

It was founded in 1774 by Mohammed Amín Khán, and contains large public gardens, a fine market-place, and a handsome tank. In 1881 the population was 10,203.

SEPIA is a valuable and much used deep brown pigment obtained from the ink-sacs of various species of CUTTLE-FISH (*q.v.*); that from which it is principally obtained is *Sepia officinalis*, a native of the Mediterranean, and especially abundant in the upper parts of the Adriatic, where it is a prized article of food. To obtain sepia the ink-sac is, immediately on the capture of the animal, extracted from the body and speedily dried to prevent putrefaction. The contents are subsequently powdered, dissolved in caustic alkali, and precipitated from the solution by neutralizing with acid. The precipitate after washing with water is ready to make up into any form required for use.

Sepia-bone or *cuttle-bone* consists of the internal "shell" or skeleton of *Sepia officinalis* and other allied species. It is an oblong convex structure from 4 to 10 inches in length and 1 to 3 inches in greatest width, consisting internally of a highly porous cellular mass of carbonate of lime with some animal matters covered by a hard thin glassy layer. It is used principally as a polishing material and for tooth powder, and also as a moulding material for fine castings in precious metals.

SEPOY, the usual English spelling of *sipáhí*, the Persian and Urdu term for a soldier of any kind. The word *sipáhí*, "army," from which *sipáhí*, "soldier," is derived, corresponds to the Zend *spáda*, Old Persian *spáda*, and has also found a home in the Turkish, Kurdish, and Pashtu (Pushtu) languages (see Justi, *Handbuch der Zendsprache*, p. 303, 6), while its derivative is used in all Indian vernaculars, including Tamil and Burmese, to denote a native soldier, in contradistinction to *gorá*, "a fair-complexioned (European) soldier." Towards the middle of the 18th century efforts were made by the East India Company to train natives of good caste, both Hindus and Mohammedans, for military service under the company. Though they were made to use the musket, they remained for some time chiefly armed in the fashion of the country, with sword and target; they wore the Indian dress—the turban, vest, and long drawers—and were provided with native officers under English superior command. Under their European leaders they were found to do good service and to face danger with constancy and firmness. In the progress of time a considerable change took place, and natives of every description were enrolled in the service. Though some corps that were almost entirely formed of the lowest classes achieved considerable reputation for valour in the field, it was not considered safe to encourage the system; and the company reverted to their practice of recruiting from none but the most respectable classes of native society. It is on record that a corps of 100 sepoy from Bombay and 400 from Tellicherry joined the army at Madras in 1747, that the regular sepoy at Madras were employed in the defence of Arcot (1751), and that a company of Bombay sepoy were present at the victory of Plassey.

For instances of the early occurrence of the word see Burnell and Yule's *Glossary of Anglo-Indian Terms*, s.v. On the history of the sepoy compare Captain Williams's *Historical Account of the Rise and Progress of the Bengal Infantry* (London, 1817); Captain Broome's *History of the Rise and Progress of the Bengal Army* (Calcutta, 1850); Colonel Wilson's *History of the Madras Army* (London, 1882-85, in 3 volumes); No. xxxvi. of the *Quarterly Review*; and the military histories of India generally.

SEPTEMBER, the seventh month of the old Roman year, had thirty days assigned to it. By the Julian arrangement, while retaining its former name and number of days, it became the ninth month. The Ludi Magni (Ludi Romani) in honour of Jupiter, Juno, and Minerva began on the 4th of September. The principal ecclesiastical feasts falling within the month are—the Nativity of the Blessed Virgin on the 8th, the Exaltation of the Holy Cross on the 14th, St Matthew the Apostle on the 21st, and St Michael the Archangel on the 29th. September

was called "harvest month" in Charlemagne's calendar, and it corresponds partly to the Fructidor and partly to the Vendémiaire of the first French republic.

SEPTICÆMIA. After a wound, whether the result of accident or of operation by the surgeon, blood-poisoning may occur. Sepsis or putrefaction in the wound is the most evident local condition which has been associated by clinical observers with blood-poisoning, and hence the term "septicæmia." Within recent years the relation of micro-organisms to the different forms of blood-poisoning has come prominently into notice; putrefaction is now known to be only one of the fermentative changes due to the presence of certain micro-organisms in a wound, and it is admitted that there are many organisms which, when they enter a wound, may give rise there to fermentative changes that are non-putrefactive. (See SCHIZOMYCETES.)

Organisms have recently been divided into two great groups,—those which can only grow in dead or decaying matter and those which can grow in the living tissues and in the blood, which in this relation must be looked upon as a tissue. The first group has been termed "saprophytic." The second group may be termed "pathogenic," to distinguish them from the saprophytic variety. But no distinct line of demarcation can yet be drawn between these two groups, and as a matter of fact some pathogenic organisms may equally with the saprophytic find a pabulum in dead and decaying matter. Yet there can be no doubt that the more common varieties of septic organisms or saprophytes can only grow in dead or decaying matter, and that the living tissues, more especially when their power of vitality is great, are able to resist and destroy the saprophytes. There are also some organisms which, as far as is known at present, may be innocuous and give rise to no symptoms, local or general, when they are implanted in the human body. When an organism finds in the tissues a fit pabulum for its growth and development, the elements in the tissue are broken up, and the products are termed a "ptomaine" (*πρωμα*). This ptomaine may irritate the wound and prevent healing; it may also be absorbed into the blood and poison it, hence the term "ptomaine poisoning." Both the saprophytic and the pathogenic organism may form a ptomaine in the wound. When the wound is due to a saprophyte the absorption of the ptomaine has been termed "sapræmia"; the ptomaine of the saprophyte has been called "sepsin." No special name has yet been given to the ptomaine formed in the wound by the pathogenic organism; nor has any name been given to the condition due to the absorption of the ptomaine formed by the pathogenic organism. Our knowledge is not yet sufficient to enable us to separate these two varieties of ptomaine poisoning. There can, however, be little doubt that they do exist as separate conditions, and also there can be little doubt that in some instances both forms of poisoning may be present at one and the same time.

