywhere disputed by the beys, who were joined by the army of the silāhdār of Khorshīd; and many Albanians deserted from his ranks. To replenish his empty coffers he was also compelled to levy exactions, principally from the Copts. An attempt was made to ensnare certain of the beys, who were encamped north of Cairo. On the 17th of August 1805 the dam of the canal of Cairo was to be cut, and some chiefs of Mehemet Ali's party wrote, informing them that he would go forth early on that morning with most of his troops to witness the ceremony, inviting them to enter and seize the city, and, to deceive them, stipulating for a certain sum of money as a reward. The dam, however, was cut early in the preceding night, without any ceremony. On the following morning, these beys, with their Mamelukes, a very numerous body, broke open the gate of the suburb al-Husainia, and gained admittance into the city from the north, through the gate called Bāb el-Futūḥ. They marched along the principal street for some distance, with kettle-drums behind each company, and were received with apparent joy by the citizens. At the mosque called the Ashrafia they separated, one party proceeding to the Azhar and the houses of certain sheiks, and the other continuing along the main street, and through the gate called Bāb Zuwēla, where they turned up towards the citadel. Here they were fired on by some soldiers from the houses; and with this signal a terrible massacre began. Falling back towards their companions, they found the bye-streets closed; and in that part of the main thoroughfare called Bain al-Kasrain they were suddenly placed between two fires. Thus shut up in a narrow street, some sought refuge in the collegiate mosque Barkukia, while the remainder fought their way through their enemies and escaped over the city-wall with the loss of their horses. Two Mamelukes had in the meantime succeeded, by great exertions, in giving the alarm to their comrades in the quarter of the Azhar, who escaped by the eastern gate called Bāb al-Ghoraib. A horrible fate awaited those who had shut themselves up in the Barkukia. Having begged for quarter First massacre of the Mamelukes. and surrendered, they were immediately stripped nearly naked, and about fifty were slaughtered on the spot; and about the same number were dragged away, with every brutal aggravation of their pitiful condition, to Mehemet Ali. Among them were four beys, one of whom, driven to madness by Mehemet Ali's mockery, asked for a drink of water; his hands were untied that he might take the bottle, but he snatched a dagger from one of the soldiers, rushed at the pasha, and fell covered with wounds. The wretched captives were then chained and left in the court of the pasha's house; and on the following morning the heads of their comrades who had perished the day before were skinned and stuffed with straw before their eyes. One bey and two others paid their ransom and were released; the rest, without exception, were tortured and put to death in the course of the ensuing night. Eighty-three heads (many of them those of Frenchmen and Albanians) were stuffed and sent to Constantinople, with a boast that the Mameluke chiefs were utterly destroyed. Thus ended Mehemet Ali's first massacre of his too confiding enemies.

The beys, after this, appear to have despaired of regaining their ascendancy; most of them retreated to Upper Egypt, and an attempt at compromise failed. Al-Alfī offered his submission on the condition of the cession of the Fayum and other provinces; but this was refused, and that chief gained two successive victories over the pasha's troops, many of whom deserted to him.

At length, in consequence of the remonstrances of the English, and a promise made by al-Alfī of 1500 purses, the Porte consented to reinstate the twenty-four beys and to place al-Alfī at their head; but this measure met with the opposition of Mehemet Ali and the determined resistance of the majority of the Mamelukes, who, rather than have al-Alfī at their head, preferred their present condition; for the enmity of al-Bardīsī had not subsided, and he commanded the voice of most of the other beys. In pursuance of the above plan, a squadron under Sālih Pasha, shortly before appointed high admiral, arrived at Alexandria on the 1st of July 1806 with 3000 regular troops and a successor to Mehemet Ali, who was to receive the pashalik of Salonica. This wily chief professed his willingness to obey the commands of the Porte, but stated that his troops, to whom he owed a vast sum of money, opposed his departure. He induced the ulemā to sign a letter, praying the sultan to revoke the command for reinstating the beys, persuaded the chiefs of the Albanian troops to swear allegiance to him, and sent 2000 purses contributed by them to Constantinople. Al-Alfī was at that time besieging Damanhur, and he gained a signal victory over the pasha's troops; but the dissensions of the beys destroyed their last chance of a return to power. Al-Alfī and his partisans were unable to pay the sum promised to the Porte; Sālih Pasha received plenipotentiary powers from Constantinople, in consequence of the letter from the ulemā; and, on the condition of Mehemet Ali's paying 4000 purses to the Porte, it was decided that he should continue in his post, and the reinstatement of the beys was abandoned. Fortune continued to favour the pasha. In the following month al-Bardīsī died, aged forty-eight years; and soon after, a scarcity of provisions excited the troops of al-Alfī to revolt. That bey very reluctantly raised the siege of Damanhur, being in daily expectation of the arrival of an English army; and at the village of Shubra-ment he was attacked by a sudden illness, and died on the 30th of January 1807, at the age of fifty-five. Thus was the pasha relieved of his two most formidable enemies; and shortly after he defeated Shāhīn Bey, with the loss to the latter of his artillery and baggage and 300 men killed or taken prisoners.

On the 17th of March 1807 a British fleet appeared off Alexandria, having on board nearly 5000 troops, under the command of General A. Mackenzie Fraser; and the place, being disaffected towards Mehemet Ali, opened its The British

expedition of 1807. gates to them. Here they first heard of the death of al-Alfī, upon whose co-operation they had founded their chief hopes of success; and they immediately despatched messengers to his successor and to the other beys, inviting them to Alexandria. The British resident, Major Missett, having represented the importance of taking Rosetta and Rahmanieh, to secure supplies for Alexandria, General Fraser, with the concurrence of the admiral, Sir John Duckworth, detached the 31st regiment and the Chasseurs Britanniques, accompanied by some field artillery under Major-General Wauchope and Brigadier-General Meade, on this service; and these troops entered Rosetta without encountering any opposition; but as soon as they had dispersed among the narrow streets, the garrison opened a deadly fire on them from the latticed windows and the roofs of the houses. They effected a retreat on Aboukir and Alexandria, after a very heavy loss of 185 killed and 281 wounded, General Wauchope and three officers being among the former, and General Meade and nineteen officers among the latter. The heads of the slain were fixed on stakes on each side of the road crossing the Ezbekīa in Cairo.

Mehemet Ali, meanwhile, was conducting an expedition against the beys in Upper Egypt, and he had defeated them near Assiut, when he heard of the arrival of the British. In great alarm lest the beys should join them, especially as they were far north of his position, he immediately sent messengers to his rivals, promising to comply with all their demands if they should join in expelling the invaders; and this proposal being agreed to, both armies marched towards Cairo on opposite sides of the river.

To return to the unfortunate British expedition. The possession of Rosetta being deemed indispensable, Brigadier-Generals Sir William Stewart and Oswald were despatched thither with 2500 men. For thirteen days a cannonade of the town was continued without effect; and on the 20th of April, news having come in from the advanced guard at Hamād of large reinforcements to the besieged, General Stewart was compelled to retreat; and a dragoon was despatched to Lieutenant-colonel Macleod, commanding at Hamād, with orders to fall back. The messenger, however, was unable to penetrate to the spot; and the advanced guard, consisting of a detachment of the 31st, two companies of the 78th, one of the 35th, and De Roll's regiment, with a picquet of dragoons, the whole mustering 733 men, was surrounded, and, after a gallant resistance, the survivors, who had expended all their ammunition, became prisoners of war. General Stewart regained Alexandria with the remainder of his force, having lost, in killed, wounded and missing, nearly 900 men. Some hundreds of British heads were now exposed on stakes in Cairo, and the prisoners were marched between these mutilated remains of their countrymen.

The beys became divided in their wishes, one party being desirous of co-operating with the British, the other with the pasha. These delays proved ruinous to their cause; and General Fraser, despairing of their assistance, evacuated Alexandria on the 14th of September. From that date to the spring of 1811 the beys from time to time relinquished certain of their demands; the pasha on his part granted them what before had been withheld; the province of the Fayum, and part of those of Giza and Benī-Suef, were ceded to Shāhīn; and a great portion of the Sa'īd, on the condition of paying the land-tax, to the others. Many of them took up their abode in Cairo, but tranquillity was not secured; several times they met the pasha's forces in battle and once gained a signal victory. Early in the year 1811, the preparations for an expedition against the Wahhābīs in Arabia being complete, all the Mameluke beys then in Cairo were invited to the ceremony of investing Mehemet Ali's favourite son, Tūsūn, with a pelisse and the command of the army. As on the former occasion, the unfortunate Mamelukes fell into the snare. On the 1st of March, Shāhīn Bey and the other chiefs (one only excepted) repaired with their retinues to the citadel, and were courteously received by the pasha. Having taken coffee, they formed in procession, and, preceded and followed by the pasha's troops, slowly descended the steep and narrow road leading to the great gate of the citadel; but as soon as the Mamelukes arrived at the gate it was suddenly closed before them. The last of those to leave before the gate was shut were Albanians under Sālih Kush. To these troops their chief now made known the pasha's orders to massacre all the Mamelukes within the citadel; therefore, having returned Final massacre of the Mamelukes. by another way, they gained the summits of the walls and houses that hem in the road in which the Mamelukes were confined, and some stationed themselves upon the eminences of the rock through which that road is partly cut. Thus securely placed, they began a heavy fire on their victims; and immediately the troops who closed the procession, and who had the advantage of higher ground, followed their example. Of the betrayed chiefs, many were laid low in a few moments; some, dismounting, and throwing off their outer robes, vainly sought, sword in hand, to return, and escape by some other gate. The few who regained the summit of the citadel experienced the same fate as the rest, for no quarter was given. Four hundred and seventy Mamelukes entered the citadel; and of these very few, if any, escaped. One of these is said to have been a bey. According to some, he leapt his horse from the ramparts, and alighted uninjured, though the horse was killed by the fall; others say that he was prevented from joining his comrades, and discovered the treachery while waiting without the gate. He fled and made his way to Syria. This massacre was the signal for an indiscriminate slaughter of the Mamelukes throughout Egypt, orders to this effect being transmitted to every governor; and in Cairo itself the houses of the beys were given over to the soldiery. During the two following days the pasha and his son Tūsūn rode about the streets and tried to stop the atrocities; but order was not restored until 500 houses had been completely pillaged. The heads of the beys were sent to Constantinople.

A remnant of the Mamelukes fled to Nubia, and a tranquillity was restored to Egypt to which it had long been unaccustomed. In the year following the massacre the unfortunate exiles were attacked by Ibrahim Pasha, the eldest son of Mehemet Ali, in the fortified town of Ibrīm, in Nubia. Here the want of provisions forced them to evacuate the place; a

few who surrendered were beheaded, and the rest went farther south and built the town of New Dongola (correctly Dunkulah), where the venerable Ibrahim Bey died in 1816, at the age of eighty. As their numbers thinned, they endeavoured to maintain their little power by training some hundreds of blacks; but again, on the approach of Ismail, another son of the pasha of Egypt, sent with an army in 1820 to subdue Nubia and Sennār, some returned to Egypt and settled in Cairo, while the rest, amounting to about 100 persons, fled in dispersed parties to the countries adjacent to Sennār.

See A. A Paton, *History of the Egyptian Revolution* (2 vols., 2nd ed., enlarged 1870); and French Revolutionary Wars.

(E. S. P.; S. L.-P.; D. S. M.*)

3. *Modern History.*

(1) *Rule of Mehemet Ali.*—Mehemet Ali was now undisputed master of Egypt, and his efforts henceforth were directed primarily to the maintenance of his practical independence. The suzerainty of the sultan he acknowledged, and at the reiterated commands of the Porte he despatched in 1811 an army of 8000 men, including 2000 horse, under the command of his son Tūsūn, a youth of sixteen, against the Wahhābīs (*q.v.*). After a successful advance, this force met with a serious repulse at the pass of Jedeida, near Safra, and retreated to Yembo' (Yambu). In the following year Tūsūn, having received reinforcements, again assumed the offensive, and captured Medīna after a prolonged siege. He next took Jidda and Mecca, defeating the Wahhābīs beyond the latter place and capturing their general. But some mishaps followed, and Mehemet Ali, who had determined to conduct the war in person, left Egypt for that purpose in the summer of 1813. In Arabia he encountered serious obstacles from the nature of the country and the harassing mode of Wars in Arabia. warfare adopted by his adversaries. His arms met with various fortunes; but on the whole his forces proved superior to those of the enemy. He deposed and exiled the sharif of Mecca, and after the death of the Wahhābī leader Saud II. he concluded in 1815 a treaty with Saud's son and successor, Abdullah. Hearing of the escape of Napoleon from Elba—and fearing danger to Egypt from the plans of France or Great Britain—Mehemet Ali returned to Cairo by way of Kosseir and Kena. He reached the capital on the day of the battle of Waterloo. His return was hastened by reports that the Turks, whose cause he was upholding in Arabia, were treacherously planning an invasion of Egypt.

During Mehemet Ali's absence in Arabia his representative at Cairo had completed the confiscation, begun in 1808, of almost all the lands belonging to private individuals, who were forced to accept instead inadequate pensions. By this revolutionary method of land "nationalization" Mehemet Ali became proprietor of nearly all the soil of Egypt, an iniquitous measure against which the Egyptians had no remedy. The attempt which in this year (1815) the pasha made to reorganize his troops on European lines led, however, to a formidable mutiny in Cairo. Mehemet Ali's life was endangered, and he sought refuge by night in the citadel, while the soldiery committed many acts of plunder. The revolt was reduced by presents to the chiefs of the insurgents, and Mehemet Ali ordered that the sufferers by the disturbances should receive compensation from the treasury. The project of the *Nizām Gedid* (New System), as the European system was called, was, in consequence of this mutiny, abandoned for a time.

Tūsūn returned to Egypt on hearing of the military revolt at Cairo, but died in 1816 at the early age of twenty. Mehemet Ali, dissatisfied with the treaty concluded with the Wahhābīs, and with the non-fulfilment of certain of its clauses, determined to send another army to Arabia, and to include in it the soldiers who had recently proved unruly. This expedition, under his eldest son Ibrahim Pasha, left in the autumn of 1816. The war was long and arduous, but in 1818 Ibrahim captured the Wahhābī capital of Deraiya. Abdullah, their chief, was made prisoner, and with his treasurer and secretary was sent to Constantinople, where, in spite of Ibrahim's promise of safety, and of Mehemet Ali's intercession in their favour, they were put to death. At the close of the year 1819, Ibrahim returned to Cairo, having subdued all present opposition in Arabia.

Meanwhile the pasha had turned his attention to the improvement of the manufactures of Egypt, and engaged very largely in commerce. He created for himself a monopoly in the chief products of the country, to the further impoverishment of the people, and set up and kept going for years factories which never paid. But some of his projects were sound. The work of digging (1819-1820) the new canal of Alexandria, called the Mahmudiya (after the reigning sultan of Turkey), was specially important. The old canal had long fallen into decay, and the necessity of a safe channel between Alexandria and the Nile was much felt. Such was the object of the canal then excavated, and it answered its purpose; but the sacrifice of life was enormous (fully 20,000 workmen perished), and the labour of the unhappy fellahin was forced. Another notable fact in the economic progress of the country was the development of the cultivation of cotton in the Delta in 1822 and onwards. The cotton grown had been brought from the Sudan by Maho Bey, and the organization of the new industry—from which in a few years Mehemet Ali was enabled to extract considerable revenues—was entrusted to a Frenchman named Jumel.

In 1820 Mehemet Ali ordered the conquest of the eastern Sudan to be undertaken. He first sent an expedition westward (Feb. 1820) which conquered and annexed the oasis of Siwa. Among the pasha's reasons for wishing to Conquest of the Sudan begun. extend his rule southward were the desire to capture the valuable caravan trade then going towards the Red Sea, and to secure the rich gold mines which he believed to exist in Sennār. He also saw in the campaign a means of getting rid of the disaffected troops, and of obtaining a sufficient number of captives to form the nucleus of the new army. The forces destined for this service were led by Ismail, then the youngest son of Mehemet Ali; they consisted of between 4000 and 5000 men, Turks and Arabs, and left Cairo in July 1820. Nubia at once submitted, the Shagia Arabs immediately beyond the province of Dongola were worsted, the remnant of the Mamelukes dispersed, and Sennār reduced without a battle. Mahommed Bey, the defterdār, with another force of about the same strength, was then sent by Mehemet Ali against Kordofan with a like result, but not without a hard-fought engagement. In October 1822 Ismail was,

with his retinue, burnt to death by Nimr, the *mek* (king) of Shendi; and the defterdār, a man infamous for his cruelty, assumed the command of those provinces, and exacted terrible retribution from the innocent inhabitants. Khartum was founded at this time, and in the following years the rule of the Egyptians was largely extended and control obtained of the Red Sea ports of Suakin and Massawa (see Sudan: *History*).

In 1824 a native rebellion of a religious character broke out in Upper Egypt headed by one Aḥmad, an inhabitant of Es-Sālimiya, a village situated a few miles above Thebes. He proclaimed himself a prophet, and was soon followed by between 20,000 and 30,000 insurgents, mostly peasants, but some of them deserters from the "Nizām Gedid," for that force was yet in a half-organized state, and in part declared for the impostor. The insurrection was crushed by Mehemet Ali, and about one-fourth of Ahmad's followers perished, but he himself escaped and was never after heard of. Few of these unfortunates possessed any other weapon than the long staff (*nebbut*) of the Egyptian peasant; still they offered an obstinate resistance, and the combat in which they were defeated resembled a massacre. This movement was the last internal attempt to destroy the pasha's authority.

The fellahin, a patient, long-suffering race save when stirred by religious fanaticism, submitted to the kurbash, freely used by the Turkish and Bashi Bazuk tax-gatherers employed by Mehemet Ali to enforce his Sufferings of the fellahin. system of taxation, monopolies, corvée and conscription. Under this régime the resources of the country were impoverished, while the finances fell into complete and incomprehensible chaos.

A vivid picture of the condition to which Egypt was reduced is painted in the report drawn up in 1838 by the British consul-general, Colonel Campbell:—

"The government (he wrote), possessing itself of the necessaries of life at prices fixed by itself, disposes of them at arbitrary prices. The fellah is thus deprived of his harvest and falls into arrears with his taxes, and is harassed and bastinadoed to force him to pay his debts. This leads to deterioration of agriculture and lessens the production. The pasha having imposed high taxes has caused the high prices of the necessaries of life. It would be difficult for a foreigner now coming to Egypt to form a just idea of the actual state of the country as compared with its former state. In regard to the general rise in prices, all the ground cultivated under the Mamelukes was employed for producing food—wheat, barley, beans, &c.—in immense quantities. The people reared fowls, sheep, goats, &c., and the prices were one-sixth, or even one-tenth, of those at present. This continued until Mehemet Ali became viceroy in 1805. From that period until the establishment of monopolies prices have gradually increased; but the great increase has chiefly taken place since 1824, when the pasha established his regular army, navy and factories."

The conclusion in 1838 of a commercial treaty with Turkey, negotiated by Sir Henry Bulwer (Lord Dalling), struck a death-blow to the system of monopolies, though the application of the treaty to Egypt was delayed for some years. The picture of Egypt under Mehemet Ali is nevertheless not complete without regard being had to the beneficent side of his rule. Public order was rendered perfect; the Nile and the highways were secure to all travellers, Christian or Moslem; the Bedouin tribes were won over to peaceful pursuits, and genuine efforts were made to promote education and the study of medicine. To European merchants, on whom he was dependent for the sale of his exports, Mehemet Ali showed much favour, and under his influence the port of Alexandria again rose into importance. It was also under Mehemet Ali's encouragement that the overland transit of goods from Europe to India via Egypt was resumed.