The pathogenic organism, however, has another power which gives rise to an entirely separate condition. Not only may it form its ptomaine in the wound, but the organism itself can enter into and be carried by the blood-stream and lymph-stream to distant parts. It can live in the blood or lymph-stream and can grow there; it may be arrested in the capillaries of the blood-vessels, or in the lymphatic glands of the lymph-vessels, and in these situations may form, so to speak, a colony of organisms which develop and form ptomaines; and the ptomaines, passing into the blood, may still further poison the patient. This power of the pathogenic organism is infective, and the term "infection" has been applied to the process. These colonies or secondary foci of infection often go on to supuration; hence the term "secondary" applied to the

abscesses which have long been observed in some forms of blood-poisoning. It was at one time thought that the pus-cells in the original wound passed into the blood, and, being caught in the capillaries, were the cause of the abscess-formation in the parts distant from the wound; hence the term "pyæmia" or pus in the blood. The pus-cells may enter the blood-stream; it is not, however, the cellular element that is the essence of the condition, but the organism which the cellular element may carry along with it. The hectic condition observed in a case of long-continued suppuration is in all probability a chronic form of blood-poisoning. In very acute cases, in which the poison is either concentrated, virulent, or in large quantity, death may occur within a very few hours. In other cases the condition may become chronic, and if the strength of the patient can be kept up by stimulants recovery often takes place. The chances of recovery are much greater when the condition is not truly an infective one. When the manufactory of the ptomaine is only in the wound, the organism may be there destroyed by the use of powerful antiseptics or antifermentatives. The primary cause being removed, the patient may then be saved. When, however, the pathogenic organism gets into the blood-stream and distant foci of infection are formed, the chances of ultimate recovery are greatly diminished. Various unsuccessful attempts have been made by the internal administration of antifermentatives so to alter the blood that the micro-organism cannot find in it or the tissues a fit nidus. The point to attend to is to prevent organismal fermentation in wounds by careful antiseptic or rather antifermentative precautions. Just as the word "septicæmia" has a more general application than can now be strictly allowed if we look to the derivation of the word and the present state of our knowledge, so the word "antiseptic" is applied to all substances which prevent organismal fermentation, although many of these organisms are undoubtedly non-septic in their character.

SEPTUAGINT. The Septuagint (*οι δό, LXX.*) or Alexandrian version of the Old Testament seems to be named from the legend of its composition by seventy, or more exactly seventy-two, translators. In the *Letter of Aristæus* (Aristæus)¹ this legend is recounted as follows. Demetrius Phalereus, keeper of the Alexandrian library, proposed to King Ptolemy II. Philadelphus to have a Greek translation of the Jewish law made for the library. The king consented and sent an embassy, of which the author of the letter was a member, to the high priest Eleazar at Jerusalem asking him to send six ancient, worthy, and learned men from each of the twelve tribes to translate the law for him at Alexandria. Eleazar readily consented and sent the seventy-two men with a precious roll of the law. They were most honourably received at the court of Alexandria and conducted to the island (Pharus), that they might work undisturbed and isolated. When they had come to an agreement upon a section Demetrius wrote down their version; the whole translation was finished in seventy-two days. The Jewish community of Alexandria was allowed to have a copy, and accepted the version officially,—indeed a curse was laid upon the introduction of any changes in it.

There is no question that this *Letter* is spurious.² Aristæus is represented as a heathen, but the real writer must have been a Jew and no heathen. Aristæus is represented as himself a member of the embassy to Eleazar; but the author of the *Letter* cannot have been a contemporary of the events he records, else he would have known

that Demetrius fell out of favour at the very beginning of the reign of Philadelphus, being said to have intrigued against his succession to the throne.³ Nor could a genuine honest witness have fallen into the absurd mistake of making delegates from Jerusalem the authors of the Alexandrian version. The forgery, however, is a very early one. "There is not a court-title, an institution, a law, a magistracy, an office, a technical term, a formula, a peculiar phrase in this letter which is not found on papyri or inscriptions and confirmed by them."⁴ That in itself would not necessarily imply a very early date for the piece; but what is decisive is that the author limits canonicity to the law and knows of no other holy book already translated into Greek. Further, what he tells about Judæa and Jerusalem is throughout applicable to the period when the Ptolemies bore sway there and gives not the slightest suggestion of the immense changes that followed the conquest of Palestine by the Seleucids. Thus, too, it is probable that the Jewish philosopher Aristobulus, who lived under Ptolemy Philometor (180-145), derived his account of the origin of the LXX. from this *Letter*, with which it corresponds.⁵

If now the *Letter* is so old, it is incredible that it should contain no elements derived from actual tradition as to the origin of the LXX., and we must try to separate these from the merely fabulous. To this end we must consider what is the main aim and object of the forgery. The chief thing in the *Letter* is the description of a seven days' symposium of the seventy translators at the Alexandrian court, during which each of them has a question to answer, and raises the admiration of the king for the wisdom produced among the Jews by their knowledge of the law. Further, very great weight is laid on the point that the LXX. is the official and authoritative Bible of the Hellenistic Jews, having been not only formally accepted by the synagogue at Alexandria but authorized by the high priest at Jerusalem and the seventy elders who are in fact its authors. Other matters receive no special emphasis, and the presumption is that what is said about them is not deliberate fiction and in part at least is true. Thus it has always been taken as a fact that the version originated at Alexandria, that the law was translated first, and that this took place in the time of Ptolemy II. On the other hand, it has been thought difficult to believe that the scholarly tastes of the Alexandrians, personified in Demetrius Phalereus as the presiding genius of the Alexandrian library, could have furnished the stimulus to reduce the translation to writing. One can hardly call this intrinsically improbable in view of the miscellaneous literary tastes of the court of the Ptolemies. But it has been thought much more likely that the Septuagint was written down to satisfy the religious needs of the Jews by a translated Torah, since in fact the version is fitted for Jews and could have been intelligible only to them, and indeed never came to be circulated and known outside of their circles. Here, however, we must distinguish between written and oral interpretation. If interpretation was needed in the synagogue service, it was an oral interpretation that was given. It was not a natural thing for the Jews to write the translation,—indeed they had religious scruples against such a course. Only "Scripture" was to be written, and to put the contents of Scripture in writing in any other than the old holy form was deemed almost a profanation,—a feeling of which there is evidence in the *Letter* itself.⁶ It is well

¹ Hermippus Callimachus, *ap. Diog. Laert.*, v. 78.

² G. Lumbroso, *Recherches sur l'Econ. Pol. de l'Égypte sous les Lagides* (Turin, 1870), p. xiii.

³ Clem. Alex., *Strom.*, l. p. 342, ed. Sylb.; Euseb., *Præp. Ev.*, ix. 6, p. 410 sq.; comp. Valckenaer, *Diatrise de Aristobulo*, Leyden, 1806, reprinted in Gaisford's ed. of the *Præp. Ev.*

⁴ In what is told of the authors Theopompus and Theodectes, who ventured to insert certain things out of the law in their profane works

⁵ Edited by S. Schard (Frankfurt, 1610), by Havercamp (in his *Josephus*), and by M. Schmidt (in Merx's *Archiv*, 1868). Comp. Lumbroso, in the *Transactions of the Turin Academy*, 1869.