Mehemet Ali was fully conscious that the empire which he had so laboriously built up might at any time have to be defended by force of arms against his master Sultan Mahmud II., whose whole policy had been directed to curbing the power of his too ambitious valis, and who was under the influence of the personal enemies of the pasha of Egypt, notably of Khosrev, the grand vizier, who had never forgiven his humiliation in Egypt in 1803. Mahmud also was already planning reforms borrowed from the West, and Mehemet Ali, who had had plenty of opportunity of observing the superiority of European methods of warfare, was determined to anticipate the sultan in the creation of a fleet and an army on modern lines, partly as a measure of precaution, partly as an instrument for the realization of yet wider schemes of ambition. Before the outbreak of the War of Greek Independence in 1821 he had already expended much time and energy in organizing a fleet and in training, under the supervision of French instructors, native officers and artificers; though it was not till 1829 that the opening of a dockyard and arsenal at Alexandria enabled him to build and equip his own vessels. By 1823, moreover, he had succeeded in carrying out the reorganization of his army on European lines, the turbulent Turkish and Albanian elements being replaced by negroes and fellahin.[23] His foresight was rewarded by the invitation of the sultan to help him in the task of subduing the Greek insurgents, offering Ibrahim in the Morea. as reward the pashaliks of the Morea and of Syria. Mehemet Ali had already, in 1821, been appointed governor of Crete, which he had occupied with a small Egyptian force. In the autumn of 1824 a fleet of sixty Egyptian war-ships carrying a large force of disciplined troops concentrated in Suda Bay, and, in the following March, Ibrahim as commander-in-chief landed in the Morea. But for the action of European powers the intervention of Mehemet Ali would have been decisive. His naval superiority wrested from the Greeks the command of the sea, on which the fate of the insurrection ultimately depended, while on land the Greek irregular bands were everywhere routed by Ibrahim's disciplined troops. The history of the events that led up to the battle of Navarino and the liberation of Greece is told elsewhere (see Navarino and Greek Independence, War of); the withdrawal of the Egyptians from the Morea was ultimately due to the action of Admiral Sir

Edward Codrington, who early in August 1828 appeared before Alexandria and induced the pasha, by no means sorry to have a reasonable excuse, by a threat of bombardment, to sign a convention undertaking to recall Ibrahim and his army.

Before the final establishment of the new kingdom of Greece, the Eastern question had late in 1831 entered into a new and more perilous phase, owing to the revolt of Mehemet Ali against the sultan on pretext of chastising the The Syrian campaigns. ex-slave Abdullah, pasha of Acre, for refusing to send back Egyptian fugitives from the effects of Mehemet Ali's "reforms." The true reason was the refusal of Sultan Mahmud to hand over Syria according to agreement, and Mehemet Ali's determination to obtain at all hazards what had been from time immemorial an object of ambition to the rulers of Egypt. For ten years from this date the relations of sultan and pasha remained in the forefront of the questions which agitated the diplomatic world. It was not only the very existence of the Ottoman empire that seemed to be at stake, but Egypt itself had become more than ever an object of attention, to British statesmen especially, and in the issue of the struggle were involved the interests of Great Britain in the two routes to India by the Isthmus of Suez and the valley of the Euphrates. The diplomatic and military history of this period will be found sketched in the article on Mehemet Ali. Here it will suffice to say that the victorious career of Ibrahim, who once more commanded in his father's name, beginning with the storming of Acre on the 27th of May 1832, and culminating in the rout and capture of Reshid Pasha at Konia on the 21st of December, was arrested by the intervention of Russia. As the result of endless discussions between the representatives of the powers, the Porte and the pasha, the convention of Kutaya was signed on the 14th of May 1833, by which the sultan agreed to bestow on Mehemet Ali the pashaliks of Syria, Damascus, Aleppo and Itcheli, together with the district of Adana. The announcement of the pasha's appointment had already been made in the usual way in the annual firman issued on the 3rd of May. Adana, reserved for the moment, was bestowed on Ibrahim under the style of *muhassil*, or collector of the crown revenues, a few days later.

Mehemet Ali now ruled over a virtually independent empire, subject only to a moderate tribute, stretching from the Sudan to the Taurus Mountains. But though he was hailed, especially in France, as the pioneer of European civilization in the East, the unsound foundations of his authority were not long in revealing themselves. Scarcely a year from the signing of the convention of Kutaya the application by Ibrahim of Egyptian methods of government, notably of the monopolies and conscription, had driven Syrians, Druses and Arabs, who had welcomed him as a deliverer, into revolt. The unrest was suppressed by Mehemet Ali in person, and the Syrians were terrorized and disarmed. But their discontent encouraged Sultan Mahmud to hope for revenge, and a renewal of the conflict was only staved off by the anxious efforts of the powers. At last, in the spring of 1839, the sultan ordered his army, concentrated under Reshid in the border district of Bìr on the Euphrates, to advance over the Syrian frontier. Ibrahim, seeing his flank menaced, attacked it at Nezib on the 24th of June. Once more the Ottomans were utterly routed. Six days later, before the news reached Constantinople, Mahmud died. Once more the Ottoman empire lay at the feet of Mehemet Ali; but the powers were now more prepared to meet a contingency which had been long foreseen. Their intervention was prompt; and the dubious attitude of France, which led to her exclusion from the concert and encouraged Mehemet Ali to resist, only led to his obtaining less favourable terms. (See Mehemet Ali.)

The end was reached early in 1841. New firmans were issued which confined the pasha's authority to Egypt, the Sinai peninsula and certain places on the Arabian side of the Red Sea, and to the Sudan. The most important of these documents are dated the 13th of February 1841. The government of the pashalik of Egypt was made hereditary in the family of Mehemet Ali.24 A map showing the boundaries of Egypt accompanied the firman granting Mehemet Ali the pashalik, a duplicate copy being retained by the Porte. The Egyptian copy is supposed to have been lost in a fire which destroyed a great part of the Egyptian archives. The Turkish copy has never been produced and its existence now appears doubtful. The point is of importance, as in 1892 and again in 1906 boundary disputes arose between Turkey and Egypt (see below). Various restrictions were laid upon Mehemet Ali, emphasizing his position of vassalage. Mehemet Ali's authority confined to Egypt. He was forbidden to maintain a fleet, and his army was not to exceed 18,000 men. The pasha was no longer a figure in European politics, but he continued to occupy himself with his improvements, real or imaginary, in Egypt. The condition of the country was deplorable; in 1842 a murrain of cattle was followed by a destructive Nile flood; in 1843 there was a plague of locusts, whole villages were depopulated. Meantime the uttermost farthing was wrung from the wretched fellahin, while they were forced to the building of magnificent public works by unpaid labour. In 1844-1845 there was some improvement in the condition of the country as a result of financial reforms the pasha was compelled to execute. Mehemet Ali, who had been granted the honorary rank of grand vizier in 1842, paid a visit to Stamboul in 1846, where he became reconciled to his old enemy Khosrev Pasha, whom he had not seen since he spared his life at Cairo in 1803. In 1847 Mehemet Ali laid the foundation stone of the great barrage across the Nile at the beginning of the Delta. He was barely persuaded from ordering the barrage to be built with stone from the pyramids! Towards the end of 1847 the aged pasha's mind began to give way, and by the following June he was no longer capable of administering the government. In September 1848 Ibrahim was acknowledged by the Porte as ruler of the pashalik, but he died in the November following. Mehemet Ali survived another eight months, dying on the 2nd of August 1849, aged eighty. He had done a great work in Egypt; the most permanent being the weakening of the tie binding the country to Turkey, the starting of the great cotton industry, the recognition of the advantages of European science, and the conquest of the Sudan.

(F. R. C.)

(2) *From the Death of Mehemet Ali to the British Occupation.*—On Ibrahim's death in November 1848 the government of Egypt fell to his nephew Abbas I (*q.v.*), the son of Tusun. Abbas put an end to the system of commercial monopolies, Abbas I. and Said Pasha. and during his reign the railway from Alexandria to Cairo was begun at the instigation of the British government. Opposed to European ways, Abbas lived in great seclusion, and after a reign of less than six years he was murdered (July 1854) by two of his slaves. He was succeeded by his uncle Said Pasha, the favourite son of Mehemet Ali, who lacked the strength of mind or physical health needed to execute the beneficent projects which he conceived. His endeavour, for instance, to put a stop to the slave raiding which devastated the Sudan provinces was wholly ineffectual. He had a genuine regard for the welfare of the fellahin, and a land law of 1858 secured to them an acknowledgment of freehold as against the crown. The pasha was much under French influence, and in 1856 was induced to grant to Ferdinand de Lesseps a concession for the construction of the Suez Canal. Lord Palmerston was opposed to this project, and the British opposition delayed the ratification of the concession by the Porte for two years. To the British Said also made concessions—one to the Eastern Telegraph Company, and another (1854) allowing the establishment of the Bank of Egypt. He also began the national debt by borrowing £3,293,000 from Messrs Frühling & Göschen, the actual amount received by the pasha being £2,640,000. In January 1863 Said Pasha died and was succeeded by his nephew Ismail, a son of Ibrahim Pasha.

The reign of Ismail (*q.v.*), from 1863 to 1879, was for a while hailed as introducing a new era into modern Egypt. In spite of his vast schemes of reform and the *éclat* of his Europeanizing innovations, his oriental extravagance Ismail's megalomania led to bankruptcy, and his reign is historically important simply for its compelling European intervention in the internal affairs of Egypt. Yet in its earlier years much was done which seemed likely to give Ismail a more important place in history. In 1866 he was granted by the sultan a firman—obtained on condition of the increase of the tribute from £376,000 to £720,000—by which the succession to the throne of Egypt was made to descend "to the eldest of thy male children and in the same manner to the eldest sons of thy successors," instead of, after Turkish law, to the eldest male of the family. In the following year another firman bestowed upon him the title of *khedive* in lieu of that of *vali*, borne by Mehemet Ali and his immediate successors. In 1873 a further firman placed the khedive in many respects in the position of an independent sovereign. Ismail re-established and improved the administrative system organized by Mehemet Ali, and which had fallen into decay under Abbas's indolent rule; he caused a thorough remodelling of the customs system, which was in an anarchic state, to be made by English officials; in 1865 he established the Egyptian post office; he reorganized the military schools of his grandfather, and gave some support to the cause of education. Railways, telegraphs, lighthouses, the harbour works at Suez, the breakwater at Alexandria, were carried out by some of the best contractors of Europe. Most important of all, the Suez Canal was opened in 1869. But the funds required for these public works, as well as the actual labour, were remorselessly extorted from a poverty-stricken population.

A striking picture of the condition of the people at this period is given by Lady Duff Gordon in *Last Letters from Egypt*. Writing in 1867 she said: "I cannot describe the misery here now—every day some new tax. Every beast, camel, cow, sheep, donkey and horse is made to pay. The fellaheen can no longer eat bread; they are living on barley-meal mixed with water, and raw green stuff, vetches, | &c. The taxation makes life almost impossible: a tax on every crop, on every animal first, and again when it is sold in the market; on every man, on charcoal, on butter, on salt.... The people in Upper Egypt are running away by wholesale, utterly unable to pay the new taxes and do the work exacted. Even here (Cairo) the beating for the year's taxes is awful."

In the years that followed the condition of things grew worse. Thousands of lives were lost and large sums expended in extending Ismail's dominions in the Sudan (*q.v.*) and in futile conflicts with Abyssinia. In 1875 the Steps leading to the deposition of Ismail. impoverishment of the fellah had reached such a point that the ordinary resources of the country no longer sufficed for the most urgent necessities of administration; and the khedive Ismail, having repeatedly broken faith with his creditors, could not raise any more loans on the European market. The taxes were habitually collected many months in advance, and the colossal floating debt was increasing rapidly. In these circumstances Ismail had to realize his remaining assets, and among them sold 176,602 Suez Canal shares to the British government for £3,976,58225 (see Beaconsfield). This comparatively small financial operation brought about the long-delayed crisis and paved the way for the future prosperity of Egypt, for it induced the British government to inquire more carefully into the financial condition of the country. In December 1875 Mr Stephen Cave, M.P., and Colonel (afterwards Sir John) Stokes, R.E., were sent to Egypt to inquire into the financial situation; and Mr Cave's report, made public in April 1876, showed that under the existing administration national bankruptcy was inevitable. Other commissions of inquiry followed, and each one brought Ismail more under European control. The establishment of the Mixed Tribunals in 1876, in place of the system of consular jurisdiction in civil actions, made some of the courts of justice international. The Caisse de la Dette, instituted in May 1876 as a result of the Cave mission, led to international control over a large portion of the revenue. Next came (in November 1876) the mission of Mr (afterwards Lord) Goschen and M. Joubert on behalf of the British and French bondholders, one result being the establishment of Dual Control, *i.e.* an English official to superintend the revenue and a French official the expenditure of the country. Another result was the internationalization of the railways and the port of Alexandria. Then came (May 1878) a commission of inquiry of which the principal members were Sir Rivers Wilson, Major Evelyn Baring (afterwards Lord Cromer) and MM. Kremer-Baravelli and de Blignières. One result of that inquiry was the extension of international control to the enormous landed property of the khedive. Driven to desperation, Ismail

made a virtue of necessity and accepted, in September 1878, in lieu of the Dual Control, a constitutional ministry, under the presidency of Nubar Pasha (*q.v.*), with Rivers Wilson as minister of finance and de Blignières as minister of public works. Professing to be quite satisfied with this arrangement, he pompously announced that Egypt was no longer in Africa, but a part of Europe; but before seven months had passed he found his constitutional position intolerable, got rid of his irksome cabinet by means of a secretly-organized military riot in Cairo, and reverted to his old autocratic methods of government. England and France could hardly sit still under this affront, and decided to administer chastisement by the hand of the suzerain power, which was delighted to have an opportunity of asserting its authority. On the 26th of June 1879 Ismail suddenly received from the sultan a curt telegram, addressed to him as ex-khedive of Egypt, informing him that his son Tewfik was appointed his successor. Taken unawares, he made no attempt at resistance, and Tewfik was at once proclaimed khedive.

After a short period of inaction, when it seemed as if the change might be for the worse, England and France summoned up courage to look the situation boldly in the face, and, in November 1879, re-established the Dual Control in the persons of Major Baring and M. de Blignières. For two years the Dual Control governed Egypt, and initiated the work of progress that England was to continue alone. Its essential defect was what might be called insecurity of tenure. Without any Re-establishment of Dual Control. efficient means of self-protection and coercion at its disposal, it had to interfere with the power, privileges and perquisites of a class which had long misgoverned the country. This class, so far as its civilian members were concerned, was not very formidable, because these were not likely to go beyond the bounds of intrigue and passive resistance; but it contained a military element who had more courage, and who had learned their power when Ismail employed them for overturning his constitutional ministry. Arabi and the revolt of 1882. Among the mutinous soldiers on that occasion was a fellah officer calling himself Ahmed Arabi the Egyptian. He was not a man of exceptional intelligence or remarkable powers of organization, but he was a fluent speaker, and could exercise some influence over the masses by a rude kind of native eloquence. Behind him were a group of men, much abler than himself, who put him forward as the figurehead of a party professing to aim at protecting the Egyptians from the grasping tyranny of their Turkish and European oppressors. The movement began among the Arab officers, who complained of the preference shown to the officers of Turkish origin; it then expanded into an attack on the privileged position and predominant influence of foreigners, many of whom, it must be confessed, were of a by no means respectable type; finally, it was directed against all Christians, foreign and native.26 The government, being too weak to suppress the agitation and disorder, had to make concessions, and each concession produced fresh demands. Arabi was first promoted, then made under-secretary for war, and ultimately a member of the cabinet. The danger of a serious rising brought the British and French fleets in May 1882 to Alexandria, and after a massacre (11th of June) had been perpetrated by the Arab mob in that city, the British admiral bombarded the forts (11th of July 1882). The leaders of the national movement prepared to resist further aggression by force. A conference of ambassadors was held in Constantinople, and the sultan was invited to quell the revolt; but he hesitated to employ his troops against Mussulmans who were professing merely to oppose Christian aggression.

(3) *Egypt occupied by the British.*—At last the British government determined to employ armed force, and invited France to co-operate. The French government declined, and a similar invitation to Italy met with a similar refusal. England therefore, having to act alone, landed troops at Ismailia under Sir Garnet Wolseley, and suppressed the revolt by the battle of Tell-el-Kebir on the 13th of September 1882. The khedive, who had taken refuge in Alexandria, returned to Cairo, and a ministry was formed under Sherif Pasha, with Riaz Pasha as one of its leading members. On assuming office, the first thing it had to do was to bring to trial the chiefs of the rebellion. Had the khedive and Riaz been allowed a free hand, Arabi and his colleagues would have found little mercy. Thanks to the intervention of the British government, their lives were spared. Arabi pleaded guilty, was sentenced to death, the sentence being commuted by the khedive to banishment; and Riaz resigned in disgust. This solution of the difficulty was brought about by Lord Dufferin, then British ambassador at Constantinople, who had been sent to Egypt as high commissioner to adjust affairs and report on the situation. One of his first acts, after preventing the application of capital punishment to the ringleaders of the revolt, was to veto the project of protecting the khedive and his government by means of a Praetorian guard recruited from Asia Minor, Epirus, Austria and Switzerland, and to insist on the principle that Egypt must be governed in a truly liberal spirit. Passing in review all the departments of the administration, he laid down the general lines on which the country was to be restored to order and prosperity, and endowed, if possible, with the elements of self-government for future use.

The laborious task of putting these general indications into a practical shape fell to Sir Evelyn Baring (Lord Cromer), who arrived as consul-general and diplomatic agent, in succession to Sir Edward Malet, in January 1884. Sir Evelyn Baring appointed consul-general, 1884. At that moment the situation was singularly like that which had existed on two previous occasions: firstly, when Ismail was deposed; and secondly, when the Dual Control had undermined the existing authority without having any power to enforce its own. For the third time in little more than three years the existing authority had been destroyed and a new one had to be created. But there was one essential difference: the power that had now to reorganize the country possessed in the British army of occupation a support sufficient to command respect. Without that support Sir Evelyn Baring could have done little or nothing; with it he did perhaps more than any other single man could have done. His method may be illustrated by an old story long current in Cairo. Mehemet Ali was said to have appointed as *mudir* or governor in a turbulent district a young and inexperienced Turk, who asked, “But how am I to govern these people?” “Listen,” replied the pasha; “buy the biggest and heaviest *kurbash* you can find; hang it up in the centre of the

mudirieh, well within your reach, and you will very seldom require to use it." The British army of occupation was Sir Evelyn's *kurbash*; it was well within his reach, as all the world knew, and its simple presence sufficed to prevent disorder and enforce obedience. He had one other advantage over previous English reformers in Egypt: his position towards France was more independent. The Dual Control had been abolished by a khedivial decree of 18th January 1883, and replaced by an English financial adviser. France naturally objected; but having refused to co-operate with England in suppressing the revolt, she could not reasonably complain that her offer of co-operation in the work of reorganization was declined. But though Dual Control was at an end, the Caisse de la Dette remained, and this body was to prove a constant clog on the financial measures of the Egyptian government.

At first the intention of the British government was simply to restore the power of the khedive, to keep his highness for some time in the right path by friendly advice, and to withdraw the British troops as soon as possible. As The Policy of evacuation. Lord Granville explained in a circular to the powers, the position of England in Egypt imposed on her "the duty of giving advice with the object of securing that the order of things to be established shall be of a satisfactory character and possess the elements of stability and progress." But there was to be no embarking on a general scheme of reforms, which would increase unnecessarily the responsibilities of the protecting power and necessitate the indefinite prolongation of the military occupation. So far, therefore, as the British government had a definite policy in Egypt, it was a *politique de replâtrage*. Even this policy was not strictly adhered to. Mr Gladstone's cabinet was as unstable as the public opinion it sought to conciliate. It had its hot fits and its cold fits, and it gave orders now to advance and now to retreat. In the long run circumstances proved too strong for it, and it had to undertake a great deal more than it originally intended. Each little change in the administration engendered a multitude of others, so that the modest attempts at reform were found to be like the letting out of water. A tiny rill gradually became a boisterous stream, and the boisterous stream grew into a great river, which spread to all sections of the administration and ended by inundating the whole country.

Of the numerous questions awaiting solution, the first to claim immediate attention was that of the Sudan. The British government had begun by excluding it from the problem, and by declaring that for events in these The Sudan question. outlying territories it must not be held responsible. In that sphere of activity, therefore, the Egyptian government might do as it thought fit. The principle of limited liability which this attitude assumed was soon found to be utterly untenable. The Sudan was an integral part of the khedive's dominions, and caused, even in ordinary times, a deficit of £200,000 to the Egyptian treasury. At that moment it was in a state of open rebellion, stirred up by a religious fanatic who proclaimed himself a mahdi of Islam. An army of 10,000 men under an English officer, Colonel William Hicks, formerly of the Bombay army, otherwise Hicks Pasha, had been sent to suppress the revolt, and had been annihilated in a great battle fought on the 5th of November 1883, near Obeid. The Egyptian government wished to make a new attempt to recover the lost province, and the idea was certainly very popular among the governing class, but Sir Evelyn Baring vetoed the project on the ground that Egypt had neither soldiers nor money to carry it out. In vain the khedive and his prime minister, Sherif Pasha, threatened to resign, and the latter actually carried out his threat. The British representative remained firm, and it was decided that the Sudan should be, for the moment at least, abandoned to its fate. Nubar, though as strongly opposed to the abandonment policy as Sherif, consented to take his place and accepted somewhat reluctantly the new régime, which he defined as "the administration of Egypt under the government of Baring." By this time the Mahdi was master of the greater part of the Sudan, but Khartum and some other fortified points still held out. The efforts made to extricate the garrisons, including the mission of General Gordon, the fall of Khartum, and the Nile Expedition under Lord Wolseley, are described below separately in the section of this article dealing with the military operations. The practical result was that the khedive's authority was limited to the Nile valley north of Wadi Halfa.

With the internal difficulties Sir Evelyn Baring had been struggling bravely ever since his appointment, trying to evolve out of the ever-changing policy and contradictory orders of the British government some sort of coherent Internal reorganization line of action, and to raise the administration to a higher standard. For two or three years it seemed doubtful whether he would succeed. All over Egypt there was a feeling of unrest, and the well-meant but not very successful efforts of the British to improve the state of things were making them very unpopular. The introduction of English officials and English influence into all the administrative departments was resented by the native officials, and the action of the irrigation officers in preventing the customary abuses of the distribution of water was resented by the great landowners, who had been, from time immemorial, in the habit of taking as much as they wanted, to the detriment of the fellahin. Even these latter, who gained most by the reforms, considered that they had good reason to complain, for the defeat of Arabi and the re-establishment of order had enabled the Christian money-lenders to return and insist on the payment of claims, which were supposed to have been extinguished by the rebellion. Worst of all, the government was drifting rapidly towards insolvency, being quite unable to fulfil its obligations to the bondholders and meet the expenses of administration. All departments were being starved, and even the salaries of poorly paid officials were in arrear. To free itself from its financial difficulties the government adopted a heroic remedy which only created fresh troubles. On the advice of Lord Northbrook, who was sent out to Cairo in September 1884 to examine the financial situation, certain revenues which should have been paid into the Caisse for the benefit of the bondholders were paid into the treasury for the ordinary needs of the administration. Immediately the powers protested against this infraction of the law of liquidation, and the Caisse applied for a writ to the Mixed Tribunals. In this way the heroic remedy failed, and to the internal difficulties were added international complications.

Fortunately for Egypt, the British government contrived to solve the international difficulty by timely concessions to the powers, and succeeded in negotiating the London Convention of March 1885, by which the Egyptian government was relieved from some of the most onerous stipulations of the law of liquidation, and was enabled to raise a loan of £9,000,000 for an annual payment of £135,000. After paying out of the capital the sums required for the indemnities due for the burning of Alexandria and the deficits of the years 1882 and 1883, it still had a million sterling, and boldly invested it in the improvement of irrigation. The investment proved most remunerative, and helped very materially to save the country from bankruptcy and internationalism. The danger of being again subjected to the evils of an international administration was very great, for the London Convention contained a stipulation to the effect that if Egypt could not pay her way at the end of two years, another international commission would be appointed.

To obviate this catastrophe the British reformers set to work most energetically. Already something in the way of retrenchment and reform had been accomplished. The public accounts had been put in order, and the abuses in the collection of the land tax removed. The constant drain of money and men for the Sudan had been stopped. A beginning had been made for creating a new army to replace the one that had been disbanded and to allow of a portion of the British garrison being withdrawn. In this work Sir Evelyn Wood had shown much sound judgment as well as great capacity for military organization, and had formed an efficient force out of very unpromising material (see the section above on the *Egyptian Army*). His colleague in the department of public works, Sir Colin Scott-Moncrieff, had been not less active. By mitigating the hardships of the *corvée*, and improving the irrigation system, on which the prosperity of the country mainly depends, he had conferred enormous benefits on the fellahin, and had laid the foundation of permanent budgetary equilibrium for the future. Not less active was Sir Edgar Vincent, the financial adviser, who kept a firm hold on the purse-strings and ruthlessly cut down expenditure in all departments except that of irrigation (see § Finance).

The activity of the British officials naturally produced a certain amount of discontent and resistance on the part of their Egyptian colleagues, and Lord Granville was obliged to declare very plainly that such resistance could not be tolerated. Writing (January 1884) to Sir Evelyn Baring, he said:

“It should be made clear to the Egyptian Ministers and Governors of Provinces that the responsibility which for the time rests on England obliges H.M. Government to insist on the adoption of the policy which they recommend; and that it will be necessary that those Ministers and Governors who do not follow this course should cease to hold their offices.”

Nubar Pasha, who continued to be prime minister, resisted occasionally. What he chiefly objected to was direct interference in the provincial administration and the native tribunals, and he succeeded for a time in Relations between British and native officials. preventing such interference. Sir Benson Maxwell and Mr Clifford Lloyd, who had been sent out to reform the departments of justice and the interior, after coming into conflict with each other were both recalled, and the reforming activity was for a time restricted to the departments of war, public works and finance. Gradually the tension between natives and foreigners relaxed, and mutual confidence was established. Experience had evolved the working principle which was officially formulated at a much later period: “Our task is not to rule the Egyptians, but as far as possible to teach the Egyptians to rule themselves.... European initiative suggests measures to be executed by Egyptian agency, while European supervision controls the manner in which they are executed.” If that principle had been firmly laid down and clearly understood at the beginning, a good deal of needless friction would have been avoided.

The international difficulty remained. The British position in Egypt was anomalous, and might easily give rise to international complications. The sultan might well protest against the military occupation of a portion of his International problems. empire by foreign troops. It was no secret that France was ready to give him diplomatic support, and other powers might adopt a similar attitude. Besides this, the British government was anxious to terminate the occupation as soon as possible. With a view to regularizing the situation and accelerating the evacuation, Sir Henry Drummond Wolff was sent to Constantinople in August 1885 on a special mission. On the 24th of October of that year he concluded a preliminary convention by which an Ottoman and a British high commissioner, acting in concert with the khedive, should reorganize the Egyptian army, tranquillize the Sudan by pacific means, and consider what changes might be necessary in the civil administration. When the two commissioners were assured of the security of the frontier and the good working and stability of the Egyptian government, they should present reports to their respective governments, and these should consult as to the conclusion of a convention regulating the withdrawal of the English troops. Mukhtar Pasha and Sir Henry Drummond Wolfe were appointed commissioners, and their joint inquiry lasted till the end of 1886, when the former presented his report and the latter went home to report orally. The remaining stipulations of the preliminary convention were duly carried out. Sir Henry Drummond Wolff proceeded to Constantinople and signed on the 22nd of May 1887 the definitive convention, according to which the occupation should come to an end in three years, but England should have a right to prolong or renew it in the event of internal peace or external security being seriously threatened. The sultan authorised the signature of this convention, but under pressure of France and Russia he refused to ratify it. Technically, therefore, the preliminary convention still remains in force, and in reality the Ottoman commissioner continued to reside in Cairo till the close of 1908.

The steadily increasing prosperity of the country during the years 1886 and 1887 removed the danger of national bankruptcy and international interference, and induced Sir Evelyn Baring to widen the area of administrative Progress of

reform. reforms. In the provinces the local administration and the methods of dispensing justice were still scandalously unsatisfactory, and this was the field to which the British representative next directed his efforts. Here he met with unexpected opposition on the part of the prime minister, Nubar Pasha, and a conflict ensued which ended in Nubar's retirement in June 1888. Riaz Pasha took his place, and remained in office till May 1891. During these three years the work of reform and the prosperity of the country made great progress. The new Egyptian army was so far improved that it gained successes over the forces of the Mahdi; the burden of the national debt was lightened by a successful conversion; the *corvée* was abolished;27 the land tax was reduced 30% in the poorest provinces, and in spite of this and other measures for lightening the public burdens, the budgetary surplus constantly increased; the quasi-judicial special commissions for brigandage, which were at once barbarous and inefficient, were abolished; the native tribunals were improved, and Mr (afterwards Sir John) Scott, an Indian judge of great experience and sound judgment, was appointed judicial adviser to the khedive. This appointment was opposed by Riaz Pasha, and led to his resignation on the plea of ill-health. His successor, Mustafa Pasha Fehmi, continued the work and co-operated cordially with the English officials. The very necessary reform of the native tribunals was then taken seriously in hand. The existing procedure was simplified and accelerated; the working of the courts was greatly improved by a carefully organized system of inspection and control; the incompetent judges were eliminated and replaced by men of better education and higher moral character; and for the future supply of well-qualified judges, barristers, and law officials, an excellent school of law was established. Later on the reforming activity was extended to prisons, public health, and education, and has attained very satisfactory results.

In January 1892 the khedive Tewfik, who had always maintained cordial relations with Sir Evelyn Baring, died suddenly, and was succeeded by his son, Abbas Hilmi, a young man without political experience, who failed at first Accession of Abbas. to understand the peculiar situation in which a khedive ruling under British protection is necessarily placed. Aspiring to liberate himself at once from foreign control, he summarily dismissed Mustafa Pasha Fehmi (15th January 1893), whom he considered too amenable to English influence, and appointed in his place Fakhri Pasha, who was not a *persona grata* at the British Agency. Such an incident, which might have constituted a precedent for more important acts of a similar kind, could hardly be overlooked by the British representative. He had always maintained that what Egypt most required, and would require for many years to come, was an order of things which would render practically impossible any return to that personal system of government which had well-nigh ruined the country. In this view the British agent was warmly supported by Lord Rosebery, then secretary of state for foreign affairs. The young khedive was made therefore to understand that he must not make such changes in the administration without a previous agreement with the representative of the protecting power; and a compromise was effected by which Fakhri Pasha retired, and the post of premier was confided once more to Riaz. With this compromise the friction between the khedive and Sir Evelyn Baring, who had now become Lord Cromer, did not end. For some time Abbas Hilmi clung to his idea of liberating himself from all control, and secretly encouraged a nationalist and anti-British agitation in the native press; but he gradually came to perceive the folly, as well as the danger to himself, of such a course, and accordingly refrained from giving any overt occasion for complaint or protest. In like manner the relations between the British officials and their Egyptian colleagues gradually became more cordial, so that it was found possible at last to reform the local administration in the provinces according to the recommendations of Mr (afterwards Sir) Eldon Gorst, who had been appointed adviser to the ministry of the interior. Nubar Pasha, it is true, who succeeded Riaz as prime minister in April 1894, objected to some of Mr Gorst's recommendations, and in November 1895 resigned. He was succeeded by Mustafa Fehmi, who had always shown a conciliatory spirit, and who had been on that account, as above stated, summarily dismissed by the khedive in January 1893. After his reinstatement the Anglo-Egyptian condominium worked without serious friction.

The success of the Anglo-Egyptian condominium, and the consequent economic and financial prosperity of Egypt proper, rendered it possible, during 1896-1898, to recover from the Mahdists the Sudanese provinces (see *Military Operations*), Fashoda. and to delimit in that part of Africa, in accordance with Anglo-Egyptian interests, the respective spheres of influence of Great Britain and France. The arrangement was not effected without serious danger of a European conflict. Taking advantage of the temporary weakness of Egypt, the French government formed the project of seizing the Upper Nile valley and uniting her possessions in West Africa with those at the entrance to the Red Sea. With this object a small force under Major Marchand was sent from the French Congo into the Bahr-el-Ghazal, with orders to occupy Fashoda on the Nile; whilst a Franco-Abyssinian Expedition was despatched from the eastward, to join hands with Major Marchand. The small force from the French Congo reached its destination, and a body of Abyssinian troops, accompanied by French officers, appeared for a short time a little higher up the river; but the grand political scheme was frustrated by the victorious advance of an Anglo-Egyptian force under General Kitchener and the resolute attitude of the British government. Major Marchand had to retire from Fashoda, and as a concession to French susceptibilities he was allowed to retreat by the Abyssinian route. By an agreement signed by Lord Salisbury and the French ambassador on the 21st of March 1899, and appended to Art. IV. of the Anglo-French convention of June 14th, 1898, which dealt with the British and French spheres of influence in the region of the Niger, France was excluded from the basin of the Nile, and a line marking the respective spheres of influence of the two countries was drawn on the map from the northern frontier of the Congo Free State to the southern frontier of the Turkish province of Tripoli.

The administration of the Sudan (*q.v.*) was organized on the basis of an agreement between the British and Egyptian governments signed on the 19th of January 1899. According to that agreement the British and Egyptian flags are used

together, and the supreme military and civil command is vested in a governor-general, who is appointed by the khedive on the recommendation The Anglo-Egyptian Sudan. of the British government, and who cannot be removed without the British government's consent. Neither consular jurisdiction, nor that of the mixed tribunals, was permitted, the Sudan being made absolutely free of the international fetters which bound Egypt. Sir Reginald Wingate, the sirdar of the Egyptian army (in which post he succeeded Lord Kitchener at the close of 1899) was named governor-general, and in the work of regeneration of the country, the officials, British, Egyptian and Sudanese, had the cordial co-operation of the majority of the inhabitants.

The growing prosperity of Egypt in the opening years of the 20th century was very marked, and is reflected in the annual reports on the country supplied to the British foreign office by Lord Cromer. Thus, in 1901 he was able to Egypt's growing prosperity. declare that "the foundations on which the well-being and material prosperity of a civilized community should rest have been laid.... The institution of slavery is virtually defunct. The *corvée* has been practically abolished. Law and order everywhere reign supreme. The *curbash* is no longer employed as an instrument of government." So little danger to internal peace was apprehended that during this year Arabi Pasha, who had been in exile in Ceylon since 1882, was permitted to return to Egypt. This happy condition had been brought about largely as the result of giving fiscal reform, accompanied by substantial relief to the taxpayers, the first place in the government's programme, and with the abolition of octroi duties in 1902 disappeared the last of the main defects in the fiscal system as existing at the time of the British occupation. In these conditions the machinery of government, despite its many imperfections and anomalies, worked smoothly. Land increased in value as irrigation schemes were completed, and European capital was increasingly eager to find employment in the country. The bulk of the fellahin enjoyed a material prosperity to which they had been strangers for centuries. In the midst of this return of plenty Lord Cromer (in his report for 1903) sounded a note of warning:—

“As regards moral progress (he wrote), all that can be said is that it must necessarily be slower than advance in a material direction. I hope and believe, however, that some progress is being made. In any case the machinery which will admit of progress has been created. The schoolmaster is abroad.... Every possible facility and every encouragement are afforded for the Egyptians to advance along the path of moral improvement. More than this no government can do. It remains for the Egyptians to take advantage of the opportunities offered to them.”

The facilities enjoyed by the British and Egyptian governments for securing the material if not the moral development of Egypt were greatly enlarged in 1904, as the result of the understanding then come to between France The Anglo-French understanding of 1904. and Great Britain. The natural irritation in France arising from the British occupation of the Nile valley, and the non-fulfilment of the pledge to withdraw the British garrison from Egypt, which had grown less acute with the passing of years, flamed out afresh at the time of the Fashoda crisis, while the Anglo-Boer war of 1899-1902 led to another access of irritation against England. During 1903 a great change came over public opinion on both sides of the Channel, with the result that the statesmen of both countries were enabled to complete negotiations settling many points in dispute between the two nations. On the 8th of April 1904 a declaration was signed by the representatives of France and Great Britain which virtually recognized the dominant position of France in Morocco and of Britain in Egypt. The chief provisions concerning Egypt were:—

“His Britannic Majesty’s government declare that they have no intention of altering the political status of Egypt.

“The government of the French Republic, for their part, declare that they will not obstruct the action of Great Britain in that country by asking that a limit of time be fixed for the British occupation, or in any other manner.

“His Britannic Majesty’s government, for their part, will respect the rights which France, in virtue of treaties, conventions and usage, enjoys in Egypt.”

Similar declarations and engagements were made by Germany, Austria and Italy. Annexed to the Anglo-French agreement was the text of a proposed khedivial decree altering the relations between Egypt and the foreign bondholders. With the consent of the powers this decree (promulgated on the 28th of November 1904) came into operation on the 1st of January 1905. The combined effect of the declaration and the khedivial decree was great. The first-named put an end to an anomalous situation and gave a practically valid sanction to the presence of Britain in Egypt, removing all ground for the reproach that Great Britain was not respecting its international obligations. In effect it was a European recognition that Britain was the protecting power in Egypt. It put a period to a question which had long embittered the relations between England and France, and locally it caused the cessation of the systematic opposition of the French agents in Cairo to everything tending to strengthen the British position—however beneficial to Egypt the particular scheme opposed might be. Scarcely less important were the results of the khedivial decree. By it Egypt achieved in effect financial independence. The power of the Caisse de la Dette, which had virtually controlled the execution of the international agreements concerning the finances, was swept away, together with almost all the other financial fetters binding Egypt. The Railway and Port of Alexandria Board ceased to exist. For the first time since 1875 Egypt was free to control her own revenue. In return she pledged the greater part of the land tax to the service of the debt. The functions of the Caisse were restricted to the receipt of the funds necessary for this service. It was entirely deprived of its former power to interfere in the machinery of government. Moreover, some £10,000,000, being accumulated surpluses in the hands of the Caisse after meeting the charges of the debt, were handed over to the Egyptian treasury. The Egyptian government was henceforth free to take full advantage of the financial prosperity of the country.

In one respect the Anglo-French agreement made no alteration—it left untouched the extra-territoriality enjoyed by Europeans in Egypt in virtue of the treaties with Turkey, *i.e.* the system of Capitulations. One of the anomalies Evils of the Capitulations. under that system had, it is true, been got rid of, for, as has been stated, consular jurisdiction in civil matters had been replaced in 1876 by that of the Mixed Tribunals. In criminal cases, however, foreign consuls still exercised jurisdiction, but the main evil of the Capitulations régime was the absence of any proper machinery for enacting laws applicable to the whole of the inhabitants of Egypt. No change could be made in any law applicable to Europeans without the unanimous consent of fifteen foreign powers—a state of affairs wholly incompatible with the condition of Egypt in the 20th century, “an oriental country which has assimilated a very considerable portion of European civilization and which is mainly governed by European methods.” It was, however, far easier to acknowledge that the Capitulations régime was defective and had outlived its time than to devise a remedy and get all the nations interested to accept it. The solution favoured by Lord Cromer (vide Blue-books, *Egypt No. 1* (1906), pp. 1-8, and *Egypt No. 1* (1907), pp. 10-26) was the creation of a council—distinct from the existing native legislative council and assembly —composed of Europeans, which should have the power to pass legislation which when promulgated by the Egyptian government, with the assent of the British government, would bind all foreigners resident in Egypt. Every reservation for the benefit of British subjects should enure for the benefit of subjects of other powers. The jurisdiction exercised by consuls in civil and criminal affairs Lord Cromer proposed should cease *pari passu* with the provision by the Egyptian government, under the powers conferred by the treaty required to set up the new council, of courts having competence to deal with such matters, various safeguards being introduced to prevent injustice in criminal cases. As to civil cases the

proposal was to make permanent the Mixed Tribunals, hitherto appointed for quinquennial periods (so that if not reappointed consular jurisdiction in civil cases would revive).

While the removal of ancient jealousies among the European powers interested in Egypt helped to smooth the path pursued by the Egyptian administration under the guiding hand of Great Britain, the intrigues of the Turks and The pan-Islamic movement. the danger of a revival of Moslem fanaticism threatened during 1905-1906 to disturb the peace of the country. A party had also arisen, whose best-known leader was Mustafa Kamel Pasha (1874-1908), which held that Egypt was ready for self-government and which saw in the presence of the British a hindrance to the attainment of their ideal. This “national” party lent what weight it had to the pan-Islamic agitation which arose in the summer and autumn of 1905, regardless of the fact that a pan-Islamic triumph meant the re-assertion of direct Turkish rule in Egypt and the end of the liberty the Egyptians enjoyed. The pan-Islamic press, allowed full licence by the Cairo authorities, spread abroad rumours that the Egyptian government intended to construct fortifications in the Sinai peninsula with the design of menacing the railway, under construction by Turkey, from Damascus to Mecca. This baseless report led to what is known as the Taba incident (see below). This incident inflamed the minds of many Egyptians, and almost all the opposition elements in the country were united by the appeal to religious fanaticism, of which the incident was partly the effect and partly the cause. The inflammatory writing of the newspapers indicated, encouraged by many persons holding high positions both inside and outside Egypt, created, by every process of misrepresentation, an anti-Christian and anti-European feeling among the mass of the people. After more than a quarter of a century of just rule, *i.e.* since the accession of Tewfik, the tyranny of the Turkish system was apt to be forgotten, while the appeal to rally in support of their khalif found a response in the hearts of many Egyptians. The feeling entertained by large numbers even of the educated class of Egyptians was strikingly illustrated by the terms of an anonymous letter received by Lord Cromer in May 1906. The writer, probably a member of the Ulema class, addressing the British agent as the reformer of Egypt, said:—

“ ... He must be blind who sees not what the English have wrought in Egypt; the gates of justice stand open to the poor; the streams flow through the land and are not stopped by order of the strong; the poor man is lifted up and the rich man pulled down, the hand of the oppressor and the briber is struck when outstretched to do evil. Our eyes see these things and they know from whom they come.... While peace is in the land the spirit of Islam sleeps.... But it is said, ’There is war between England and Abdul Hamid Khan.’ If that be so a change must come. The words of the Imam are echoed in every heart, and every Moslem hears only the cry of the Faith.... Though the Khalif were hapless as Bayezid, cruel as Murad, or mad as Ibrahim, he is the shadow of God, and every Moslem must leap up at his call.... You will say, ’The Egyptian is more ungrateful than a dog, which remembers the hand that fed him. He is foolish as the madman who pulls down the roof-tree of his house upon himself.’ It may be so to worldly eyes, but in the time of danger to Islam the Moslem turns away from the things of this world and thirsts only for the service of his Faith, even though he looks in the face of death....”