⁶ Scaliger, *In Eus. Chron. animadv.*, No. 1734; H. Hody, *De Bibliopum Textibus Originalibus*.

known how in Palestine the Targum was handed down orally for centuries before it was at last reduced to writing; and, if, on the contrary, at Alexandria a written version came into existence so early, it is far from improbable that this was due to some influence from without. That the work is purely Jewish in character is only what was inevitable in any case. The translators were necessarily Jews and were necessarily and entirely guided by the living tradition which had its focus in the synagogal lessons. And hence it is easily understood that the version was ignored by the Greeks, who must have found it barbarous and unintelligible, but obtained speedy acceptance with the Jews, first in private use and at length also in the synagogue service.

The next direct evidence which we have as to the origin of the LXX. is the prologue to Ecclesiasticus, from which it appears that about 130 B.C. not only the law but "the prophets and the other books" were extant in Greek. With this it agrees that the most ancient relics of Jewish-Greek literature, preserved in the extracts made by Alexander Polyhistor (Eus., *Præp. Ev.*, ix.), all show acquaintance with the LXX. These later translations too were not made to meet the needs of the synagogue, but express a literary movement among the Hellenistic Jews, stimulated by the favourable reception given to the Greek Pentateuch, which enabled the translators to count on finding an interested public. If a translation was well received by reading circles amongst the Jews, it gradually acquired public acknowledgment and was finally used also in the synagogue, so far as lessons from other books than the Pentateuch were used at all. But originally the translations were mere private enterprises, as appears from the prologue to Ecclesiasticus and the colophon to Esther. It appears also that it was long before the whole Septuagint was finished and treated as a complete work.

As the work of translation went on so gradually and new books were always added to the collection the compass of the Greek Bible came to be somewhat indefinite. The law always maintained its pre-eminence as the basis of the canon; but the prophetic collection changed its aspect by having various Hagiographa incorporated with it according to an arbitrary arrangement by subjects. The distinction made in Palestine between Hagiographa and Apocrypha was never properly established among the Hellenists. In some books the translators took the liberty to make considerable additions to the original, and these additions—e.g., those to Daniel—became a part of the Septuagint. Nevertheless learned Hellenists were quite well aware of the limits of the canon and respected them. Philo can be shown to have known the Apocrypha, but he never cites them, much less allegorizes them or uses them in proof of his tenets. And in some measure the widening of the Old Testament canon in the Septuagint must be laid to the account of Christians. As regards the character of the version, it is a first attempt, and so is memorable and worthy of respect, but at the same time displays all the weaknesses of a first attempt. Though the influence of contemporary ideas is sometimes perceptible, the Septuagint is no paraphrase, but in general closely follows the Hebrew,—so closely indeed that we can hardly understand it without a process of retroversion, and that a true Greek could not have found any satisfaction in it. The same Greek word is forced to assume the whole range of senses which belongs in Semitic speech to the derivatives of a single root; a Hebrew expression which has various Greek equivalents according to the context is constantly rendered in one way; the aorist, like the Hebrew perfect, is employed as an inchoative with a much wider range of application than is tolerated in classical Greek. At the same time, many passages are freely rendered and turned where there is no

particular need to do so, and that even in books like the *Prophetae Priores*, in which the rendering is generally quite stiff. The literalness of the version is therefore due not to scrupulousness but to want of skill, and probably in part also to accommodation to a kind of Jewish Greek jargon which had already developed in the mouths of the people and was really Hebrew or Aramaic in disguise. This Jewish dialect in turn found its standard in the Septuagint.

As the version is the work of many hands, it is naturally not of uniform character throughout all its parts,—indeed considerable varieties of character sometimes appear in one and the same book. The older constituents of the canon have an unmistakable family likeness as contrasted with the later books; this one may see by comparing Kings with Chronicles or Isaiah and Jeremiah with Daniel. The Pentateuch is considered to be particularly well done and Isaiah to be particularly unhappy. Some of the Hagiographa (Ecclesiastes, Canticles, Chronicles) are reproduced with verbal closeness; others, on the contrary (Job, Esdras, Esther, Daniel), are marked by a very free treatment of the text, or even by considerable additions. It is not, however, always easy to tell whether a Septuagint addition is entirely due to the translator or belongs to the original text, which lay before him in a recension divergent from the Massoretic. The chief impulse in recent times to thorough investigation of the character of the several parts of the Septuagint was given by Lagarde in his *Anmerkungen zur griechischen Uebersetzung der Proverben*, Leipsic, 1863.

The Septuagint came into general use with the Grecian Jews even in the synagogue. Philo and Josephus use it, and so do the New Testament writers. But very early small corrections seem to have been introduced, especially by such Palestinian as had occasion to use the LXX., in consequence partly of divergent interpretation, partly of differences of text or of pronunciation (particularly of proper names). The Old Testament passages cited by authors of the first century of the Christian era, especially those in the Apocalypse, show many such variations from the Septuagint, and, curiously enough, these often correspond with the later versions (particularly with Theodotion), so that the latter seem to rest on a fixed tradition. Corrections in the pronunciation of proper names so as to come closer to the Massoretic pronunciation are especially frequent in Josephus. Finally a reaction against the use of the Septuagint set in among the Jews after the destruction of the temple,—a movement which was connected with the strict definition of the canon and the fixing of an authoritative text by the rabbins of Palestine. But long usage had made it impossible for the Jews to do without a Greek Bible, and to meet this want a new version was prepared corresponding accurately with the canon and text of the Pharisees. This was the version of Aquila, which took the place of the Septuagint in the synagogues, and long continued in use there.¹ A little later other translations were made by Jews or Jewish Christians, which also followed the official Jewish canon and text, but were not such slavish reproductions as Aquila's version; two of these were Greek (Theodotion, Symmachus) and one Syriac (Peshito).

Meantime the Greek and Latin Christians kept to the old version, which now became the official Bible of the catholic church. Yet here also, in process of time, a certain distrust of the Septuagint began to be felt, as its divergence from the Jewish text was observed through comparison of the younger versions based on that text, or came into notice through the frequent discussions between Jews and Christians as to the Messianic prophecies.

¹ *Corpus Juris Civ.*, Nov. cxlvi.

On the whole the Christians were disposed to charge the Jews with falsifying their Scriptures out of hatred to Christianity,—a charge which has left its echoes even in the Koran. But some less prejudiced scholars did not share this current view, and went so far in the other direction as simply to identify the Jewish text with the authentic original. Thus they fell into the mistake of holding that the later Jewish text was that from which the Septuagint translators worked, and by which their work was to be tested and measured. On these critical principles Origen prepared his famous *Hexapla*, in which he placed alongside of the Septuagint, in six parallel columns, the three younger versions and the Hebrew text in Hebrew and in Greek characters. The Septuagint text he corrected after the younger versions, marking the additions of the LXX. with a prefixed obelus (—, —), as a sign that they should be deleted, and supplying omissions, generally from Theodotion, with a prefixed asterisk (*). The end of the passage to which the obelus or asterisk applied was marked with a metobelus (<). The same signs were used for various readings, the reading of the LXX. being obelized, and the variant, from another version corresponding to the Hebrew text, following it with an asterisk. It was only in simpler cases, however, that this plan could be carried through without making the text quite unreadable; the more complicated variations were either tacitly corrected or left untouched, the reader being left to judge of them by comparing the parallel columns. Origen made most change in the proper names, which he emended in conformity with the Jewish pronunciation of the period, and in the order of the text, which, to preserve the parallelism in the columns, he made to follow the Hebrew.¹

Origen's critical labours had a very great influence in shaping the text of the Septuagint, though in quite another direction than he designed. Even before his time the Septuagint was largely contaminated by admixture from the other versions, but such alterations now began to be made systematically. Thus he intensified a mischief which to be sure had begun before him, and even before the labours of Aquila, Theodotion, and Symmachus. The most significant evidence of this contamination of the text lies in the conflate readings, where the same Hebrew words are translated twice, or sometimes even thrice, or where two Hebrew readings of the same passage are represented, sometimes by simple juxtaposition of renderings that differ but slightly, at other times by a complicating interlacing of very different forms of the Greek. These conflate readings, however, in which the true reading survives along with the false, are the least fatal corruptions; in many cases the genuine text has disappeared altogether before the correction, as can be seen by comparing different MSS. A faithful picture of the corruption of the text of the Septuagint as it has come down to us is given in the apparatus to the great Oxford edition of Holmes and Parsons (5 vols., Oxford, 1798-1827).

Not long after Origen there arose almost contemporaneously three recensions of the Septuagint, which became established in three regions of the Greek Church. "Alexandria et Ægyptus in Septuaginta suis Hesychem laudat auctorem, Constantinopolis usque Antiochiam Luciani martyris exemplaria probat, mediæ inter has provincie Palestinæ codices legunt, quos ab Origene elaboratos Eusebius et Pamphilus vulgaverunt; totusque orbis hac inter se trifaria varietate compugnat," says Jerome in the *Præf. in Paralip. ad Chromatium*. According to this the text of Eusebius is that of Origen, i.e., a separate edition of the fifth column of the Hexapla, which contained the

Septuagint with asterisks and obeli. The text of Hesychem has not yet been identified with certainty²; that of Lucian is, according to Field and Lagarde, most probably given in *Codd. Holmes.*, 19, 82, 93, 108, and another series of MSS. for the prophets. It is by no means the case, however, that all our MSS. can be arranged in three families; many belong to none of the three recensions, and among these are such important codices as the Alexandrian (A) and the Vatican (B).

The divergences of the LXX. from the Hebrew are particularly great in the books of Samuel and Kings, also in the prophets, especially in Ezekiel, and still more in Jeremiah, and finally also in Job and Proverbs. In Jeremiah the differences extend to the order of the chapters in the second half of the book, and therefore have always attracted special attention. In Proverbs too the individual proverbs are differently arranged in the LXX., and similar differences can be traced in the versions of Ecclesiasticus. In the Pentateuch there are considerable variations only in the last part of Exodus. The text of the genuine Septuagint is generally shorter than the Massoretic text.

The chief editions of the Septuagint are—(1) the Complutensis, 1514-17; (2) the Aldine, 1516; (3) the Sixtine, 1587; (4) the first Oxford edition by Grabe, 1707-20; (5) the second Oxford edition by Holmes and Parsons, 1798-1827; (6) Lagarde's edition of Lucian, vol. 1, Göttingen, 1883.

The LXX. is of great importance in more than one respect: it is probably the oldest translation of considerable extent that ever was written, and at any rate it is the starting-point for the history of Jewish interpretation and the Jewish view of Scripture. And from this its importance as a document of exegetical tradition, especially in lexical matters, may be easily understood. It was in great part composed before the close of the canon—nay, before some of the Hagiographa were written—and in it alone are preserved a number of important ancient Jewish books that were not admitted into the canon. As the book which created or at least codified the dialect of Biblical Greek, it is also the key to the New Testament and all the literature connected with it. But its chief value lies in the fact that it is the only independent witness for the text of the Old Testament which we have to compare with the Massoretic text. Now it may seem that the critical value of the LXX. is greatly impaired, if not entirely cancelled, by the corrupt state of the text. If we have not the version itself in authentic form we cannot reconstruct with certainty the Hebrew text from which it was made, and so cannot get at various readings which can be confidently confronted with the Massoretic text; and it may be a long time before we possess a satisfactory edition of the genuine Septuagint. But fortunately in this case sound results in detail must precede and not follow the establishment of a text sound throughout. The value of a Septuagint reading must be separately determined in each particular case, and the proof that a reading is good is simply that it necessarily carries us back to a Hebrew variant, and cannot be explained by looseness of translation. It is therefore our business to collect as many Greek passages as possible which point to a various

² See, however, Ceriani's note on the recensions of LXX. in the *Rendiconti* of the R. Istituto Lombardo for 18th February 1886, where it is shown that the *Codex rescriptus Dublinensis*, Holmes, viii., edited at Dublin, 1880, and other MSS. written in Egypt, which Ceriani had already cited in his *Monumenta* (vol. iii. p. xx.) present many features of correspondence with the Coptic versions and with the readings of Cyril of Alexandria. "All these documents, as they present the character of the Hesychem recension, being all Egyptian testimonies contemporary with or little later than Jerome." Most of their characteristic readings appear also in MS. Holmes, 106, to which MSS. 26, 33, 86, 97, 198, 206 are also akin. For an attempt to determine the MSS. containing or akin to the Hesychem recension in Ezekiel, see Cornill, *Das Buch Ezechiel*, Leipsic, 1886, p. 66 sq.

¹ The best collection of the fragments of the Hexapla is that of Field, *Originis Hexaplorum quæ supersunt*, Oxford, 1875.

reading in the Hebrew text of the translators as compared with the Massoretic text. And for this we must not confine ourselves to one recension but use all recensions that our MSS. offer. For, though one recension may be better than another, none of them has been exempt from the influences under which the genuine Septuagint was brought into conformity with the received Hebrew text, and those influenced have affected each recension in a different way, and even differently in the different books. In this process, as indeed in all textual criticism, much of course must be dependent on individual judgment. But that it should be so appears to have been the design of providence, which has permitted the Old Testament text to reach us in a form that is often so corrupt as to sin against both the laws of logic and of grammar—of rhetorical and poetical form. (J. WE.)