To establish confidence in the minds of the Egyptian public that the authorities could maintain order and tranquillity, it was determined to increase permanently the strength of the British garrison. An incident occurred in June 1906 which illustrated the danger which might arise if anything happened to beget the idea that the protecting power had weakened its hold. While mounted infantry of the British army were marching from Cairo to Alexandria, five officers went (on the 13th of Denshawai. June) to the village of Denshawai to shoot pigeons.[28] An attack was made on the party by the villagers. The officers were told by their guide that they might shoot, but the villagers had not given permission and were incensed at the shooting of their pigeons by other officers in the previous year. A premeditated attack was made on the officers; a gun seized from one of them went off and slightly injured four natives—one a woman. The attack had been preceded by a trifling fire at a threshing floor, either accidentally caused (but not by the officers’ shots) or lit as a signal for the assault. Captain S. C. Bull of the 6th Dragoons received serious injuries and died a few hours later, and two other officers were seriously injured. A number of persons were arrested and tried by a special tribunal created in 1895 to deal with offences against the army of occupation. On the 27th of the same month four of the ringleaders were sentenced to death, others received various terms of imprisonment,[29] and seven were sentenced to fifty lashes. The executions and floggings were carried out the next day at the scene of the outrage and in the presence of some five hundred natives. The quieting effect that this drastic action might have had was marred by the fact that certain members of the British parliament called in question the justice of the sentences—passed unanimously by a court of which the best English and the best native judge were members. For a time there was considerable ferment in Egypt. The Anglo-Egyptian authorities received, however, the firm support of Sir Edward Grey, the foreign secretary in the liberal administration formed in December 1905. As far as responsible statesmen were concerned the change of government in Great Britain made no difference in the conduct of Egyptian affairs.

The Taba incident, to which reference has been made, arose in the beginning of 1906 over the claim of the sultan of Turkey to jurisdiction in the Sinai peninsula. The origin of the dispute dated back, however, to 1892, when Abbas The Taba incident. Hilmi became khedive. Mehemet Ali and his successors up to and including Tewfik had not only administered the Sinai peninsula but certain posts on the Hejaz or Arabian side of the gulf of Akaba. The firman of investiture issued by the sultan on the occasion of the succession of Abbas differed, however, from the text of former firmans, the intention being, apparently, to exclude Egypt from the administration of the Sinai peninsula. The British

government intervened and after considerable pressure upon Turkey obtained a telegram (dated the 8th of April 1892) from the grand vizier in which it was declared that the *status quo* was maintained in the Sinai peninsula, but that the sultan resumed possession of the posts in the Hejaz heretofore garrisoned by Egypt. To this last course Great Britain raised no objection. As officially stated by the British government at the time, the eastern frontier of the Sinai peninsula was taken to be a line running in a south-easterly direction from Rafa, a place on the Mediterranean, east of El Arish, to the head of the gulf of Akaba. The fort of Akaba and other posts farther east Egypt abandoned. So matters rested until in 1905 in consequence of lawlessness among the Bedouins of the peninsula a British official was appointed commandant and inspector of the peninsula and certain administrative measures taken. The report was spread by pan-Islamic agents that the intention of the Egyptian government was to construct fortifications on the frontier near Akaba, to which place the Turks were building a branch railway from the Damascus-Mecca line. In January 1906 the sultan complained to the British ambassador at Constantinople of Egyptian encroachments on Turkish territory, whereupon the khedive asked that the frontier should be delimited, a request which Turkey rejected. A small Egyptian force was then directed to occupy Taba, a port near Akaba but on the western side of the gulf. Before this force could reach Taba that place had been seized by the Turkish commandant at Akaba. A period of considerable tension ensued, the Turks removing the boundary posts at Rafa and sending strong reinforcements to the frontier. The British government intervened on behalf of the khedive and consistently maintained that the Rafa-Akaba line must be the frontier. In April a conference was held between the khedive and Mukhtar Pasha, the Ottoman commissioner. It then appeared that Turkey was unwilling to recognize the British interpretation of the telegram of the 8th of April 1892. Turkey claimed that the peninsula of Sinai consisted only of the territory south of a straight line from Akaba to Suez, and that Egyptian territory north of that line was traced from Rafa to Suez. As a compromise Mukhtar Pasha suggested as the frontier a line drawn direct from Rafa to Ras Mahommed (the most southern point of the Sinai peninsula), which would have left the whole of the gulf of Akaba in Turkish territory. In other words the claim of the Porte was, to quote Lord Cromer:—

"to carry the Turkish frontier and strategical railways to Suez on the banks of the canal; or that if the Ras Mahommed line were adopted, the Turkish frontier would be advanced to the neighbourhood of Nekhl, *i.e.* within easy striking distance of Egypt, and that ... the gulf of Akaba ... would practically become a *mare clausum* in the possession of Turkey and a standing menace to the security of the trade route to the East."

Such proposals could not be entertained by Great Britain; and as the sultan remained obstinate the British ambassador on the 3rd of May presented a note to the Porte requiring compliance with the British proposals within ten days. The Turkish ambassador in London was informed by Sir Edward Grey, foreign secretary, that if it were found that Turkish suzerainty in Egypt were incompatible with the rights of the British government to interfere in Egyptian affairs, and with the British occupation, the British position in Egypt would be upheld by the whole force of the empire. Thereupon the sultan gave way and agreed (on the 14th of May) that the line of demarcation should start at Rafa and run towards the south-east "in an approximately straight line as far as a point on the gulf of Akaba at least 3 m. distant from Akaba."[30] The Turkish troops were withdrawn from Taba, and the delimitation of the frontier was undertaken by a joint Turco-Egyptian commission. An agreement was signed on the 1st of October finally settling the frontier line.

With the ending of this dispute and the strengthening of the British garrison in Egypt a demonstration was given of the ability of the protecting power to maintain its position. At the same time encouragement was given to that section of Egyptian society which sought the reform of various Moslem institutions without injury to the principles underlying the faith of Islam: a more truly national movement than that of the agitators who clamoured for parliamentary government.

In April 1907, a few days after the appearance of his report for 1906, in which the "Nationalist" and pan-Islamic movements were shown to be detrimental to the welfare of Egypt, Lord Cromer resigned his post of British agent Resignation of Lord Cromer. and consul-general. His resignation, dictated by reasons of health, was described by Sir Edward Grey as "the greatest personal loss which the public service of this country (Britain) could suffer." Lord Cromer's work was in a sense complete. He left the country in a state of unexampled material prosperity, free from the majority of the international fetters with which it was bound when he took up his task in 1883, and with the legitimate expectation that the work he had done would endure. The magnitude of the task he had accomplished is shown by the preceding pages, and it need only be added that the transformation effected in Egypt and the Sudan, during his twenty-four years' occupancy of the British Agency, was carried out in every department under his guidance and inspiration. Lord Cromer was succeeded by Sir Eldon Gorst, who had served in Egypt eighteen years under him, and was at the time of his appointment to Cairo an assistant under secretary of state for foreign affairs.

Notwithstanding, or, rather, as a consequence of, the unexampled material prosperity of the country, 1907 was a year of severe financial crisis, due to over-trading, excessive credit and the building mania induced by the rapid economic progress of Egypt, and aggravated by the unfavourable monetary conditions existing in America and Europe during the latter part of the year. Though the crisis had results disastrous to the speculators, the position of the fellahin was hardly affected; the cotton crop was marketed with regularity and at an average price higher than that of 1906, while public revenue showed a satisfactory increase. The noisy "Nationalist" agitation which was maintained during this period of financial stringency reacted unfavourably on public order. Although the degree of insecurity prevailing in the provinces was greatly exaggerated—serious crime in 1907 being less than in the preceding year—an increasing number of crimes

were left untraced to their authors. The release of the Denshawai prisoners in January 1908 and the death of Mustafa Kamel in the following month had a quieting effect on the public mind; while the fact that in the elections (December 1907) for the legislative council and the general assembly only 5% of the electors went to the polls, afforded a striking commentary alike on the appreciation of the average Egyptian of the value of parliamentary institutions and of the claims of the "Nationalist" members of the assembly to represent the Egyptian people. The "Nationalists" were, too, divided into many warring sections—Mahommed Bey Ferid, chosen as successor to Mustafa Kamel, had to contend with the pretensions of several other "leaders." The khedive, moreover, markedly abstained from any association with the agitation of the Nationalists, who viewed with disfavour his highness's personal friendship with Sir Eldon Gorst. The agitators gained their chief strength from the support accorded them by certain Radical politicians in England. A number of members of the council and assembly visited England in July 1908 and were received by Sir Edward Grey, who gave them assurances that Great Britain would always strive to remedy the legitimate grievances of Egyptians.

The establishment of constitutional rule in Turkey in the summer of 1908 excited the hopes of the Egyptian Nationalists, and a deputation was sent to Constantinople to confer with the Young Turk committee. From the Young Turks, however, the deputation received no encouragement for their agitation and returned with the advice to work in co-operation with the British. In view of the rumours current, Sir Eldon Gorst, in the form of an interview in *El Mokattam*, a widely read native paper, restated (October 1908) the British view as to the occupation of the country and the demand for a parliament. Great Britain, he declared, had no intention of proclaiming a protectorate over Egypt; on the other hand, recent events in Turkey in no way affected the question of self-government in Egypt. It would be folly to think of introducing unrestricted parliamentary government at present, the conditions for its successful working not existing. The "wild and foolish" agitation on this question only served to confirm the impression that the Egyptians were not yet fit to govern themselves. At the same time steps were being taken to give them a much greater part in the management of local affairs. If the Egyptians showed that the existing institutions and the new provincial councils could do useful work, it would prove the best argument for extending their powers. Sir Eldon Gorst's statements were approved by the British government.

In November 1908 Mustafa Fehmi, who had been premier since 1895, resigned, and was succeeded by Boutros Pasha, a Copt of marked ability, who had been for several years foreign minister. Boutros incurred the enmity of the "Nationalists" and was murdered in February 1910.

(D. M. W.; F. R. C.)

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For the period immediately preceding and during the British occupation the standard authority is Lord Cromer's *Modern Egypt* (2 vols., London, 1908). In this invaluable work the history of Egypt from 1875 to 1892 and that of the Anglo-Egyptian Sudan from 1882 to 1907 is treated fully. Lord Cromer's annual reports (1888-1906) to the British government on the affairs of Egypt should also be consulted. Next in interest are Alfred (Lord) Milner's *England in Egypt* (11th ed., London, 1904), and Sir A. Colvin's *The Making of Modern Egypt* (London, 1906). Consult also *Khedives and Pashas* (London, 1884), by C. F. Moberly Bell (published anonymously); D. M. Wallace, *Egypt and the Egyptian Question* (London, 1883); W. S. Blunt, *Secret History of the English Occupation of Egypt* (2nd ed., London, 1907), a partisan record; C. v. Malortie, *Egypt, Native Rulers and Foreign Interference*, 2 vols. (London, 1883); O. Borelli, *Choses politiques d'Égypte*, 1883-1895 (Paris, 1895); H. Resener, *Ägypten unter englischer Okkupation* (Berlin, 1896). Morley's *Life of Gladstone* and Fitzmaurice's *Life of Granville* throw considerable light on the inner history of the period 1880-1893. See further the historical works cited in Sudan: *Anglo-Egyptian*, and those given at the end of the first section of this article.

For military operations 1882-1899 see C. Royle, *The Egyptian Campaigns 1882 to 1899*, revised ed. (London, 1900); H. Brackenbury, *Narrative of the Advance of the River Column of the Nile Expeditionary Force* (Edinburgh, 1885); Sir W. F. Butler, *Campaign of the Cataracts* (London, 1887); Count A. E. W. Gleichen, *With the Camel Corps up the Nile* (London, 1888); *Gordon's Last Journal* (London, 1885); Sir C. W. Wilson, *From Korti to Khartum* (Edinburgh, 1886); J. Grant, *Cassell's History of the War in the Soudan*, 6 vols. (London, 1885 et seq.); "An Officer," *Sudan Campaigns* 1896-1899 (London, 1899); G. W. Steevens, *With Kitchener to Khartum* (Edinburgh, 1898); W. S. Churchill, *The River War*, new edition (London, 1902).

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(F. R. C.)

Military Operations of 1882-1885

In February 1879 a slight outbreak of discharged officers and soldiers occurred at Cairo, which led to the despatch of British and French ships to Alexandria. On the 26th of June of that year Ismail Pasha was removed from Egypt, and Tewfik assumed the khediviate, becoming practically the *protégé* of the two western powers. On the 1st of February 1881 a more serious disturbance arose at Cairo from the attempt to try three colonels, Ahmed Arabi, Ali Fehmy, and Abd-el-Al, who had been arrested as the ringleaders of the military party. The prisoners were released by force, and proceeded to dictate terms to the khedive. Again British and French warships were despatched to Alexandria, and were quickly withdrawn, their presence having produced no apparent impression. It soon became clear that the khedive was powerless, and that the military party, headed by Arabi, threatened to dominate the country. The "dual note," communicated to the khedive on the 6th of January 1881, contained an intimation that Great Britain and France were prepared to afford material support if necessary; but the fall of Gambetta's ministry produced a reaction, and both governments proceeded to minimize the meaning of their language. The khedive was practically compelled to form a government in which Arabi was minister of war and Mahmud Sami premier, and Arabi took steps to extend his influence throughout his army. The situation now became critically serious: for the third time ships were sent to Alexandria, and on the 25th of May 1882 the consuls-general of the two powers made a strong representation to Mahmud Sami which produced the resignation of the Egyptian ministry, and a demand, to which the khedive yielded, by the military party for the reinstatement of Arabi. The attitude of the troops in Alexandria now became threatening; and on the 29th the British residents pointed out that they were "absolutely defenceless." This warning was amply justified by the massacres of the 11th of June, during which more than one hundred persons, including an officer and two seamen, were killed in the streets of Bombardment of Alexandria. Alexandria, almost under the guns of the ships in harbour. It was becoming clear that definite action would have to be taken, and on the 15th the channel squadron was ordered to Malta. By the end of June twenty-six warships, representing the navies of Great Britain, France, Germany, Italy, Austria, Russia, the United States, Spain, Greece and Turkey, lay off the port of Alexandria, and large numbers of refugees were embarked. The order received by Admiral Sir Beauchamp Seymour (afterwards Lord Alcester) on the 3rd of July was as follows:—

"Prevent any attempt to bar channel into port. If work is resumed on earthworks, or fresh guns mounted, inform military commander that you have orders to prevent it; and if not immediately discontinued, destroy earthworks and silence batteries if they open fire, having given sufficient notice to population, shipping and foreign men-of-war."

On the 9th the admiral received a report that working parties had been seen in Fort Silsileh "parbuckling two smoothbore guns—apparently 32-pounders—towards their respective carriages and slides, which were facing in the direction of the harbour." Fort Silsileh was an old work at the extreme east of the defences of Alexandria, and its guns do not bear on the harbour. On the 10th an ultimatum was sent to Toulba Pasha, the military commandant, intimating that the bombardment would commence at sunrise on the following morning unless "the batteries on the isthmus of Ras-el-Tin and the southern shore of the harbour of Alexandria" were previously surrendered "for the purpose of disarming." The fleet prepared for action, and the bearer of the reply, signed by the president of the council, and offering to dismount three guns in the batteries named, only succeeded in finding the flagship late at night. This proposal was rejected, and at 7 A.M. on the 11th of July the "Alexandra" opened fire and the action became general. The attacking force was disposed in three groups: (1) the "Alexandra," "Sultan" and "Superb," outside the reef, to engage the Ras-el-Tin and the earthworks under weigh; (2) the "Monarch," "Invincible" and "Penelope," inside the harbour, to engage the Meks batteries; and (3) the "Inflexible" and "Temeraire," to take up assigned stations outside the reef and to co-operate with the inshore squadron. The gunboats "Beacon," "Bittern," "Condor," "Cygnet" and "Decoy" were to keep out of fire at first and seek opportunities of engaging the Meks batteries. Meks fort was silenced by about 12.45 P.M., and a party from the "Invincible" landed and disabled the guns. As the fire delivered under weigh was not effective, the offshore squadron anchored at about 10.30 A.M., and succeeded in silencing Fort Ras-el-Tin at about 12.30 P.M., and Fort Adda, by the explosion of the main magazine, at 1.35 P.M. The "Inflexible" weighed soon after 8 A.M. and engaged Ras-el-Tin, afterwards attacking Forts Pharos and Adda. The "Condor," followed by the "Beacon," "Bittern" and "Decoy," engaged Fort Marabout soon after 8 A.M. till 11 A.M., when the gunboats were recalled. After the works were silenced, the ships moved in closer, with a view to dismount the Egyptian guns. The bombardment ceased at 5 P.M.; but a few rounds were fired by the "Inflexible" and "Temeraire" on the morning of the 12th at the right battery in Ras-el-Tin lines.

The bombardment of the forts of Alexandria is interesting as a gauge of the effect to be expected from the fire of ships under specially favourable conditions. The Egyptians at different times during the day brought into action about 33 R.M.L. guns (7-in. to 10-in.), 3 R.B.L. guns (40 prs.), and 120 S.B. guns (6.5-in. and 10-in.), with a few mortars. These guns were disposed over a coast-line of about 10 sea miles, and were in many cases indifferently mounted. The Egyptian gunners had been little trained, and many of them had never once practised with rifled ordnance. Of seventy-five hits on the hulls of the ships only five can with certainty be ascribed to projectiles from rifled guns, and thirty were unquestionably due to the old smoothbores, which were not provided with sights. The total loss inflicted was 6 killed and 27 wounded. The British ships engaged fired 1741 heavy projectiles (7-in. to 16-in.) and 1457 light (7-prs. to 64-prs.), together with 33,493 machine-gun and rifle bullets. The result was comparatively small. About 8 rifled guns and 19 smoothbores were dismounted or disabled and 4 and 1 temporarily put out of action respectively. A considerable portion of this injury was inflicted, after the works had been silenced, by the deliberate fire of the ships. As many as twenty-eight

rifled guns and 140 smoothbores would have opened fire on the following day. The Egyptians made quite as good a stand as could be expected, but were driven from their guns, which they were unable to use with adequate effect; and the bombardment of Alexandria confirms previous experience that the fire of ships cannot really compete with that of well-mounted and well-handled guns on shore.

In the afternoon of the 12th, fires, which were the work of incendiaries, began to break out in the best quarters of Alexandria; and the town was left to murder and pillage till the following day, when a party of bluejackets and marines was landed at about 3 P.M.