SEPULCHRE, CANONS REGULAR OF THE HOLY, an order founded in 1114 by Arnold, patriarch of Jerusalem (or according to another account in 1099 by Godfrey of Bouillon), on the rule of St Augustine. It admitted women as well as men and soon spread rapidly over Europe. In the 17th century it received a new rule from Urban VIII. Shortly after this the canons became extinct; but the canonesses are still to be found in France, Baden, and the Netherlands. They live a strictly monastic life and devote themselves mainly to the work of education.

SEPULCHRE, KNIGHTS OF THE HOLY, an English military order which was said to date from the 12th century and which became extinct at the Reformation. A similar order, founded in France, lasted from the end of the 15th century till the time of the Revolution; it was resuscitated by Louis XVIII. in 1814, but again became extinct in 1830.

SEPULCHRE, THE HOLY, the rock-cut tomb in which, after His crucifixion, the body of our Lord was placed. Few questions of topography have been debated with greater persistence or, in many cases, with greater bitterness than that of the site of this tomb. Only a brief sketch of the leading features of the controversy can be given here.

The only information on the subject to be gained from the New Testament is that the tomb was in a garden "in the place where Christ was crucified" (John xix. 41), which again was "near the city" (John xix. 20) and "without the gate" (Heb. xiii. 12), and that the watch, proceeding from the sepulchre to the chief priest's, "came into the city" (Matt. xxviii. 11). The first requisite, therefore, of any locality professing to be that of the Sepulchre is that it should, at the date of the crucifixion, have been *without* the walls of Jerusalem.¹

The existing church of the Holy Sepulchre, which is admitted on all hands to have occupied the same site for the last 800 years, is in the heart of the present town, 300 yards from the nearest point of the existing wall and in the immediate vicinity of the bazaars. Saewulf,² writing in 1102, Hildebrand of Oldenburg³ in 1211, and Jacobus de Vitriaco⁴ in 1220, assert that up to the time of Hadrian the site was still without the circuit of the walls. Brocardus⁵ in 1230 states that the modern walls included more in breadth than they did at the time of

¹ The revised text of John xix. 20 reads *ὅτι ἐγγύς ἦν τῆς πόλεως ὁ τόπος ὅπου ἐσταυρώθη ὁ Ἰησοῦς*; but the best accredited reading is *ὅτι ἐγγύς ἦν ὁ τόπος τῆς πόλεως*. Mr Buckton, in *Notes and Queries* (2d series, ii. 97), argues that according to the latter reading Calvary must have been within the city. He would explain Heb. xiii. 12 as spoken "for the allegorical purpose of the writers" of the temple, but offers no explanation of Matt. xxviii. 11.

² *Recueil de Voyages* (Société de Géog.), iv. 84, Paris, 1839.

³ Leo Allatius, *Σύμμικτα*, p. 146, Cologne, 1653.

⁴ *Gesta Dei per Francos*, p. 1079, Hanover, 1611.

⁵ Canisius, *Thesaurus*, iv. 17, 21, Antwerp, 1735.

Christ, and that there were even some who refused to believe that the present site was the true one. Ordericus⁶ in 1320 and William de Baldensel⁷ in 1336 corroborated Saewulf; but Baldensel adds that the sepulchre then shown was no longer the one in which the body of Christ had been laid, for that had been cut out of the solid rock, while the other was formed out of stones cemented together. Gretser⁸ in 1598 and Quaresimus⁹ in 1616-25 refer to the objections started in their time by some whom the latter calls "misty Western heretics," and the difficulty was broadly enunciated by Monconys¹⁰ in 1647. It was not, however, until 1741 that the site was openly declared to be false by Korte.¹¹ The attack of the latter writer was followed up in greater detail by Plessing¹² in 1789, and in England by Dr Edward Clarke¹³ in 1810; but until the appearance of the *Biblical Researches* of Dr Robinson of New York in 1841¹⁴ the attention of inquirers in England and America can hardly be said to have been seriously drawn to the subject. This elaborate work called forth energetic replies from Cardinal Newman¹⁵ and Williams,¹⁶ the latter of whom subsequently republished his work in two large volumes in 1849, which, to the upholders of tradition, may be said to occupy the same position as those of the American author to its opponents. Since that date the writers on both sides have been numerous; among them may be specially noted, as impugning the accuracy of tradition, Fergusson, Tobler, the author of an elaborate essay in the *Museum of Classical Antiquities* for 1853, Barclay, Bonar, Schwartz, Sandie, and Conder; and on the other side Lord Nugent, Schutz, Krafft, Schaffter, De Saulcy, Abbé Michon, Thrupp, De Vogué, Lewin, Pierotti, Caspari, and Sir Charles Warren.

The main question on which the dispute has turned is the circuit of the walls at the time of Christ. The city at that date was surrounded by two walls. The first or oldest began, according to Josephus, "in the north, at the tower called Hippicus, and extended to what was termed the *Xystus*; it then formed a junction with the council house, and terminated at the western colonnade of the temple."¹⁷ By almost all the writers on either side this northern portion of the first wall is traced along the southern side of the depression, which extends from the central valley eastwards to the Jaffa gate.¹⁸ From some point in that northern line of wall the second wall took its departure, and of it all we are told by Josephus is that "it had its beginning at the gate called Gennath, belonging to the first wall, and reached to the Antonia, encircling only the western quarter of the city." If this Gennath gate was near Hippicus, the line of the second wall, in order to exclude the present site, must be drawn along a route curiously unsuited, from the slope of the hill, for defensive purposes; and that it was near Hippicus seems

⁶ *Peregrinatores Medii Aevi quatuor*, ed. Laurent, p. 149, Leipsic, 1864.

⁷ Canisius, *Thesaurus*, iv. 348-349.

⁸ *De Cruce Christi*, bk. 1. chap. 17, Ingolstadt, 1598.

⁹ *Terræ Sanctæ Elucidatio*, ii. 515, Antwerp, 1639.

¹⁰ *Voyages*, Paris, 1665-66, 4to, i. 307.

¹¹ *Reise nach dem gelobten Lande*, Altona, 1741.

¹² *Ueber Golgotha und Christi Grab*, Halle, 1789.

¹³ *Travels*, Cambridge, 1810-23.

¹⁴ London, 1841, afterwards re-issued with a supplemental journey in 1856.

¹⁵ "Essay on the Miracles recorded in Eccles. History," prefixed to translation of Fleury's *Eccles. Hist. to end of 4th Century*, Oxford, 1842.

¹⁶ *The Holy City*, London, 1845.

¹⁷ *Bell. Jud.*, v. 4, 2.

¹⁸ Fergusson and Sandie place Hippicus at the north-western angle of the modern wall, and thus include the existing church of the sepulchre within the first wall itself, but they have overlooked the assertion of the Jewish historian, that from the ravines which surrounded the latter it was almost impregnable. Bonar, while placing Hippicus somewhere near the same spot, does not define the locality, and Schwartz seeks to identify it with "a high rocky hill north of the so-called Grotto of Jeremiah" and far beyond the northern limits of the modern city.

demonstrable from the declaration of Josephus that the city in his time was "fortified by three walls except where it was encompassed by impassable ravines"; from the absence of any record of an attack on the first wall till the second had been taken; from a variety of incidental references in the siege by Titus; from the apparent necessity of including within its circuit the pool Amygdalon, now known as Hezekiah's Pool or Birket Hamman el-Batrak²; and from the remarkably small area which would otherwise be included by it.

Writers on both sides have pressed into their service the remains of ancient buildings found in the districts traversed by the second wall according to their respective theories. It seemed doubtful, till quite recently, if any sound argument could be based on these, the ruins being too fragmentary and occurring in too many different quarters to warrant any positive identification with a line of fortification as distinguished from other edifices.³ But in the summer of 1885 a stretch of ancient wall 40 or 50 yards in length was disinterred, running northwards from the open space within the Jaffa gate to the west of Hezekiah's pool, which certainly, as figured in the January number of the *Quarterly Reports* of the Palestine Exploration Fund, seems to go a long way to settle the question against the genuineness of the existing site.

Considerable stress has been laid by some writers on the existence of ancient Jewish sepulchres, of a date apparently anterior to the Christian era, in the rock on which the present church is built, as proving that that rock could not have been within the circuit of the walls, inasmuch as it is alleged "the Jews never buried within their towns."⁴ There is, however, no trace in the historical books of the Bible of any aversion on the part of the Jews to intramural interment. Whatever width of interpretation may be given to the recorded burial of eleven of the kings of Judah "in the city of David," the phrase can hardly be held to prove that such burial-place was *without* the walls; while 2 Chron. xxviii. 27 and xxxiii. 20 seem to point very strongly in the opposite direction. Joab also, we are told, was buried "in his own house in the wilderness,"⁵ and Samuel "in his house at Ramah."⁶ But the most striking case of all is Hebron, where in the midst of the city are found the jealously guarded walls which enclose the cave of Machpelah. If, then, these tombs are older than the time of Christ, there seems little difficulty in crediting that they might have been included within the second wall. We know for a certainty that they were within the third. The curious point rather is that their existence in the rock may be used as a strong argument against the site, for, speaking of the disinterment of the rock of the sepulchre from the accumulated soil heaped over it by the Romans, Eusebius⁷ impresses on us the fact

¹ *Bell. Jud.*, v. 4, 1.

² It is of course quite possible to draw a line, as Lewin does, which, while it includes this pool, will yet exclude the existing church, but all probability seems opposed to such a route.

³ Pierotti gives a detailed plan of the whole district in which the remains which he seeks to identify with the second wall occur (*Jerusalem Explored*, pl. xxx.). But from this it would seem extremely doubtful whether any of those ruins can be identified with a city wall, or should not merely be regarded as portions of detached buildings, the walls of which project, now to the east, now to the west, of the imagined line.

⁴ Lord Nugent, *Lands Classical and Sacred*, London, 1845, ii. 47. These tombs have been described by Hepworth Dixon, in *Gentleman's Magazine*, March 1877, and more fully by Clermont-Ganneau in *Quarterly Report of the Palestine Exploration Fund*, 1877, p. 76. In 1885 two additional sepulchral chambers were discovered in the same rock a little to the south-east of the present church, of which a plan and notices are given by Schick in *Zeitschrift des deutschen Palaestina-Vereins*, 1884, vol. viii. p. 171.

⁵ 1 Kings ii. 34.

⁶ 1 Samuel xxv. 1.

⁷ *Theophania*, Lee's translation, p. 199.

that there was "only one cave within it, lest, had there been many, the miracle of Him who overthrew death should have been obscured."

One argument remained which, at least up to 1847, it seemed difficult for the impugners of the orthodox site to meet, namely,—Was it at all probable that Constantine should have been deceived, either by erroneous inference or by wilful misrepresentation, when in 325 he erected a monumental church over what was then believed to be the holy tomb? Apart from the consideration that of all localities this seemed to be the least likely to pass from the memory of the Christian church,⁸ its exact position had been in a manner identified by the existence on the rock of Golgotha of a temple or statue of Venus, and on the site of the resurrection of a statue of Jupiter erected by Hadrian in the 2d century; and the fact remains that on the superincumbent rubbish being cleared away by the orders of Constantine a cave was discovered, which it seems difficult, even were we willing with Taylor⁹ to impute deliberate fraud to the existing bishop of Jerusalem, to believe could have been previously prepared beneath a heathen shrine, and in the midst of a population of pagans and of Jews.¹⁰

In 1847 Fergusson, in his *Essay on the Ancient Topography of Jerusalem*, attempted to show that Constantine had built his memorial church on another site altogether, and that it was still existing under another name. On the eastern hill of the city, in the sacred Mohammedan enclosure of the Harâm-es-Sherif, and on a spot generally considered to have formed part of the temple area, stands the magnificent octagonal building called the Dome of the Rock, usually but erroneously believed to have been erected by the caliph Omar, and so popularly known as the mosque of Omar. The jealousy of the Moslems had, with rare exceptions, prevented up to quite recent times the intrusion of Christians within its sacred precincts, but it was known to have been erected over a large mass of native rock rising above the surface of the ground and having a cave within it. A section of the building, very roughly executed, was given in the *Travels of Ali Bey*, published in 1816 (vol. ii. p. 74); but in 1833 Mr. Cotherwood, under the pretext of being a civil engineer in the employment of Mehemet Ali, and of examining into the structural condition of the building with a view to its repair, spent three weeks in examining it and its surroundings, of which he made elaborate drawings and sections. A general account of his investigations and their results, published in W. H. Bartlett's *Walks about the City and Environs of Jerusalem* (p. 148), led to Fergusson's getting access to those drawings, which confirmed him in the belief he had already begun to entertain from other sources, that the Dome of the Rock was originally a Christian edifice; and in the essay referred to he argued at great length and with much vigour on both architectural and historical grounds that it and the Golden Gateway—a walled-up entrance to the Harâm from the east—were built in the time of Constantine; that the former was the church of the Anastasis, erected by that emperor over the tomb of our Lord, and the latter the entrance to the atrium of the great basilica described by Eusebius¹¹ as

⁸ Origen (*Cont. Cels.*, i. 51) speaks of Calvary as of a spot well known in his day (185-254).