Military intervention being now imperatively demanded, a vote of credit for £2,300,000 was passed in the British House of Commons on the 27th of July. Five days later the French government failed to secure a similar vote, and Great Britain was left to deal with the Egyptian question alone. An expeditionary force detailed from home stations and from Malta was organized in two divisions, with a cavalry division, corps British expedition under Sir Garnet Wolseley. troops, and a siege train, numbering in all about 25,000 men. An Indian contingent numbering about 7000 combatants, complete in all arms and with its own transport, was prepared for despatch to Suez. General Sir Garnet Wolseley was appointed commander-in-chief, with Lieutenant-General Sir J. Adye as chief of the staff. The plan of operations contemplated the seizure of Ismailia as the base for an advance on Cairo, Alexandria and its suburbs to be held defensively, and the Egyptian forces in the neighbourhood to be occupied by demonstrations. The expeditionary force having rendezvoused at Alexandria, means were taken by Rear-Admiral Hoskins and Sir W. Hewett for the seizure of the Suez canal. Under orders from the former, Captain Fairfax, R.N., occupied Port Said on the night of 19th August, and Commander Edwards, R.N., proceeded down the canal, taking possession of the *gares* and dredgers, while Captain Fitzroy, R.N., occupied Ismailia after slight opposition. Before nightfall on the 20th of August the canal was wholly in British hands. Meanwhile, leaving Sir E. Hamley in command at Alexandria, Sir G. Wolseley with the bulk of the expeditionary force arrived at Port Said on the 20th of August, a naval demonstration having been made at Abukir with a view to deceive the enemy as to the object of the great movement in progress. The advance from Ismailia now began. On the 21st Major-General Graham moved from Ismailia with about 800 men and a small naval force, occupying Nefiche, the junction with the Suez line, at 1.30 A.M. without opposition. On the 22nd he made a reconnaissance towards Suez, and on the 23rd another to El-Magfar, 4 m. from Nefiche. It now appeared that the enemy had dammed the sweet-water canal and blocked the railway at Tell-el-Mahuta, where entrenchments had been thrown up and resistance seemed to be contemplated. At 4 A.M. on the 24th Sir Garnet Wolseley advanced with 3 squadrons of cavalry, 2 guns, and about 1000 infantry, placed under the orders of Lieutenant-General Willis. The enemy showed in force, estimated at 7000 with 12 guns, and a somewhat desultory action ensued. Reinforcements from Ismailia were ordered up, and the British cavalry, operating on the right, helped to check the enemy's attack, which showed little vigour. At night the troops, now reinforced by the Guards Brigade, an infantry battalion, 2 cavalry regiments and 10 guns, bivouacked on the ground. Early on the morning of the 25th the advance was continued to Tell-el-Mahuta, which the enemy evacuated, while the mounted troops and horse artillery pressed on to Mahsama, capturing the Egyptian camp, with 7 guns and large quantities of ammunition and supplies. On the same evening Major-General Graham, with about 1200 marines (artillery and light infantry), reached Mahsama, and on the following day he occupied Kassassin without opposition. The advance guard had now outrun its communications and was actually short of food, while a considerable force was distributed at intervals along the line Ismailia-Kassassin. The situation on the 27th tempted attack by an enterprising enemy, and Major-General Graham's force, consisting of a squadron of the 19th Hussars, the York and Lancaster Regiment, the duke of Cornwall's Light Infantry, the Marine Artillery Battalion and two R.H.A. guns, short of ammunition, was in danger of being overwhelmed by vastly superior numbers from Tell-el-Kebir. On the 28th Major-General Graham's troops were attacked, and after repulsing the enemy, made a general advance about 6.45 P.M. The cavalry, summoned by heliograph from Mahsama, co-operated, and in a moonlight charge inflicted considerable loss. The British casualties amounted to 14 killed and 83 wounded. During the lull which followed the first action of Kassassin, strenuous efforts were made to bring up supplies and troops and to open up railway communication to the front. On the 9th of September the Egyptians again attacked Kassassin, but were completely repulsed by 9 A.M., with a loss of 4 guns, and were pursued to within extreme range of the guns of Tell-el-Kebir. The British casualties were 3 killed and 78 wounded. The three following days were occupied in concentrating troops at Kassassin for the attack on Tell-el-Kebir, held by about 38,000 men with 60 guns. The Egyptian defences consisted of Tell-el-Kebir. a long line of trench (2½ m.) approximately at right angles to the railway and the sweet-water canal. At 11 P.M. on the 12th of September the advance of about 15,000 men commenced; the 1st division, under Lieutenant-General Willis, was on the right, and the 2nd division, under Lieutenant-General Hamley, was on the left. Seven batteries of artillery, under Brigadier-General Goodenough, were placed in the centre. The cavalry, under Major-General Drury Lowe, was on the right flank, and the Indian contingent, under Major-General Macpherson, starting one hour later, was ordered to move south of the sweet-water canal. The night was moonless, and the distance to be covered about 6¼ m. The ground was perfectly open, slightly undulating, and generally firm gravel. The conditions for a night march were thus ideal; but during the movement the wings closed towards each other, causing great risk of an outbreak of firing. The line was, however, rectified, and after a halt the final advance began. By a fortunate accident the isolated outwork was just missed in the darkness by the left flank of the 2nd Division; otherwise a premature alarm would have been given, which must have changed all the conditions of the operation. At dawn the Highland Brigade of the 2nd Division struck the enemy's trenches, and carried them after a brief struggle. The 1st Division attacked a few minutes later, and the cavalry swept round the left of the line of entrenchments, cutting down any fugitives who attempted

resistance and reaching the enemy's camp in rear. The Indian contingent, on the south of the canal, co-operated, intercepting the Egyptians at the canal bridge. The opposition encountered at some points was severe, but by 6 A.M. all resistance was at an end. The British loss amounted to 58 killed, 379 wounded and 22 missing; nearly 2000 Egyptians were killed, and more than 500 wounded were treated in hospital. An immediate pursuit was ordered, and the Indian contingent, under Major-General Macpherson, reached Zagazig, while the cavalry, under Major-General Drury Lowe, occupied Belbeis and pushed on to Cairo, 65 m. from Tell-el-Kebir, next day. On the evening of the 14th the 10,000 troops occupying Abbasia barracks, and 5000 in the citadel of Cairo, surrendered. On the 15th General Sir Garnet Wolseley, with the brigade of Guards under H.R.H. the duke of Connaught, entered the city.

The prompt following up of the victory at Tell-el-Kebir saved Cairo from the fate of Alexandria and brought the rebellion to an end. The Egyptian troops at Kafr Dauar, Abukir and Rosetta surrendered without opposition, and those at Damietta followed on the 23rd of September, after being threatened with attack. On the 25th the khedive entered Cairo, where a review of the British troops was held on the 30th. The expeditionary force was now broken up, leaving about 10,000 men, under Major-General Sir A. Alison, to maintain the authority of the khedive. In twenty-five days, from the landing at Ismailia to the occupation of Cairo, the rebellion was completely suppressed, and the operations were thus signally successful.

The authority of the khedive and the maintenance of law and order now depended absolutely on the British forces left in occupation. Lord Dufferin, who had been sent to Cairo to draw up a project of constitutional reforms, The Sudan question. advocated the re-establishment of a native army, not to exceed 5000 to 6000 men, with a proportion of British officers, for purely defence purposes within the Delta; and on the 13th of December 1882 Sir Evelyn Wood left England to undertake the organization of this force, with the title of sirdar. Lord Dufferin further advised the formation of a gendarmerie, which "should be in a great measure a mounted force and empowered with a semi-military character" (despatch of January 1st, 1883). The strength of this military police force was fixed at 4400 men with 2562 horses, and Baker Pasha (General Valentine Baker) was entrusted with its formation, with the title of inspector-general.

In a despatch of the 6th of February 1883 Lord Dufferin dealt with the Sudan, and stated that Egypt "could hardly be expected to acquiesce" in a policy of withdrawal from her Southern territories. At the same time he pointed out that,

"Unhappily, Egyptian administration in the Sudan had been almost uniformly unfortunate. The success of the present mahdi in raising the tribes and extending his influence over great tracts of country was a sufficient proof of the government's inability either to reconcile the inhabitants to its rule or to maintain order. The consequences had been most disastrous. Within the last year and a half the Egyptians had lost something like 9000 men, while it was estimated that 40,000 of their opponents had perished."

Moreover, to restore tranquillity in the Sudan,

"the first step necessary was the construction of a railway from Suakin to Berber, or what, perhaps, would be more advisable, to Shendi, on the Nile. The completion of this enterprise would at once change all the elements of the problem."

The immense responsibilities involved were most imperfectly understood by the British government. Egyptian sovereignty in the Sudan dates from 1820, when Mehemet Ali sent a large force into the country, and ultimately established his authority over Sennar and Kordofan. In 1865 Suakin and Massawa were assigned to Egyptian rule by the sultan, and in 1870 Sir Samuel Baker proceeded up the Nile to the conquest of the Equatorial provinces, of which General Gordon was appointed governor-general in 1874. In the same year Darfur and Harrar were annexed, and in 1877 Gordon became governor-general of the Sudan, where, with the valuable assistance of Gessi Pasha, he laboured to destroy the slave trade and to establish just government. In August 1879 he returned to Cairo, and was succeeded by Raouf Pasha. Misrule and oppression in every form now again prevailed throughout the Sudan, while the slave traders, exasperated by Gordon's stern measures, were ready to revolt. The authority of Egypt was represented by scattered garrisons of armed men, badly officered, undisciplined and largely demoralized. In such conditions a leader only was required to ensure widespread and dangerous rebellion. A leader appeared in the person of Mahommed Ahmed, born in 1848, who had taken up his abode on Abba Island, and, acquiring great reputation for sanctity, had actively fomented insurrection. In August 1881 a small force sent by Raouf Pasha to arrest Mahommed Ahmed was destroyed, and the latter, proclaiming himself the mahdi, stood forth as the champion of revolt. Thus, at the time when the Egyptian army was broken up at Tell-el-Kebir, the Sudan was already in flames. On the 7th of June 1882, 6000 men under Yusef Pasha, advancing from Fashoda, were nearly annihilated by the mahdists. Payara and Birket in Kordofan quickly fell, and a few days before the battle of Tell-el-Kebir was fought, the mahdi, with a large force, was besieging El Obeid. That town was captured, after an obstinate defence, on the 17th of January 1883, by which time almost the whole of the Sudan south of Khartum was in open rebellion, except the Bahr-el-Ghazal and the Equatorial provinces, where for a time Lupton Bey and Emin Pasha were able to hold their own. Abd-el-Kader, who had succeeded Raouf, telegraphed to Cairo for 10,000 additional troops, and pointed out that if they were not sent at once four times this number would be required to re-establish the authority of the government in the Sudan. After gaining some small successes, Abd-el-Kader was superseded by Suliman Niagi on

the 20th of February 1883, and on the 26th of March Ala-ed-din Pasha was appointed governor-general. Meanwhile 5000 men, who had served in the Egyptian army, were collected and forcibly despatched to Khartum via Suakin. In March Disaster to Hicks Pasha. 1883 Colonel William Hicks, late of the Bombay army, who in January had been appointed by the khedive chief of the staff of the army of the Sudan, found himself at Khartum with nine European officers and about 10,000 troops of little military value. The reconquest of the Sudan having been determined upon, although Sir E. Malet reported that the Egyptian government could not supply the necessary funds, and that there was great risk of failure, Colonel Hicks, who had resigned his post on the 23rd of July, and had been appointed commander-in-chief, started from Khartum on 9th September, with a total force of about 10,000 men, including non-combatants, for Kordofan. On the 22nd of May Sir E. Malet had informed Sherif Pasha that,

“although Colonel Hicks finds it convenient to communicate with Lord Dufferin or with me, it must not be supposed that we endorse in any way the contents of his telegrams.... Her Majesty’s government are in no way responsible for his operations in the Sudan, which have been undertaken under the authority of His Highness’s government.”

Colonel Hicks was fully aware of the unfitness of his rabble forces for the contemplated task, and on the 5th of August he telegraphed: “I am convinced it would be best to keep the two rivers and province of Sennar, and wait for Kordofan to settle itself.” Early in November the force from Khartum was caught by the mahdists short of water at Kashgil, near El Obeid, and was almost totally destroyed, Colonel Hicks, with all his European officers, perishing. Sinister rumours having reached Cairo, Sir E. Baring (Lord Cromer), who had succeeded Sir E. Malet, telegraphed that “if Colonel Hicks’s army is destroyed, the Egyptian government will lose the whole of the Sudan, unless some assistance from the outside is given,” and advised the withdrawal to some post on the Nile. On the following day Lord Granville replied: “We cannot lend English or Indian troops; if consulted, recommend abandonment of the Sudan within certain limits”; and on the 25th he added that “Her Majesty’s government can do nothing in the matter which would throw upon them the responsibilities for operations in the Sudan.” In a despatch of the 3rd of December Sir E. Baring forcibly argued against British intervention in the affairs of the Sudan, and on the 13th of December Lord Granville telegraphed that “Her Majesty’s government recommend the ministers of khedive to come to an early decision to abandon all territory south of Assuan, or, at least, of Wadi Halfa.” On the 4th of January 1884 Sir E. Baring was directed to insist upon the policy of evacuation, and on the 18th General Gordon left London to assist in its execution.

The year 1883 brought a great accession of power to the mahdi, who had captured about 20,000 rifles, 19 guns and large stores of ammunition. On the Red Sea littoral Osman Digna, a slave dealer of Suakin, appointed amir of the Defeat of General Baker. Eastern Sudan, raised the local tribes and invested Sinkat and Tokar. On the 16th of October and the 4th of November Egyptian reinforcements intended for the former place were destroyed, and on the 2nd of December a force of 700 men was annihilated near Tamanieb. On the 23rd of December General Valentine Baker, followed by about 2500 men, gendarmerie, blacks, Sudanese and Turks, with 10 British officers, arrived at Suakin to prepare for the relief of Sinkat and Tokar. The khedive appears to have been aware of the risks to be incurred, and in a private letter he informed the general that “I rely upon your prudence and ability not to engage the enemy except under the most favourable circumstances.” The tragedy of Kashgil was repeated on the 4th of February 1884, when General Baker’s heterogeneous force, on the march from Trinkitat to Tokar, was routed at El Teb by an inferior body of tribesmen. Of 3715 men, 2375, with 11 European officers, were killed. Suakin was now in danger, and on the 6th of February British bluejackets and marines were landed for the defence of the town.

Two expeditions in the Sudan led by British officers having thus ended in disaster, and General Gordon with Lieutenant-Colonel J. D. Stewart having reached Khartum on the 18th of February, the policy of British non-intervention British expedition under Sir G. Graham: battles of El Teb and Tamanieb. in regard to Sudan affairs could no longer be maintained. Public opinion in England was strongly impressed by the fact that the Egyptian garrisons of Tokar and Sinkat were perishing within striking distance of the Red Sea littoral. A British force about 4400 strong, with 22 guns, made up of troops from Egypt and from units detained on passage from India, was rapidly concentrated at Suakin and placed under the orders of Major-General Sir G. Graham, with Major-Generals Sir R. Buller and J. Davis as brigadiers. News of the fall of Sinkat, where the starving garrison, under Tewfik Bey, made a gallant sortie and was cut to pieces, reached Suakin on the 12th of February. On the 24th General Graham’s force disembarked at Trinkitat and received information of the surrender of Tokar. At 8 A.M. on the 29th the force advanced towards Tokar in square, and came under fire at 11.20 A.M. from the enemy entrenched at El Teb. The tribesmen made desperate efforts to rush the square, but were repulsed, and the position was taken by 2 P.M. The cavalry, 10th and 19th Hussars, under Brigadier-General Sir H. Stewart, became involved in a charge against an unbroken enemy, and suffered somewhat severely. The total British loss was 34 killed and 155 wounded; that of the tribesmen was estimated at 1500 killed. On the following day Tokar was reached, and on the 2nd of March the force began its return to Suakin, bringing away about 700 people belonging to the late garrison and the civil population, and destroying 1250 rifles and a quantity of ammunition found in a neighbouring village. On the 9th of March the whole force was back at Suakin, and on the evening of the 11th an advance to Tamai began, and the force bivouacked and formed a zeriba in the evening. Information was brought by a native that the enemy had assembled in the Khor Ghob, a deep ravine not far from the zeriba. At about 8.30 A.M. on the 13th the advance began in echelon of brigade squares from the left. The left and leading square (2nd Brigade) moved towards the khor, approaching at a point where a little ravine joined it. The enemy showing in front, the leading face of the square was ordered to charge up to the edge of the khor. This opened the square, and a mass of tribesmen rushed in from the small ravine. The brigade was forced back in disorder, and the naval guns, which had been left behind, were temporarily captured. After a severe hand-to-hand struggle, in which the troops behaved with great gallantry, order was restored and the enemy repulsed, with the aid of the fire from the 1st Brigade square and from dismounted cavalry. The 1st Brigade square, having a sufficient field of fire, easily repelled all attempts to attack, and advancing as soon as the situation had been restored, occupied the village of Tamai. The British loss was 109 killed and 104 wounded; of the enemy nearly 2000 were killed. On the following day the force returned to Suakin.

Two heavy blows had now been inflicted on the followers of Osman Digna, and the road to Berber could have been

opened, as General Graham and Brigadier-General Sir H. Stewart suggested. General Gordon, questioned on the point, telegraphed from Khartum, on the 7th of March, that he might be cut off by a rising at Shendi, adding, "I think it, therefore, most important to follow up the success near Suakin by sending a small force to Berber." He had previously, on the 29th of February, urged that the Suakin-Berber road should be opened up by Indian troops. This, and General Gordon's proposal to send 200 British troops to Wadi Halfa, was opposed by Sir E. Baring, who, realizing soon afterwards the gravity of the situation, telegraphed on the 16th of March:—

"It has now become of the utmost importance not only to open the road between Suakin and Berber, but to come to terms with the tribes between Berber and Khartum."

The government refused to take this action, and Major-General Graham's force was employed in reconnaissances and small skirmishes, ending in the destruction of the villages in the Tamanieb valley on 27th March. On the 28th the whole force was reassembled at Suakin, and was then broken up, leaving one battalion to garrison the town.

The abrupt disappearance of the British troops encouraged the tribesmen led by Osman Digna, and effectually prevented the formation of a native movement, which might have been of great value. The first attempt at intervention Entanglement of General Gordon at Khartum. in the affairs of the Sudan was made too late to save Sinkat and Tokar. It resulted only in heavy slaughter of the tribesmen, which afforded no direct or indirect aid to General Gordon or to the policy of evacuation. The public announcement of the latter was a grave mistake, which increased General Gordon's difficulties, and the situation at Khartum grew steadily worse. On the 24th of March Sir E. Baring telegraphed:—

"The question now is, how to get General Gordon and Colonel Stewart away from Khartum.... Under present circumstances, I think an effort should be made to help General Gordon from Suakin, if it is at all a possible military operation.... We all consider that, however difficult the operations from Suakin may be, they are more practicable than any operations from Korosko and along the Nile."

A telegram from General Gordon, received at Cairo on the 19th of April, stated that

"We have provisions for five months and are hemmed in.... Our position will be much strengthened when the Nile rises.... Sennar, Kassala and Dongola are quite safe for the present."

At the same time he suggested "an appeal to the millionaires of America and England" to subscribe money for the cost of "2000 or 3000 nizams" (Turkish regulars) to be sent to Berber. A cloud now settled down upon Khartum, and subsequent communications were few and irregular. The foreign office and General Gordon appeared to be somewhat at cross purposes. The former hoped that the garrisons of the Sudan could be extricated without fighting. The latter, judging from the tenor of some of his telegrams, believed that to accomplish this work entailed the suppression of the mahdi's revolt, the strength of which he at first greatly underestimated. He had pressed strongly for the employment of Zobeir as "an absolute necessity for success" (3rd of March); but this was refused, since Sir H. Gordon advised at this time that it would be dangerous. On the 9th of March General Gordon proposed, "if the immediate evacuation of Khartum is determined upon irrespective of outlying towns," to send down the "Cairo *employés*" and the garrison to Berber with Lieutenant-Colonel J. D. Stewart, to resign his commission, and to proceed with the stores and the steamers to the equatorial provinces, which he would consider as placed under the king of the Belgians. On the 13th of March Lord Granville gave full power to General Gordon to "evacuate Khartum and save that garrison by conducting it himself to Berber without delay," and expressed a hope that he would not resign his commission.

By the end of March 1884 Sir E. Baring and the British officers in Egypt were convinced that force would have to be employed, and the growing danger of General Gordon, with the grave national responsibility involved, began to be Relief expedition: question of route. realized in Great Britain. Sir Henry Gordon, however, who was in personal communication with Mr Gladstone, considered that his brother was in no peril, and for some time disbelieved in the need for a relief expedition. Meanwhile it was at least necessary to evolve some plan of action, and on the 8th of April the adjutant-general addressed a memorandum to the secretary of state for war detailing the measures required for placing 6500 British troops "in the neighbourhood of Shendi." The battle of the routes began much earlier, and was continued for some months. Practically the choice lay between the Nile and the Suakin-Berber road. The first involved a distance of 1650 m. from Cairo along a river strewn with cataracts, which obstructed navigation to all but small boats, except during the period of high water. So great was this obstruction that the Nile had never been a regular trade route to the Sudan. The second entailed a desert march of about 250 m., of which one section, Obak-Bir Mahoba (52 m.), was waterless, and the rest had an indifferent water supply (except at Ariab, about half-way to Berber), capable, however, of considerable development. From Berber the Nile is followed (210 m.) to Khartum. This was an ancient trade route with the Sudan, and had been used without difficulty by the reinforcements sent to Hicks Pasha in 1883, which were accompanied by guns on wheels. The authorities in Egypt, headed by General Stephenson, subsequently supported by the Admiral Lord John Hay, who sent a naval officer to examine the river as far as Dongola, were unanimous in favour of the Suakin-Berber route. From the first Major-General Sir A. Clarke, then inspector-general of fortifications, strongly urged this plan, and proposed to begin at once a metre gauge railway from Suakin, to be constructed by Indian labour under officers skilled in laying desert lines. Some preliminary arrangements were made, and on the 14th of June the

government sanctioned certain measures of preparation at Suakin. On the other side were the adjutant-general (Lord Wolseley) and a small number of officers who had taken part in the Red River expedition of 1870. The memorandum of the adjutant-general above referred to was based on the hypothesis that Khartum could not hold out beyond the 15th of November, and that the expedition should reach Berber by the 20th of October. Steamers were to be employed in such reaches as proved practicable, but the force was to be conveyed in special whale-boats, by which "the difficulty of transport is reduced to very narrow limits." The mounted force was to consist of 400 men on native horses and 450 men on horses or camels. The question of routes continued to be the subject of animated discussion, and on the 29th of July a committee of three officers who had served in the Red River expedition reported:—

"We believe that a brigade can easily be conveyed in small boats from Cairo to Dongola in the time stated by Lord Wolseley; and, further, that should it be necessary to send a still larger force by water to Khartum, that operation will present no insuperable difficulties."

This most inconclusive report, and the baseless idea that the adoption of the Nile route would involve no chance of bloodshed, which the government was anxious to avoid, seem to have decided the question. On the 8th of August the Lord Wolseley sent out; Nile route adopted. secretary of state for war informed General Stephenson that "the time had arrived when some further measures for obtaining accurate information as to his (General Gordon's) position, and, if necessary, for tendering him assistance, should be adopted." General Stephenson still urged the Suakin-Berber route, and was informed on the 26th of August that Lord Wolseley would be appointed to take over the command in Egypt for the purposes of the expedition, for which a vote of credit had been taken in the House of Commons on the 5th of August. On the 9th of September Lord Wolseley arrived at Cairo, and the plan of operations was somewhat modified. A camel corps of 1100 men selected from twenty-eight regiments at home was added, and the "fighting force to be placed in line somewhere in the neighbourhood of Shendi" was fixed at 5400. The construction of whale-boats began on the 12th of August, and the first batch arrived at Wadi Halfa on the 14th of October, and on the 25th the first boat was hauled through the second cataract. The mounted forces proceeded up the banks, and the first half-battalion embarked at Gemai, 870 m. from Khartum, on the 5th of November, ten days before the date to which it had been assumed General Gordon could hold out. In a straggling procession the boats worked their way up to Korti, piloted by Canadian *voyageurs*. The labour was very great, and the troops, most of whom were having their first lesson in rowing, bore the privations of their unaccustomed conditions with admirable cheerfulness. By the 25th of December 2220 men had reached Korti, of whom about 800 only had been conveyed by the whale-boats, the last of which did not arrive till the 27th of January. Beyond Korti lay the very difficult section of the river to Abu Hamed, which was quite unknown. Meanwhile news of the loss of the "Abbas" and of the murder of Colonel J. D. Stewart and his party on the 18th of September had been received. A letter from Gordon, dated the 4th of November and received on the 17th of November, stated that his steamers would await the expedition at Metemma, and added, "We can hold out forty days with ease; after that it will be difficult." In his diary, on the 13th of December, when his difficulties had become extreme, he noted that "if the expeditionary force does not come in ten days, the town may fall."

It was clear at Korti that something must be done at once; and on the 13th of December 1100 men, with 2200 camels, under General Sir H. Stewart, were despatched to occupy Jakdul wells, 96 m. on the desert route to Metemma. Stewart returned on the 5th of January, and started again on the 8th, with orders to establish a fort at Abu Klea and to occupy Metemma. The Desert Column, 1800 men, with 2880 camels in poor condition and 153 horses, found the enemy in possession of Abu Klea wells on the 16th, and was desperately attacked on the 17th. The want of homogeneity of the force, and the unaccustomed tactics imposed upon the cavalry, somewhat hampered the defence, Stewart's Desert Column; battle of Abu Klea wells. and the square was broken at the left rear corner. Driven back upon the camels in the centre, the troops fought hand to hand with the greatest gallantry. Order was quickly restored, and the attack was repulsed, with a loss of 74 killed and 94 wounded. At least 1100 of the enemy were killed. The wells being occupied and a zeriba formed, the column started on the evening of the 18th. The wrong road was taken, and great confusion occurred, during the night, but at dawn this was rectified; and after forming a rough fort under fire, by which General Sir H. Stewart was fatally wounded, an advance was made at 3 P.M. The square was again heavily attacked, but the Arabs could not get to close quarters and in the evening a bivouac was formed on the Nile. The British losses on this day were 23 killed and 98 wounded. The Desert Column was now greatly exhausted. On the 20th the village of Gubat was occupied; and on the following day Sir C. Wilson, on whom the command had devolved, advanced against Metemma, which was found too strong to assault. On this day General Gordon's four steamers arrived; and on the morning of the 24th Sir C. Wilson, with 20 British soldiers in red coats and about 280 Sudanese, started in the "Bordein" and "Telahawiyeh" for Khartum. The "Bordein" grounded on the following day, and again on the 26th, by which twenty-four hours were lost. At 11 A.M. on the 28th Khartum was sighted, and it soon became clear that the town was in the hands of the enemy. After reconnoitring farther, the steamers turned and proceeded down stream under a heavy fire, the Sudanese crews showing signs of disaffection. The "Telahawiyeh" was wrecked on the 29th of January and the "Bordein" on the 31st, Sir C. Wilson's party being rescued on the 4th of February by Lord C. Beresford in the "Safieh," which had come up from Gubat on receipt of news carried there by Lieutenant Stuart Wortley in a row-boat. Khartum had been taken and General Gordon killed on the morning of the 26th of January 1885, having thus held out thirty-four days beyond the date when he had expected the end. The garrison Failure of relief expedition. had been reduced to starvation; and the arrival of twenty British soldiers, with orders to return at once, could not have affected the situation.

The situation of the Desert Column and of its transport was most imperfectly understood at Korti, where impossible plans were formed. Fortunately Major-General Sir R. Buller, who arrived at Gubat on the 11th of February, decided upon withdrawal, thus averting impending disaster, and by the 16th of March the Desert Column had returned to Korti.

The advance from Korti of the River Column, under Major-General Earle, began on the 28th of December, and great difficulties of navigation were encountered. On the 10th of February an action was fought at Kirbekan with about 800 of the enemy, entailing a loss of 10 killed, including Major-General Earle, and 47 wounded. The column, now commanded by Brigadier-General Brackenbury, continued its slow advance, and on the morning of the 24th of February it was about 26 m. below Abu Hamed, a point where the Korosko desert route strikes the Nile, 350 m. from Khartum. Here it received orders to retire, and it reached Korti on the 8th of March.

The verbal message received from General Gordon on the 30th of December 1884 rendered the extreme danger of the position at Khartum painfully apparent, and the secretary of state for war, acting on Sir E. Baring's Suakin operations. advice, offered to make an active demonstration from Suakin. To this proposal Lord Wolseley demurred, but asked that ships of war should be sent to Suakin, and that "marines in red coats should be frequently landed and exercised." Lord Hartington replied that the government did not consider that a demonstration of this kind could be effective, and again suggested stronger measures. On the 8th of January 1885 Lord Wolseley repeated that "the measures you propose will not assist my operations against Khartum," adding:—

"I have from first endeavoured to impress on government that I am strong enough to relieve Khartum, and believe in being able to send a force, when returning by way of Berber, to Suakin, to open road and crush Osman Digna."

On this very day the small Desert Column started from Korti on its hazardous mission to the relief of a town fully 270 m. distant, held by a starving garrison, and invested by 30,000 fighting men, mostly armed with good rifles. Before reaching the Nile the Desert Column had lost 300 men and was unable to take Metemma, while its transport had completely broken down. On the 8th of February Lord Wolseley telegraphed, "The sooner you can now deal with Osman Digna the better," and recommended the despatch of Indian troops to Suakin, to "co-operate with me in keeping road to Berber open." On the 11th of February, the day on which Sir R. Buller most wisely decided to withdraw the Desert Column from a position of extreme danger, it was determined at Korti that the River Column should proceed to attack Berber, and Lord Wolseley accepted the proposal of the government to make a railway from Suakin, telegraphing to Lord Harrington:—

"By all means make railway by contract to Berber, or as far as you can, during summer. It will be invaluable as a means of supply, and I recommend it being begun immediately. Contract to be, if possible, for so much per ton military stores and supplies and men carried, per mile."

Every effort was now concentrated upon sending an expeditionary force to Suakin, and before the end of March about 13,000 men, including a brigade from India and a field battery from New South Wales, with nearly 7000 camels and 1000 mules, were there assembled. Lieutenant-General Sir G. Graham was placed in command of this force, with orders to break down the power of Osman Digna and to press the construction of the railway towards Berber. The troops at Suakin, on arrival, were much harassed by small night attacks, which ceased as soon as the scattered camps were drawn together. On the 19th of March Sir G. Graham, with the cavalry brigade and the infantry of the Indian contingent, reconnoitred as far as Hashin, finding the country difficult on account of the dense mimosa scrub. The enemy occupied the hills and fired upon the cavalry. On the 20th Sir G. Graham, with about 9000 men, again advanced Battle of Hashin. to Hashin, and Dehilbat hill was taken by the Berkshire regiment and the Royal Marines. A squadron of the 9th Royal Lancers, which was dismounted in the thick bush, was driven back with the loss of 9 men; but elsewhere the Arabs never succeeded in closing, and the troops returned to Suakin in the afternoon, leaving the East Surrey regiment in a zeriba covering some low hills near Hashin village. The total British loss was 9 killed and 39 wounded.

On the 22nd of March a force, consisting of two British and three Indian battalions, with a naval brigade, a squadron of lancers, two companies of engineers, and a large convoy of camels carrying water and supplies, under McNeill's zeriba. Major-General Sir J. McNeill, started from Suakin for Tamai, with orders to form a half-way zeriba. The advance was much impeded by the dense bush, and the force halted at Tofrik, about 6 m. out, at 10.30 A.M. A native had brought information that the enemy intended to attack while the zeriba was being formed, and this actually occurred. The force was caught partly unprepared soon after 2.30 P.M., and severe fighting took place. The enemy were repulsed in about twenty minutes, the naval brigade, the Berkshire regiment, the Royal Marines, and the 15th Sikhs showing the greatest gallantry. The casualties, including those among non-combatants, were 150 killed, 148 missing, and 174 wounded. More than 500 camels were killed. The tribesmen lost more than 1000 killed. As soon as firing was heard at Suakin, Sir G. Graham, with two battalions of Guards and a battery of horse artillery, started for Tofrik, but returned on being assured that reinforcements were not required. On the 24th and 26th convoys proceeding in square to Tofrik were attacked, the enemy being repulsed without difficulty. On the 2nd of April a force exceeding 7000 men, with 14 guns and 1600 transport animals, started from Suakin at 4.30 A.M., and bivouacked twelve hours later at Tesela Hill. Next morning an advance was made towards Tamai, and a number of huts in the Khor Ghob were burned. The force then returned to Suakin. The railway was now pushed on without interruption, reaching Otao on the 30th. On the night of the 6th of May a

combined movement was made from Suakin and Otao, which resulted in the surprise and break-up of a force of the enemy under Mahommed Sardun, and the capture of a large number of sheep and goats. The moral effect of this operation was marked, and large numbers of tribesmen placed themselves unconditionally at the disposal of Sir G. Graham. A great native movement could now have been organized, which would have kept the route to Berber and enabled the railway to be rapidly pushed forward.

Meanwhile many communications had passed between the war office and Lord Wolseley, who at first believed that Berber could be taken before the summer. In a long despatch of the 6th of March he discussed the general situation, Political and military situation at end of operations. and pointed out that although the force at his disposal "was amply sufficient" for raising the siege of Khartum and defeating the mahdi, the conditions were changed by the fall of the town. It was now "impossible ... to undertake any offensive operations until about the end of the summer," when twelve additional British battalions, four strong squadrons of British cavalry, and two R.H.A. batteries, together with a large extension of the Wadi Halfa railway, eleven steamers, and three hundred more whale-boats, would be required. He considered it necessary to hold Dongola, and he reported that he was "distributing this army along the left bank of the Nile, on the open reach of water" between the Hannek cataract and Abu Dom, opposite Merawi. On the 30th of March Lord Wolseley quitted the army and proceeded to Cairo. A cloud having arisen on the frontiers of Afghanistan, the withdrawal of the troops from the Sudan was ordered on the 11th of May. On the formation of Lord Salisbury's cabinet, the new secretary of state for war, Mr W. H. Smith, inquired whether the retirement could be arrested, but Major-General Sir R. Buller reported that the difficulties of reoccupation would be great, and that if Dongola was to be held, a fresh expedition would be required. On the 22nd of June, before the British rearguard had left Dongola, the mahdi died. The withdrawal of the Suakin force began on the 17th of May, and the friendly tribes, deprived of support, were compelled to make terms with Osman Digna, who was soon able to turn his attention to Kassala, which capitulated in August, nearly at the same time as Sennar.

The failure of the operations in the Sudan had been absolute and complete, and the reason is to be sought in a total misconception of the situation, which caused vacillation and delay, and in the choice of a route by which, having regard to the date of the decision, the relief of General Gordon and Khartum was impossible.

(G. S. C.)

Military Operations in Egypt and the Sudan, 1885 to 1896

The operations against Mahdism during the eleven years from the end of the Nile expedition and the withdrawal from the Sudan to the commencement of the Dongola campaign will be more easily understood if, instead of narrating them in one chronological sequence, the operations in each province are considered separately. The mahdi, Mahommed Ahmed, died at Omdurman on the 22nd of June 1885. He was succeeded by the principal khalifa, Abdullah el Taaisha, a Baggara Arab, who for the next thirteen years ruled the Sudan with despotic power. Cruel, vicious, unscrupulous and strong, the country groaned beneath his oppression. He removed all possible rivals, concentrated at Omdurman a strong military force composed of men of his own tribe, and maintained the ascendancy of that tribe over all others. As the British troops retired to Upper Egypt, his followers seized the evacuated country, and the khalifa cherished the idea, already formulated by the mahdi, of the conquest of Egypt, but for some years he was too much occupied in quelling risings, massacring the Egyptians in the Sudan, and fighting Abyssinia, to move seriously in the matter.

Upper Egypt.—Mahommed el Kheir, dervish amir of Dongola, however, advanced towards the frontier in the autumn of 1885, and at the end of November came in touch with the frontier field force, a body of some 3000 men composed in nearly equal parts of British and Egyptian troops. A month of harassing skirmishes ensued, during which the Egyptian troops showed their mettle at Mograka, where 200 of them held the fort against a superior number of dervishes, and in combats at Ambigol, Kosha and Firket. Sir Frederick Stephenson, commanding the British army of occupation in Egypt, then concentrated the frontier field force at Firket, and attacked the main body of the enemy at Ginnis on the 30th of December 1885, completely defeating it and capturing two guns and twenty banners. It was here the new Egyptian army received its baptism of fire and acquitted itself very creditably. Although checked, the dervishes were not discouraged, and continued to press upon the frontier in frequent raids, and thus in many bloody skirmishes the fighting qualities of the Egyptian troops were developed. In April 1886 the frontier was drawn back to Wadi Halfa, a fortified camp at the northern end of the desolate defile, Batn-el-Hagar, through which the Nile tumbles amid black, rocky hills in a succession of rapids, and debouches on a wide plain. The protection of the frontier was now left in the hands of the Egyptian army, a British force remaining at Assuan, 200 m. to the north, as a reserve in case of emergency, and two years later even this precaution was deemed unnecessary.

In October 1886 Wad en Nejumi, the amir who had defeated Hicks Pasha in Kordofan three years before, and led the assault at Khartum when General Gordon was slain in January 1885, replaced Mahommed el Kheir as "commander of the force for the conquest of Egypt," and brought large reinforcements to Dongola. An advanced column under Nur-el-Kanzi occupied Sarras in April 1887, was attacked by the Egyptian force under Colonel H. Chermside on the 28th of that month, and after a stubborn resistance was defeated with great loss. Nur-el-Kanzi was killed and ten standards taken.

The troubles in Darfur and with Abyssinia (*q.v.*) induced the khalifa to reduce the garrisons of the north; nevertheless, the dervishes reoccupied Sarras, continued active in raids and skirmishes, and destroyed the railway south of Sarras, which during the Nile expedition of 1884 and 1885 had been carried as far as Akasha. It was not until May 1889 that an invasion of the frontier on a large scale was attempted. At this time the power and prestige of the khalifa were at their height: the rebellions in Darfur and Kordofan had been stamped out, the anti-mahdi was dead, and even the dervish defeat by the Abyssinians had been converted by the death of King John and the capture of his body into a success. It was therefore an opportune time to try to sweep the Turks and the British into the sea. On the 22nd of June Nejumi was at Sarras with over 6000 fighting men and 8000 followers. On the 2nd of July Colonel J. Wodehouse headed off a part of this force from the river at Argin, and, after a sharp action, completely defeated it, killing 900, among whom were many important amirs, and taking 500 prisoners and 12 banners, with very small loss to his own troops. A British brigade was on its way up stream, but the sirdar, who had already arrived to take the command in person, decided not to wait for it. The Egyptian troops, with a squadron of the 20th Hussars, Battle of Toski. concentrated at Toski, and thence, on the 3rd of August, General Grenfell, with slight loss, gained a decisive victory. Wad en Nejumi, most of his amirs, and more than 1200 Arabs were killed; 4000 prisoners and 147 standards were taken, and the dervish army practically destroyed. No further serious attempts were made to disturb the frontier, of which the most southerly outpost was at once advanced to Sarras.

The escape from Omdurman of Father Ohrwalder and of two of the captive nuns in December 1891, of Father Rossignoli in October 1894, and of Slatin Bey in February 1895, revealed the condition of the Sudan to the outside world, threw a vivid light on the rule of the khalifa, and corroborated information already received of the discontent which existed among the tribes with the oppression and despotism under which they lived.

The Eastern Sudan.—In 1884 Colonel Chermside, governor of the Red Sea littoral, entered into arrangements with King John of Abyssinia for the relief of the beleaguered Egyptian garrisons. Gera, Amadib, Senhit and Gallabat were, in consequence, duly succoured, and their garrisons and Egyptian populations brought away to the coast by the Abyssinians in 1885. Unfortunately famine compelled the garrison of Kassala to capitulate on the 30th of July of that year, and Osman Digna hurried there from Tamai to raise a force with which to meet the Abyssinian general, Ras Alula, who was preparing for its relief. By the end of August Osman Digna had occupied Kufit, in the Barea country, with 10,000 men and entrenched himself. On the 23rd of September Ras Alula attacked him there with an equal number of men and routed him with great slaughter. Over 3000 dervishes with their principal amirs, except Osman Digna, lay dead on the field, and many more were killed in the pursuit. The Abyssinians lost 40 officers and 1500 men killed, besides many more wounded. Instead of marching on to Kassala, Ras Alula, who at this time was much offended by the transfer of Massawa by the Egyptians to Italy, made a triumphant entry into Asmara, and absolutely refused to make any further efforts to extricate Egyptian garrisons from the grip of the khalifa. Meanwhile Osman Digna, who had fled from Kufit to Kassala, wreaked his vengeance upon the unhappy captives at Kassala.

In the neighbourhood of Suakin there were many tribes disaffected to the khalifa's cause, and in the autumn of 1886 Colonel H. Kitchener, who was at the time governor of the Red Sea littoral, judiciously arranged a combination of them to overthrow Osman Digna, with the result that his stronghold at Tamai was captured on the 7th of October, 200 of his men killed, and 50 prisoners, 17 guns and a vast store of rifles and ammunition captured. For about a year there was comparative quiet. Then at the end of 1887 Osman Digna again advanced towards Handub. Suakin, but his force at Taroi was routed by the "Friendlies," and he fell back on Handub. Kitchener unsuccessfully endeavoured to capture Osman Digna on the 17th of January 1888, but in the attack was himself severely wounded, and was shortly after invalided. Later in the year Osman Digna collected a large force and besieged Suakin. In December the sirdar arrived with reinforcements from Cairo, and on the 20th sallied out and attacked the dervishes in their trenches at Gemaiza, clearing the whole line and inflicting considerable loss on the enemy, who retired towards Handub, and the country was again fairly quiet for a time. During 1889 and 1890 Tokar became the centre of dervish authority, while Handub continued to be occupied for the khalifa. In January 1891 Osman Digna showed signs of increased activity, and Colonel (afterwards Sir Charles) Holled Smith, then governor of the Red Sea littoral, attacked Handub successfully on the 27th and occupied it, then seized Trinkitat and Teb, and on the 19th of February fought the decisive action of Afafit, occupied Tokar, and drove Osman Battle of Afafit. Digna back to Temrin with a loss of 700 men, including all his chief amirs. This action proved the final blow to the dervish power in the neighbourhood of Suakin, for although raiding continued on a small scale, the tribes were growing tired of the khalifa's rule and refused to support Osman Digna.