⁹ *Ancient Christianity*, 4th ed., London, 1844, ii. 277.

¹⁰ Finlay (*Greece under the Romans*, p. 561) has argued that exact identification would be easy from the minute registration of property which prevailed in the Roman empire and extended to the provinces, by which the position of Golgotha and the property of Joseph of Arimathea might easily have been traced. But he seems to press his point too far (see Fallmerayer, *Golgotha und das heilige Grab*, 4to, Munich, 1852, p. 8).

¹¹ *Vita Const.*, iii. 39.

immediately adjoining; and that the transference of the site from the eastern to the western hill took place somewhere about the commencement of the 11th century, when, in consequence of the invasion of the Turks, the Christians were driven from the former hill for a time. This work was followed up by his article "Jerusalem" in Smith's *Dictionary of the Bible* and by several minor publications¹; and the whole question was, with some modifications, re-argued by him at great length in *The Temples of the Jews and the other Buildings in the Haram Area at Jerusalem* in 1878.

Though at first Fergusson's essay seemed to fall dead, it inaugurated a discussion which has within the last twenty years been carried on with much keenness. His views have been supported on architectural grounds by Unger,² and on general grounds by Sandie,³ Smith,⁴ and Langlois,⁵ while among the multitude of his opponents may be specially noted Williams,⁶ Lewin,⁷ the Abbé Michon,⁸ De Vogué,⁹ Pierotti,¹⁰ Sir Charles Warren,¹¹ and Captain Conder.¹²

The architectural arguments in favour of Fergusson's theory have forced Lewin, one of his most strenuous opponents, to argue that the Dome of the Rock may have been a temple to Jupiter erected by Hadrian, which he imagines may have been restored or rebuilt by Maximin Daza, the successor of Diocletian.¹³ But they must be studied in Fergusson's own works or in that of Unger above referred to. The topographical objections are mainly founded on the necessity of restricting the Jewish temple to the south-eastern corner of the Haram, the site, however, assigned to it by Lewin himself and Thrupp,¹⁴ and on the difficulty of supposing a place of interment so near the sacred building. But Josephus, at the time of the siege, speaks of "the monuments of King Alexander," whatever that may mean, existing just over against or in front of the north colonnade of the temple.¹⁵

As regards the historical argument, it would certainly appear that up to the close of the 6th century the balance of evidence is in favour of the eastern site. The narrative of the Pilgrim of Bordeaux¹⁶ may perhaps be read as supporting either view. But Antoninus Martyr¹⁷ and Theodosius¹⁸ can hardly be reconciled with the existing location; in two manuscripts of the latter¹⁹ the writer believed that the same hill witnessed in succession the offering of Isaac, the vision of the angel at Araunah's threshing-floor, the building of the temple, and the death and resurrection of

our Lord. Many more passages might be quoted from writers of this period testifying to the belief that the hill that witnessed the offering of Isaac witnessed also the resurrection of Christ, and many others identifying the scene of the offering of Isaac with the hill on which the temple was built. Perhaps the strongest point in this connexion against Fergusson is that so striking a fact as the identity of the hill of the Passion with that on part of which the temple stood should only be directly spoken to by a single writer. After the 9th century the historical evidence becomes more difficult to interpret. Fergusson would date the transference of the site about 1000; but it seems clear from Istakhri (978)²⁰ and Mokaddasi (987),²¹ both of whom were unknown to him, that before their days the Dome of the Rock was a Mohammedan place of worship, and the latter expressly states that it was suggested by a great Christian church.²² The natural date to assign for such a transference would be about 614, when the city was captured by the Persians, and, to quote the carefully guarded narrative of Gibbon, "the sepulchre of Christ and the stately churches of Helena and Constantine were consumed, or at least damaged, by the flames." The buildings were repaired or rebuilt by Modestus a few years later, and their praises are sung by Sophronius, his successor in the patriarchate, but in terms which give little topographical information. Sophronius lived to see the capture of the city by 'Omar in 636, the earliest records of whose doings as yet available are the brief one of Theophanes (818) and the more lengthened one of Eutychius (937). From both of these it seems clear that the caliph confirmed the Christians in the possession of the sites (whatever these might be) which he found in their hands. In or about 670 the French bishop Arculph visited Jerusalem, and under the hand of Adamnanus we have a detailed account taken down from his lips,²³ and a plan of the church of the Resurrection as he saw it, which strikingly corresponds to the Dome of the Rock,—as, however, it necessarily would correspond with any church which had been erected in close imitation of that building.²⁴ There are passages, however, in Arculph descriptive of the city very difficult to understand unless on the assumption that the transference of Sion, which had hitherto (see JERUSALEM) been identified with the eastern hill, had already in his time taken place. The next pilgrim who has left us a record is Willibald,²⁵ who visited the city early in the 8th century, and whose description applies on the whole better to the western than the eastern site;

¹ *Notes on the Site of the Holy Sepulchre at Jerusalem*, London, 1861, and *The Holy Sepulchre and the Temple at Jerusalem*, London, 1865.

² *Die Bauten Constantin's am heiligen Grabe*, Göttingen, 1863.

³ *Horeb and Jerusalem*, Edinburgh, 1864.

⁴ *The Temple and the Sepulchre*, London, 1865.

⁵ *Un Chapitre inédit de la Question des Lieux Saints*, Paris, 1861.

⁶ *The Holy City*, 2d ed., 2 vols., London, 1849.

⁷ *The Siege of Jerusalem by Titus, &c.*, London, 1863.

⁸ *Voyage religieux en Orient*, 2 vols., Paris, 1854.

⁹ *Le Temple de Jérusalem*, fol., Paris, 1864-65.

¹⁰ *Jerusalem Explored*, 2 vols. fol., London, 1864.

¹¹ *The Temple and the Tomb*, London, 1880.

¹² Various papers in the *Quarterly Statement of Palestine Exploration Fund*.

¹³ *Archæologia*, xli. p. 157. Sepp has latterly tried to show that it was built by Justinian—*Die Felsenkuppel, eine Justinianische Sophienkirche, und die übrigen Tempel Jerusalems*, Munich, 1882.