In the spring of 1891 an agreement was made between England and Italy by which the Italian forces in Eritrea were at liberty, if they were able, to capture and occupy Kassala, which lay close to the western boundary of their new colony, on condition that they restored it to Egypt at a future day when required to do so. Three years passed before they availed themselves of this agreement. In 1893 the dervishes, 12,000 strong, under Ahmed Ali, invaded Eritrea, and were met on the 29th of December at Agordat by Colonel Arimondi with 2000 men of a native force. Ahmed Ali's force was completely routed and himself killed, and in the following July Colonel Baratieri, with 2500 men, made a fine forced march from Agordat, surprised and captured Kassala on the 17th of that month, and continued to hold it for three years and a half.

The Abyssinian Frontier.—On the Abyssinian frontier Ras Adal was in command of a considerable force of Abyssinians

early in 1886, and in June of that year he invaded Gallabat and defeated the dervishes on the plain of Madana; the dervish amir Mahommed Wad Ardal was killed and his camp captured. In the following year the amir Yunis ed Dekeim made two successful raids into Abyssinian territory, upon which Ras Adal collected an enormous army, said to number 200,000 men, for the invasion of the Sudan. The khalifa sent the amir Hamdan Abu Angar, a very skilful leader, with an army of over 80,000 men against him. Abu Angar entered Abyssinia and, in August 1887, attacked Ras Adal in the plain of Debra Sin and, after a prolonged battle, defeated the Abyssinians, captured their camp, and marched on Gondar, the ancient capital of Abyssinia, which he sacked, and then returned into Gallabat. King John, the negus of Abyssinia, burning to avenge this defeat, marched, in February 1889, with an enormous army to Gallabat, where the amir Zeki Tumal commanded the khalifa's forces, some 60,000 strong, and had strongly fortified the town and the camp. On the 9th of March 1889 the Abyssinians made a terrific onslaught, stormed and burnt the town, and took thousands of prisoners. A small party of dervishes still held a zeriba when King John was struck by a stray bullet. The Abyssinians decided to retire, fighting ceased, and they moved off with their prisoners and the wounded negus. That night the king died, and the greater part of the army having gone ahead with the prisoners, a party of Arabs pursued the rearguard, which consisted of the king's bodyguard, routed them, and captured the king's body, which was sent to Omdurman to confirm the report of a brilliant victory sent by Zeki Tumal to the khalifa. Internal strife prevented the new negus of Abyssinia from prosecuting the war, which thus, in spite of the Abyssinian success, resulted in the increased prestige of the khalifa. From this time, however, the dervishes ceased to trouble the Abyssinians.

Darfur and Kordofan.—On the outbreak of the mahdi's rebellion Slatin Bey was governor of the province, and when Madibbo, the insurgent sheikh of Rizighat, attacked and occupied Shakka and was following up his success, Slatin twice severely defeated him, and, having concentrated his forces at El Fasher, repulsed the enemy again at Om Shanga. Mahdism, however, spread over Darfur in spite of Slatin's efforts to stay it. He fought no fewer than twenty-seven actions in various parts of his province, but his own troops, in course of time, became infected with the new faith and deserted him. He was obliged to surrender at Dara in December 1883, and was a prisoner, first at Obeid and then at Omdurman, until he escaped in 1895. In January 1884 Zogal, the new dervish amir of the province, attacked El Fasher, where Said Bey Guma and an Egyptian garrison 1000 strong with 10 guns was still holding out, and captured it. He also reduced the Jebel Marra district, where the loyal hill-people gave him some trouble.

After the death of the mahdi in 1885, Madibbo revolted against the khalifa, but was defeated by Karamalla, the dervish amir of the Bahr-el-Ghazal, and was caught and executed. A war then sprang up between Karamalla and Sultan Yusef, who had succeeded Zogal as amir of Darfur. Yusef was joined in 1887 by Sultan Zayid, the black ruler of Jebel Marra, and Karamalla's trusted general, Ketenbur, was defeated with great slaughter at El Towaish on the 29th of June 1887. Osman wad Adam (Ganu), amir of Kordofan, was sent by the khalifa to Karamalla's assistance. He forced back the Darfurians near Dara on the 26th of December, routed Zayid in a second battle, entered El Fasher, and, in 1888, became complete master of the situation, the two sultans being killed. The Darfurian chiefs then allied themselves with Abu Gemaiza, sheikh of the Masalit Arabs, who had proclaimed himself "Khalifa Osman," and was known as the anti-mahdi. The revolt assumed large proportions, and became the more dangerous to Abdullah, the khalifa, by reason of its religious character, wild rumours spreading over the country and reaching to Egypt and Suakin of the advent to power of an opposition mahdi. Abu Gemaiza attacked a portion of Osman Adam's force, under Abd-el-Kader, at Kebkebia, 30 m. from El Fasher, and almost annihilated it on the 16th of October 1888; and a week later another large force of Osman Adam met with the same fate at the same place. Instead of following up his victories, Abu Gemaiza retired to Dar Tama to augment his army, to which thousands flocked as the news of his achievements spread far and wide. He again advanced to El Fasher in February 1889, but was seized with smallpox. His army, however, under Fiki Adam, fought a fierce battle close to El Fasher on the 22nd, which resulted in its defeat and dispersion, and Abu Gemaiza himself dying the following day, the movement collapsed.

In 1891 Darfur and Kordofan were again disturbed, and Sultan Abbas succeeded in turning the dervishes out of the Jebel Marra district. Two years later a saint of Sokoto, Abu Naal Muzil el Muhan, collected many followers and for a time threatened the khalifa's power, but the revolt gradually died out.

The Bahr-el-Ghazal.—The first outbreak in favour of Mahdism in the Bahr-el-Ghazal took place at Liffi in August 1882, when the Dinka tribe, under Jango, revolted and was defeated by Lupton Bey with considerable slaughter at Tel Gauna, and again in 1883 near Liffi. In September of that year Lupton's captain, Rufai Aga, was massacred with all his men at Dembo, and Lupton, short of ammunition, was forced to retire to Dem Suliman, where he was completely cut off from Khartum. After gallantly fighting for eighteen months he was compelled by the defection of his troops to surrender on the 21st of April 1884 to Karamalla, the dervish amir of the province. He died at Omdurman in 1888.

In 1890 the Shilluks in the neighbourhood of Fashoda rose against the khalifa, and the dervish amir of Gallabat, Zeki Tumal, was engaged for two years in suppressing the rebellion. He got the upper hand in 1892, and was recalled to oppose an Italian force said to be advancing from Massawa; but on reporting that it was impossible to invade Eritrea, as the khalifa wished him to do, he was summoned to Omdurman and put to death. The country then relapsed into its original barbarous condition, and dervish influence was nominal only. In 1892 the Congo State expedition established posts up to the seventh parallel of north latitude. In 1893 the dervish amir, Abu Mariam, fought with the Dinka tribe and

was killed and his force destroyed, the fugitives taking refuge in Shakka. In the following year the Congo expedition established further posts, and in consequence the khalifa sent 3000 men, under the amir Khatem Musa, from Shakka to reoccupy the Bahr-el-Ghazal. The Belgians at Liffi retired before him, and he entered Faroga. Famine and disease broke out in Khatem Musa's camp in 1895, and a retreat was made towards Kordofan.

Equatoria.—In the Equatorial Province, which extended from the Albert Nyanza to Lado, Emin Bey, who had a force of 1300 Egyptian troops and 3000 irregulars, distributed among many stations, held out, hoping for reinforcements. In March 1885, however, Amadi fell to the dervishes, and on the 18th of April Karamalla arrived near Lado, the capital, and sent to inform Emin of the fall of Khartum. Emin and Captain Casati, an Italian, moved south to Wadelai, giving up the northern posts, and opened friendly relations with Kabarega, king of Unyoro. On the 26th of February 1886 Emin received despatches from Cairo via Zanzibar, from which he learned all that had occurred during the previous three years, and that "he might take any step he liked, should he decide to leave the country." He determined to remain where he was and "hold together, as long as possible, the remnant of the last ten years." His troops were in a mutinous state, wishing to go north rather than south, as Emin had ordered them to do, and unsuccessfully endeavoured to carry him with them by force.

His communications to Europe through Zanzibar led to the relief expedition under H. M. Stanley, which went to his rescue by way of the Congo in 1887, and after encountering incredible dangers and experiencing innumerable sufferings, met with Emin and Casati at Nsabé, on the Albert Nyanza, on the 29th of April 1888. Stanley went back in May to pick up his belated rearguard, leaving Mounteney Jephson and a small escort to accompany Emin round his province. The southern garrisons decided to go with Emin, but the troops at Labore mutinied, and a general revolt broke out, headed by Fadl-el-Maula, governor of Fabbo. On arriving at Dufile in August 1888, Emin and Jephson were made prisoners by the Egyptian mutineers. In the meantime the arrival of Stanley at Lake Albert had caused rumours, which quickly spread to Omdurman, of a great invading white pasha, with the result that in July the khalifa sent up the river three steamers and six barges, containing 4000 troops, to oppose this new-comer. In October Omar-Saleh, the Mahdist commander, took Rejaf and sent messengers to Dufile to summon Emin to surrender; but on the 15th of November the mutineers released both Emin and Jephson, who returned to Lake Albert with some 600 refugees, and joined Stanley in February 1889. The expedition arrived at Zanzibar at the end of the year.

Emin's mutinous troops kept the dervishes at bay between Wadelai and Rejaf, and eventually severely defeated them, driving them back to Rejaf. They did not, however, follow up their victory, and under the leadership of Fadl-el-Maula Bey remained about Wadelai, while the dervishes strengthened their post at Rejaf. In 1893 Fadl-el-Maula Bey and many of his men took service with Baert of the Congo State expedition. The bey was killed fighting the dervishes at Wandi in January 1894, and the remnant of his men eventually were found by Captain Thruston from Uganda on the 23rd of March 1894 at Mahagi, on the Albert Nyanza, whither they had drifted from Wadelai in search of supplies. They were enlisted by Thruston and brought back under the British flag to Uganda.

In consequence of the Franco-Congolese Treaty of 1894, Major Cunningham and Lieutenant Vandeleur were sent from Uganda to Dufile, where they planted the British flag on the 15th of January 1895.

Sudan Operations, 1896-1900

The wonderful progress—political, economical and social—which Egypt had made during British occupation, so ably set forth in Sir Alfred Milner's *England in Egypt* (published in 1892), together with the revelation in so strong a light of the character of the khalifa's despotism in the Sudan and the miserable condition of his misgoverned people, as detailed in the accounts of their captivity at Omdurman by Father Ohrwalder and Slatin Bey (published in 1892 and 1896), stirred public opinion in Great Dongola campaign, 1896. Britain, and brought the question of the recovery of the Sudan into prominence. A change of ministry took place in 1895, and Lord Salisbury's cabinet, which had consistently assailed the Egyptian policy of the old, was not unwilling to consider whether the flourishing condition of Egyptian finance, the prosperity of the country and the settled state of its affairs, with a capable and proved little army ready to hand, did not warrant an attempt being made to recover gradually the Sudan provinces abandoned by Egypt in 1885 on the advice of Mr Gladstone's government.

Such being the condition of public and official sentiment, the crushing defeat of the Italians by the Abyssinians at the battle of Adowa on the 1st of March 1896, and the critical state of Kassala—held by Italy at British suggestion, and now closely invested by the dervishes—made it not only desirable but necessary to take immediate action.

On the 14th of March 1896 Major-General Sir H. Kitchener, who succeeded Sir Francis Grenfell as sirdar of the Egyptian army in 1892, received orders to reoccupy Akasha, 50 m. south of Sarras, and to carry the railway on from Sarras. Subsequent operations were to depend upon the amount of resistance he encountered. On the 20th of March Akasha was occupied without opposition by an advanced column of Egyptian troops under Major J. Collinson, who formed an entrenched camp there. The reserves of the Egyptian army were called out, and responded with alacrity. The troops were concentrated at Wadi Halfa; the railway reconstruction, under Lieutenant E. P. Girouard, R.E., pushed southward; and a telegraph line followed the advance. At the commencement of the campaign the Egyptian army, including reserves,

consisted of 16 battalions of infantry, of which 6 were Sudanese, 10 squadrons of cavalry, 5 batteries of artillery, 3 companies of garrison artillery, and 8 companies of camel corps, and it possessed 13 gunboats for river work. Colonel H. M. L. Rundle was chief of the staff; Major F. R. Wingate was head of the intelligence department, with Slatin Bey as his assistant; and Colonel A. Hunter was in command of Sarras, and south. The 1st battalion of the North Staffordshire regiment moved up from Cairo to join the Egyptian army.

In the meantime the advance to Akasha had already relieved the pressure at Kassala, Osman Digna having withdrawn a considerable force from the investing army and proceeded with it to Suakin. To meet Osman Digna's movement Lieutenant-Colonel G. E. Lloyd, the Suakin commandant, advanced to the Taroi Wells, 19 m. south of Suakin, on the 15th of April to co-operate with the "Friendlies," and with Major H. M. Sidney, advancing with a small force from Tokar. His cavalry, under Major M. A. C. B. Fenwick, went out to look for Sidney's force, and were surprised by a large number of dervishes. Fenwick, with some 40 officers and men, seized an isolated hill and held it through the night, repulsing the dervishes, who were the same night driven back with such heavy loss in attacking Lloyd's zeriba that they retired to the hills, and comparative quiet again reigned at Suakin. At the end of May an Indian brigade arrived for garrison duty, and the Egyptian troops were released for service on the Nile.

The dervishes first came in contact with the Egyptian cavalry on the Nile near Akasha, on the 1st of May, and were repulsed. The army concentrated at Akasha early in June, and on the 6th Kitchener moved to the attack of Firket 16 m. away, where the amir Hamuda, with 3000 men, was encamped. The attack was made in two columns: one, under Colonel Hunter, marching along the river-bank, approached Firket from the north; while the other, under Major Burn-Murdoch, making a detour through the desert, approached it from the south. The co-operation of the two columns was admirably timed, and on the morning of the 7th the dervish camp was surrounded, and, after a sharp fight, Hamuda and many amirs and about 1000 men were killed, and 500 prisoners taken. The dash and discipline of the Egyptian troops in this victory were a good augury for the future.

By the end of June the railway was advanced beyond Akasha, and headquarters were at Kosha, 10 m. farther south. Cholera and fever were busy both with the North Staffordshire regiment at Gemai, whither they had been moved on its approach, and with the Egyptian troops at the front, and carried off many officers and men. The railway reached Kosha early in August; the cholera disappeared, and stores were collected and arrangements steadily made for a farther advance. The North Staffordshire moved up to the front, and in September the army moved on Kerma, which was found to be evacuated, the dervishes having crossed the river to Hafir. There they were attacked by the gunboats and Kitchener's artillery from the opposite bank, and forced to retire, with their commander, Wad Bishara, seriously wounded. Dongola was bombarded by the gunboats and captured by the army on the 23rd of September. Bishara and his men retreated, but were pursued by the Egyptians until the retreat became a hopeless rout. Guns, small arms and ammunition, with large stores of grain and dates, were captured, many prisoners taken, while hundreds surrendered voluntarily, among them a brother of the amir Wad en Nejumi. The dervish Dongola army had practically ceased to exist. Debba was seized on the 3rd October, Korti and Merawi occupied soon after, and the principal sheiks came in and submitted to the sirdar. The Dongola campaign was over, and the province recovered to Egypt. The Indian brigade at Suakin returned to India, and was replaced by Egyptians. The North Staffordshire returned to Cairo. The work of consolidation began, and preparations were made for a farther advance when everything should be ready.

The railway up the right bank of the Nile was continued to Kerma, in order to evade the difficulties of the 3rd cataract; but the sirdar had conceived the bold project of cutting off the great angle of the Nile from Wadi Halfa to Abu The Sudan campaign, 1897. Hamed, involving nearly 600 m. of navigation and including the 4th cataract, by constructing a railway across the Nubian desert, and so bringing his base at Wadi Halfa within a few hours of his force, when it should have advanced to Abu Hamed, instead of ten days. Early in 1897 this new line of railway was commenced from Wadi Halfa across the great Nubian desert 230 m. to Abu Hamed. The first-mentioned line reached Kerma in May, and by July the second had advanced 130 m. into the desert towards Abu Hamed, when it became necessary, before it was carried farther, to secure that terminus by an advance from Merawi.

In the meantime the khalifa was not idle. He occupied Abu Klea wells and Metemma; recalled the amir Ibrahim Khalil, with 4000 men, from the Ghezira; brought to Omdurman the army of the west under Mahmud—some 10,000 men; entrusted the line of the Atbara—Ed Darner, Adarama, Asubri and El Fasher—to Osman Digna; constructed defences in the Shabluka gorge; and personally superintended the organization and drill of the forces gathered at Omdurman, and the collection of vast stores of food and supplies of camels for offensive expeditions.

Towards the end of June the chief of the Jaalin tribe, Abdalla wad Said, who occupied Metemma, angered by the khalifa, made his submission to Kitchener and asked for support, at the same time foolishly sending a defiant letter to the khalifa. The sirdar sent him rifles and ammunition across the desert from Korti; but before they arrived, Mahmud's army, sent by the khalifa, swept down on Metemma on the 1st of July and massacred Abdalla wad Said and his garrison.

On the 29th of July, after several reconnaissances, Major-General Hunter, with a flying column, marched up the Nile from near Merawi to Abu Hamed, 133 m. distant, along the edge of the Monassir desert. He arrived on the 7th of August and

captured it by storm, the dervishes losing 250 killed and 50 prisoners. By the end of the month the gunboats had surmounted the 4th cataract and reached Abu Hamed. Berber was found to be deserted, and occupied by Hunter on the 5th of September, and in the following month a large force was entrenched there. The khalifa, fearing an attack on Omdurman, moved Osman Digna from Adarama to Shendi. In the 23rd of October Hunter, with a flying column lightly equipped, left Berber for Adarama, which he burned on the 2nd of November, and after reconnoitring for 40 m. up the Atbara, returned to Berber. The Nile was falling, and Kitchener decided to keep the gunboats above the impassable rapid at Um Tuir, 4 m. north of the confluence of the Atbara with the Nile, where he constructed a fort. The gunboats made repeated reconnaissances up the river, bombarding Metemma with effect. The railway reached Abu Hamed on the 4th of November, and was pushed rapidly forward along the right bank of the Nile towards Berber.

The forces of the khalifa remaining quiet, the sirdar visited Kassala and negotiated with the Italian General Caneva for its restoration to Egypt. The Italians were anxious to leave it; and on Christmas day 1897 Colonel (afterwards General Sir Charles) Parsons, with an Egyptian force from Suakin, took it formally over, together with a body of Arab irregulars employed by the Italians. These troops were at once despatched to capture the dervish posts at Asabri and El Fasher, which they did with small loss.

On his return from Kassala to Berber the sirdar received information of an intended advance of the khalifa northward. He at once ordered a concentration of Egyptian troops towards Berber, and telegraphed to Cairo for a British Sudan campaign, 1898. brigade. By the end of January the concentration was complete, and the British brigade, under Major-General Gatacre, was at Dakhesh, south of Abu Hamed. Disagreement among the khalifa's generals postponed the dervish advance and gave Kitchener much-needed time. But at the end of February, Mahmud crossed the Nile to Shendi with some 12,000 fighting men, and with Osman Digna advanced along the right bank of the Nile to Aliab, where he struck across the desert to Nakheila, on the Atbara, intending to turn Kitchener's left flank at Berber. The sirdar took up a position at Ras el Hudi, on the Atbara. His force consisted of Gatacre's British brigade (1st Warwicks, Lincolns, Seaforths and Camerons) and Hunter's Egyptian division (3 brigades under Colonels Maxwell, MacDonald and Lewis respectively), Broadwood's cavalry, Tudway's camel corps and Long's artillery. The dervish army reached Nakheila on the 20th of March, and entrenched themselves there in a formidable zeriba. After several reconnaissances in which fighting took place with Mahmud's outposts, it was ascertained from prisoners that their army was short of provisions and that great leakage was going on. Kitchener, therefore, did not hurry. He sent his flotilla up the Nile and captured Shendi, the dervish depôt, on the 27th of March. On the 4th of April he advanced to Abadar. A final reconnaissance was made on the 5th. On the following day he bivouacked at Umdabia, where he constructed a strong zeriba, which was garrisoned by an Egyptian battalion, and on the night of the 7th he marched to the attack of Mahmud's zeriba, which, after an hour's bombardment on the morning of the 8th of April, was stormed with complete success. Mahmud and several hundred dervishes were captured, 40 amirs and 3000 Arabs killed, and many more wounded; the rest escaped to Gedaref. The sirdar's casualties were 80 killed and 472 wounded.

Preparations were now made for the attack on the khalifa's force at Omdurman; and in the meantime the troops were camped in the neighbourhood of Berber, and the railway carried on to the Atbara. At the end of July reinforcements were forwarded from Cairo; and on the 24th of August the following troops were concentrated for the advance at Wad Hamad, above Metemma, on the western bank of the 6th cataract:—British division, under Major-General Gatacre, consisting of 1st Brigade, commanded by Colonel A. G. Wauchope (1st Warwicks, Lincolns, Seaforths and Camerons), and 2nd Brigade, commanded by Colonel the Hon. N. G. Lyttelton (1st Northumberlands and Grenadier Guards, 2nd Lancashire and Rifle Brigade); Egyptian division, under Major-General Hunter, consisting of four brigades, commanded by Colonels MacDonald, Maxwell, Lewis and Collinson; mounted troops—21st Lancers, camel corps, and Egyptian cavalry; artillery, under Colonel Long, 2 British batteries, 5 Egyptian batteries, and 20 machine guns; detachment of Royal Engineers. The flotilla, under Commander Keppel, R.N., consisted of 10 gunboats and 5 transport steamers. The total strength was nearly 26,000 men.

While the army moved along the west bank of the river, a force of Arab irregulars or "Friendlies" marched along the east bank, under command of Major Stuart-Wortley and Lieutenant Wood, to clear it of the enemy as far as Battle of Omdurman. the Blue Nile; and on the 1st of September the gunboats bombarded the forts on both sides of the river and breached the great wall of Omdurman. Kitchener met with no opposition; and on the 1st of September the army bivouacked in zeriba at Egeiga, on the west bank of the Nile, within 4 m. of Omdurman. Here, on the morning of the 2nd of September, the khalifa's army, 40,000 strong, attacked the zeriba, but was repulsed with slaughter. Kitchener then moved out and marched towards Omdurman, when he was again twice fiercely attacked on the right flank and rear, MacDonald's brigade bearing the brunt. MacDonald distinguished himself by his tactics, and completely repulsed the enemy. The 21st Lancers gallantly charged a body of 2000 dervishes which was unexpectedly met in a khor on the left flank, and drove them westward, the Lancers losing a fifth of their number in killed and wounded. The khalifa was now in full retreat, and the sirdar, sending his cavalry in pursuit, marched into Omdurman. The dervish loss was over 10,000 killed, as many wounded, and 5000 prisoners. The khalifa's black flag was captured and sent home to Queen Victoria. The British and Egyptian casualties together were under 500. The European prisoners of the khalifa found in Omdurman —Charles Neufeld, Joseph Ragnotti, Sister Teresa Grigolini, and some 30 Greeks—were released; and on Sunday the 4th of September the sirdar, with representatives from every regiment, crossed the river to Khartum, where the British

and Egyptian flags were hoisted, and a short service held in memory of General Gordon, near the place where he met his death.

The results of the battle of Omdurman were the practical destruction of the khalifa's army, the extinction of Mahdism in the Sudan, and the recovery of nearly all the country formerly under Egyptian authority.

The khalifa fled with a small force to Obeid in Kordofan. The British troops were quickly sent down stream to Cairo, and the sirdar, shortly afterwards created Lord Kitchener of Khartum, was free to turn his attention to the reduction of the country to some sort of order.

He had first, however, to deal with a somewhat serious matter—the arrival of a French expedition at Fashoda, on the White Nile, some 600 m. above Khartum. He started for the south on the 10th of September, with 5 gunboats and Captain Marchand at Fashoda. a small force, dispersed a body of 700 dervishes at Reng on the 15th, and four days later arrived at Fashoda, to find the French Captain Marchand, with 120 Senegalese soldiers, entrenched there and the French flag flying. He arranged with Marchand to leave the political question to be settled by diplomacy, and contented himself with hoisting the British and Egyptian flags to the south of the French flag, and leaving a gunboat and a Sudanese battalion to guard them. He then steamed up the river and established a post at Sobat; and after sending a gunboat up the Bahr-el-Ghazal to establish another post at Meshra-er-Rek, he returned to Omdurman. The French expedition had experienced great difficulties in the swampy region of the Bahr-el-Ghazal, and had reached Fashoda on the 10th of July. It had been attacked by a dervish force on the 25th of August, and was expecting another attack when Kitchener arrived and probably saved it from destruction. The Fashoda incident was the subject of important diplomatic negotiations, which at one time approached an acute phase; but ultimately the French position was found to be untenable, and on the 11th of December Marchand and his men returned to France by the Sobat, Abyssinia and Jibuti. In the following March the spheres of interest of Great Britain and France in the Nile basin were defined by a declaration making an addition to Article IV. of the Niger convention of the previous year.

During the sirdar's absence from Omdurman Colonel Hunter commanded an expedition up the Blue Nile, and by the end of September had occupied and garrisoned Wad Medani, Sennar, Karkoj and Roseires. In the meantime Colonel Parsons marched with 1400 men from Kassala on the 7th of September, to capture Gedaref. He encountered 4000 dervishes under the amir Saadalla outside the town, and after a desperate fight, in which he lost 50 killed and 80 wounded, defeated them and occupied the town on the 22nd. The dervishes left 500 dead on the field, among whom were four amirs. Having strongly entrenched himself, Parsons beat off, with heavy loss to the dervishes, two impetuous attacks made on the 28th by Ahmed Fedil. But the garrison of Gedaref suffered from severe sickness, and Colonel Collinson was sent to their aid with reinforcements from Omdurman. He steamed up the Blue Nile and the Rahad river to Ain-el-Owega, whence he struck across the desert, reaching Gedaref on the 21st of October, to find that Ahmed Fedil had gone south with his force of 5000 men towards Roseires. Colonel Lewis, who was at Karkoj with a small force, moved to Roseires, where he received reinforcements from Omdurman, and on the 26th of December caught Ahmed Fedil's force as it was crossing the Blue Nile at Dakheila, and after a very severe fight cut it up. The dervish loss was 500 killed, while the Egyptians had 24 killed and 118 wounded. Two thousand five hundred fighting men surrendered later, and the rest escaped with Ahmed Fedil to join the khalifa in Kordofan.

On the 25th of January 1899 Colonel Walter Kitchener was despatched by his brother, in command of a flying column of 2000 Egyptian troops and 1700 Friendlies, which had been concentrated at Faki Kohi, on the White Nile, Operations in the Sudan, 1899. some 200 m. above Khartum, to reconnoitre the khalifa's camp at Sherkela, 130 m. west of the river, in the heart of the Baggara country in Kordofan, and if possible to capture it. The position was found to be a strong one, occupied by over 6000 men; and as it was not considered prudent to attack it with an inferior force at such a distance from the river base, the flying column returned. No further attempt was made to interfere with the khalifa in his far-off retreat until towards the end of the year, when, good order having been generally established throughout the rest of the Sudan, it was decided to extend it to Kordofan.

In the autumn of 1899 the khalifa was at Jebel Gedir, a hill in southern Kordofan, about 80 m. from the White Nile, and was contemplating an advance. Lord Kitchener concentrated 8000 men at Kaka, on the river, 380 m. south of Khartum, and moved inland on the 20th of October. On arriving at Fongor it was ascertained that the khalifa had gone north, and the cavalry and camel corps having reconnoitred Jebel Gedir, the expedition returned. On the 13th November the amir Ahmed Fedil debouched on the river at El Alub, but retired on finding Colonel Lewis with a force in gunboats. Troops and transport were then concentrated at Faki Kohi, and Colonel Wingate sent with reinforcements from Khartum to take command of the expedition and march to Gedid, where it was anticipated the khalifa would be obliged to halt. A flying column, comprising a squadron of cavalry, a field battery, 6 machine guns, 6 companies of the camel corps, and a brigade of infantry and details, in all 3700 men, under Wingate, left Faki Kohi on the 21st of November. The very next day he encountered Ahmed Fedil at Abu Aadel, drove him from his position with great loss, and captured his camp and a large supply of grain he was convoying to the khalifa. Gedid was reached on the 23rd, and the khalifa was ascertained to be at Om Debreikat. Wingate marched at midnight of the 24th, and was resting his troops on high ground in front of the khalifa's position, when at daybreak of the 25th his picquets were driven in and the dervishes attacked. They Death of

the khalifa. were repulsed with great slaughter, and Wingate advancing, carried the camp. The khalifa Abdullah el Taaisha, unable to rally his men, gathered many of his principal amirs around him, among whom were his sons and brothers, Ali Wad Helu, Ahmed Fedil, and other well-known leaders, and they met their death unflinchingly from the bullets of the advancing Sudanese infantry. Three thousand men and 29 amirs of importance, including Sheik-ed-din, the khalifa's eldest son and intended successor, surrendered. The dervish loss in the two actions was estimated at 1000 killed and wounded, while the Egyptian casualties were only 4 killed and 29 wounded. Thus ended the power of the khalifa and of Mahdism.

On the 19th of January 1900 Osman Digna, who had been so great a supporter of Mahdism in the Eastern Sudan, and had always shown great discretion in securing the safety of his own person, was surrounded and captured at Jebel Warriba, as he was wandering a fugitive among the hills beyond Tokar.

The reconquest of Dongola and the Sudan provinces during the three years from March 1896 to December 1898, considering the enormous extent and difficulties of the country, was achieved at an unprecedentedly small cost, while the main item of expenditure—the railway—remains a permanent benefit to the country. The figures are:—

Railways	£E.1,181,372
Telegraphs	21,825
Gunboats	154,934
Military	996,223
Total	£E.2,354,354

Towards this expense the British government gave a grant-in-aid of £800,000, and the balance was borne by the Egyptian treasury. The railway, delayed by the construction of the big bridge over the Atbara, was opened to the Blue Nile opposite Khartum, 187 m. from the Atbara, at the end of 1899.

(R. H. V.)

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1 By the Greek and Roman geographers Egypt was usually assigned to Libya (Africa), but by some early writers the Nile was thought to mark the division between Libya and Asia. The name occurs in Homer as Αἴγυπτος, but is of doubtful origin.

2 A vivid description of Cairo during the prevalence of plague in 1835 will be found in A. W. Kinglake's *Eothen*.

3 A *kantar* equals 99 ℔.

4 To the ministry of public instruction was added in 1906 a department of agriculture and technical instruction.

5 The place of publication is London unless otherwise stated.

6 The figures of the debt are always given in £ sterling. The budget figures are in £E. (pounds Egyptian), equal to £1, 0s. 6d.

7 *Egypt*, No. 1 (1905), p. 20.

8 Similar mortality, though on a smaller scale, recurred in 1889, when Sudanese battalions coming from Suakin were detained temporarily in Cairo.

9 Formerly transcribed *hau* or "heap"-problems.

10 Clepsydras inscribed in hieroglyphic are found soon after the Macedonian conquest.

11 Annual reports of the progress of the work are printed in the *Sitzungsberichte* of the Berlin Academy of Sciences; see also Erman, *Zur ägyptischen Sprachforschung*, ib. for 1907, p. 400, showing the general trend of the results.

12 In the temple of Philae, where the worship of Isis was permitted to continue till the reign of Justinian, Brugsch found demotic inscriptions with dates to the end of the 5th century.

13 The Arabic dialects, which gradually displaced Coptic as Mahommedanism supplanted Christianity, adopted but few words of the old native stock.

14 In the articles referring to matters of Egyptology in this edition, Graecized forms of Old Egyptian names, where they exist, are commonly employed; in other cases names are rendered by their actual equivalents in Coptic or by analogous forms. Failing all such means, recourse is had to the usual conventional renderings of hieroglyphic spelling, a more precise transcription of the consonants in the latter being sometimes added.

15 It seems that "acrophony" (giving to a sign the value of the first letter of its name) was indulged in only by priests of the latest age, inventing fantastic modes of writing their "vain repetitions" on the temple walls.

16 In the prehistoric age when absolute dating is out of reach a "sequence dating" by means of the sequence of types in pottery, tools, &c., has been proposed in Petrie's *Diospolis Parva*, pp. 4 et sqq. The earliest prehistoric graves yet known are placed at S.D. 30, and shortly before S.D. 80 the period of the first historic dynasty is entered.

17 Ten-day periods as subdivisions of the month can be traced as far back as the Middle Kingdom. The day consisted of

twenty-four hours, twelve of day (counted from sunrise to sunset) and twelve of night; it began at sunrise.

18 For the "sequence" dating (S.D.) used by archaeologists for the prehistoric period see above (§ Art and Archaeology, ad init. note).

19 Reisner (*Early Dynastic Cemeteries*, p. 126), from his work in the prehistoric cemeteries, believes that Egypt was too uncivilized at that early date to have performed this scientific feat.

20 The history of Hatshepsut has been very obscure, and the mutilations of her cartouches have been variously accounted for. Recent discoveries by M. Legrain at Karnak and Prof. Petrie at Sinai have limited the field of conjecture. The writer has followed M. Naville's guidance in his biography of the queen (in T. M. Davis, *The Tomb of Hatshopsîtû*, London, 1906, pp. 1 et seq.), made with very full knowledge of the complicated data.

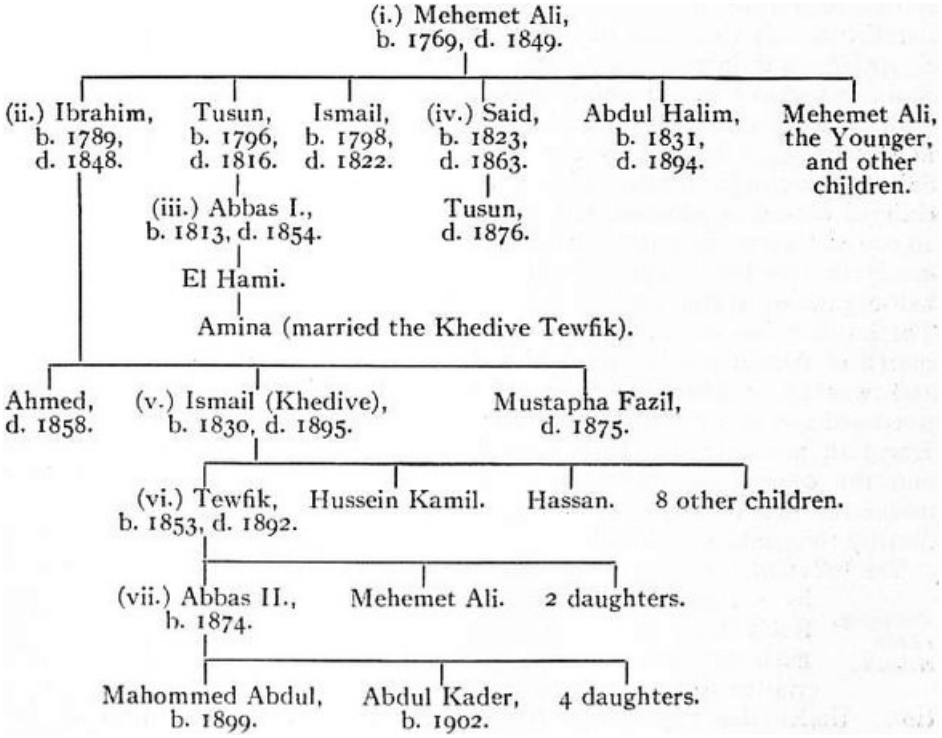
21 This, it may be remarked, is the time vaguely represented by the Dodecarchy of Herodotus.

22 Khosrev Pasha afterwards filled several of the highest offices at Constantinople. He died on the 1st of February 1855. He was a bigot of the old school, strongly opposed to the influences of Western civilization, and consequently to the assistance of France and Great Britain in the Crimean War.

23 The work was carried out under the supervision of the Frenchman, Colonel Sève, who had turned Mahommedan and was known in Islam as Suleiman Pasha. The effectiveness of the new force was first tried in the suppression of a revolt of the Albanians in Cairo (1823) by six disciplined Sudanese regiments; after which Mehemet Ali was no more troubled with military *émeutes*.

24

The Dynasty of Mehemet Ali.



25 Part of this money was devoted to an expedition sent against Abyssinia in 1876 to avenge losses sustained in the previous year. The new campaign was, however, equally unsuccessful.

26 Lord Cromer, writing in 1905, declared that the movement "was, in its essence, a genuine revolt against misgovernment," and "was not essentially anti-European" (vide *Egypt No. 1*, 1905, p. 2).

27 Except in so far as it was necessary to call out men to guard the banks of the Nile in the season of high flood.

28 The Egyptians keep large numbers of pigeons, which are allowed to be shot only by permission of the village omdeh (head-man). After the occurrence here related, officers were prohibited from shooting pigeons in any circumstances.

29 On the 8th of January 1908, the anniversary of the khedive's accession, the whole of the Denshawai prisoners were pardoned and released. For the Denshawai incident see the British parliamentary papers, *Egypt No. 3* and *Egypt No. 4* of 1906.]

30 See *Egypt No. 2* (1906), Correspondence respecting the Turco-Egyptian Frontier in the Sinai Peninsula (with a map).]

EHRENBERG, CHRISTIAN GOTTFRIED (1795-1876), German naturalist, was born at Delitzsch in Saxony on the 19th of April 1795. After studying at Leipzig and Berlin, where he took the degree of doctor of medicine in 1818, he was appointed professor of medicine in the university of Berlin (1827). Meanwhile in 1820 he was engaged in a scientific exploration conducted by General von Minutoli in Egypt. They investigated parts of the Libyan desert, the Nile valley and the northern coasts of the Red Sea, where Ehrenberg made a special study of the corals. Subsequently parts of Syria, Arabia and Abyssinia were examined. Some results of these travels and of the important collections that had been made were reported on by Humboldt in 1826; and afterwards Ehrenberg was enabled to bring out two volumes *Symbolae physicae* (1828-1834), in which many particulars of the mammals, birds, insects, &c., were made public. Other observations were communicated to scientific societies. In 1829 he accompanied Humboldt through eastern Russia to the Chinese frontier. On his return he gave his attention to microscopical researches. These had an important bearing on some of the infusorial earths used for polishing and other economic purposes; they added, moreover, largely to our knowledge of the microscopic organisms of certain geological formations, especially of the chalk, and of the modern marine and freshwater accumulations. Until Ehrenberg took up the study it was not known that considerable masses of rock were composed of minute forms of animals or plants. He demonstrated also that the phosphorescence of the sea was due to organisms. He continued until late in life to investigate the microscopic organisms of the deep sea and of various geological formations. He died in Berlin on the 27th of June 1876.

Publications.—*Die Infusionsthierchen als vollkommene Organismen* (2 vols. fol., Leipzig, 1838); *Mikrogeologie* (2 vols. fol., Leipzig, 1854); and “Fortsetzung der mikrogeologischen Studien,” in *Abhandl. der k. Akad. der Wissenschaft* (Berlin, 1875).

EHRENBREITSTEIN, a town of Germany, in the Prussian Rhine province, on the right bank of the Rhine, facing Coblenz, with which it is connected by a railway bridge and a bridge of boats, on the main line of railway Frankfort-on-Main-Cologne. Pop. (including the garrison) 5300. It has an Evangelical and two Roman Catholic churches, a Capuchin monastery, tanneries, soap-works and a considerable trade in wine. Above the town, facing the mouth of the Mosel, on a rock 400 ft. high, lies the magnificent fortress of Ehrenbreitstein, considered practically impregnable. The sides towards the Rhine and the south and south-east are precipitous, and on the south side, on which is the winding approach, strongly defended. The central fort or citadel is flanked by a double line of works with three tiers of casemate batteries. The works towards the north and north-east end in a separate outlying fort. The whole forms a part of the system of fortifications which surround Coblenz.

The site of the castle is said to have been occupied by a Roman fort built in the time of the emperor Julian. In the rith century the castle was held by a noble named Erembert, from whom it is said to have derived its name. In the 12th century it came into the possession of Archbishop Hillin (de Fallemagne) of Trier, who strengthened the defences in 1153. These were again extended by Archbishop Henry II. (de Fénétrange) in 1286, and by Archbishop John II. of Baden in 1481. In 1631 it was surrendered by the archbishop elector Philip Christopher von Soetern to the French, but was recovered by the Imperialists in 1637 and given to the archbishop elector of Cologne. It was restored to the elector of Trier in 1650, but was not strongly fortified until 1672. In 1688 the French bombarded it in vain, but in 1759 they took it and held it till 1762. It was again blockaded in 1795, 1796 and 1797, in vain; but in 1799 they starved it into surrender, and at the peace of Lunéville in 1801 blew it up before evacuating it. At the second peace of Paris the French paid 15,000,000 francs to the Prussian government for its restoration, and from 1816 to 1826 the fortress was reconstructed by General E. L. Aster (1778-1855).