¹⁴ *Ancient Jerusalem*, Cambridge, 1855.

¹⁵ *Bel. Jud.*, v. 5 § 3. Sandie's attempt (*Horeb and Jerusalem*, p. 259) to minimize this difficulty by supposing a rocky valley to have run up from the valley of Jehoshaphat westwards at this point, and so to have divided the temple from the tomb, seems inadmissible. Modern investigation shows that such a valley, or rather depression, did exist, but north, not south, of the Dome of the Rock.

¹⁶ *Itinera Latina* (Soc. de l'Or. Lat.), Geneva, 1879, i. pp. 16-18.

¹⁷ *Ib.*, pp. 100-106.

¹⁸ *Ib.*, pp. 63-66.

¹⁹ The Louvain and British Museum MSS., see *Notes and Queries*, 27th January 1877.

²⁰ *Bibl. Geog. Arab.*, ed. De Goeje, Leyden, 1870-71, i. p. 56 sq.

²¹ *Ib.*, iii. p. 165 sq.

²² *Ib.*, iii. p. 159.

²³ *Itin. Lat.* (Soc. de l'Or. Lat.), 1879, i. pp. 141-202.

²⁴ The view that at the time when Arculph wrote the Dome of the Rock was in the hands of the Mohammedans seems strengthened by the well-known Cufic inscription which still runs round the colonnade of that building, and a complete translation of which by the late Professor Palmer will be found in the *Quarterly Report of the Palestine Exploration Fund* (1871, p. 164) and Fergusson's *Temples of the Jews* (p. 269). In it the construction of the dome of the building is dated 72 A.H. (691), but the name of the builder, which clearly was Abd-el-Melek in the original, has been erased and that of Abdallah el-Mamun (198 A.H.; 813) fraudulently substituted, "the short-sighted forger," as Palmer calls him, having omitted to change the date as well as the name. In this inscription there is very special mention made of our Saviour, and in a way which seems inexplicable unless the building on which it was inscribed had been, in the mind of the writer, associated in some important respects with the history of Jesus. And the tradition that it was so continued long after; for we find Theoderic so late as 1176 writing of it, "Hoc templum, quod nunc videtur, ad honorem Domini nostri Jesu Christi ejusque pie genetricis ab Helena regina et ejus filio, imperatore Constantino, constructum est" (ed. Tobler, St Gall, 1865, p. 46). Fergusson believes this inscription to have been written in the 12th century, but is obliged to admit that the alphabet employed is identical with that found on the coins of Abd-el-Melek (*Temples of the Jews*, p. 24). A facsimile of the sentence containing the date and the forgery will be found in the Rev. Isaac Taylor's *The Alphabet* (London, 1883, i. p. 322).

²⁵ *Itin. Lat.* (Soc. de l'Or. Lat.), 1879, i. pp. 244-297.

but, on the other hand, that of Bernard,¹ who travelled about 870, applies better to the eastern than to the western. If the transference can be supposed to have taken place at the time of the Persian invasion, one of the main difficulties in the adoption of Fergusson's theory will be greatly lessened, for the intervening period of more than 450 years would go far to explain how the crusaders, on gaining possession of the city in 1099, failed to make it their first business to revert to the original site. On the whole, the question is one which can hardly be satisfactorily determined until the Arabic authorities on the subject have been duly scrutinized, and as yet we have practically access to none earlier than the two above referred to.²

Within the last few years a third locality has been suggested. In 1878 Captain Conder, in his *Tent Work in Palestine* (i. pp. 372-376), expressed a strong conviction that the real site was to be found on a rocky knoll outside the northern wall, and close to the cave known as "Jeremiah's Grotto." He argued that not only did this locality meet the requirements of the Gospel narratives, being outside the city and near one of the great roads leading from the country, but that in this direction lay "the great cemetery of Jewish times" as testified by "the sepulchre of Simon the Just preserved by Jewish tradition," and the monument of Helena "fitted with a rolling stone such as closed the mouth of the Holy Sepulchre." Here also by early Christian tradition had been the scene of the martyrdom of Stephen, which doubtless occurred at the place of public execution, and to this day, according to Dr Chaplin, the Jews designate the knoll "by the name Beth has-Sekilah, 'the place of stoning' (domus lapidationis), and state it to be the ancient place of public execution mentioned in the Mishnah." The hill itself appears to present a striking resemblance to a human skull, and so to associate itself with the word "Golgotha." The adoption of this site by Dr Chaplin, the Rev. S. Merrill, Schick, and perhaps especially the late General Gordon,³ has aided in giving it a considerable popularity. It is, however, a purely conjectural location, and involves the assumption that all the Christian writers from the 4th century downwards, as well as the mother of Constantine, were in error as to the real site. (A. B. M'G.)

SEQUESTRATION. See BANKRUPTCY.

SEQUOIA, a genus of conifers, allied to *Taxodium* and *Cryptomeria*, forming one of several surviving links between the firs and the cypresses. The two species usually placed in this group are evergreen trees of large size, indigenous to the west coast of North America. Both bear their round or ovoid male catkins at the ends of the slender terminal branchlets; the ovoid cones, either terminal or on short lateral twigs, have thick woody scales dilated at the extremity, with a broad disk depressed in the centre and usually furnished with a short spine; at the base of the scales are from three to seven ovules, which become reversed or partially so by compression, ripening into small angular seeds with a narrow wing-like expansion.

The redwood of the Californian woodsmen, *S. sempervirens*, which may be regarded as the typical form, abounds on the Coast Range from the southern borders of the State northwards into Oregon, and, according to De Candolle, as far as Nootka Sound. It grows to a gigantic size: a trunk

¹ *Itin. Lat.* (Soc. de l'Or. Lat.), 1879, i. pp. 309-320.

² Palmer, in the chapter contributed by him (mainly from Arabic sources) to *Jerusalem, the City of Herod and Saladin* (by W. Besant and E. H. Palmer, London, 1871), has failed to give, with rare exceptions, any clue to the date of the writers whose statements he embodies.

³ *Reflections in Palestine*, London, 1884, pp. 1-3. See also *Quarterly Report of Palestine Exploration Fund* for 1883, p. 69; and Sir J. W. Dawson's *Egypt and Syria, their Physical Features in Relation to Bible History*, London, 1885, pp. 85-95, where two illustrations of the hill are given.

has been recorded 270 feet in length, and a greater height is said to be occasionally reached, while a diameter of from 12 to 15 feet is sometimes attained at the base. In old



Sequoia sempervirens—a, green cones and catkin; b, section of cone; c, scale of cone.

age the huge columnar trunk rises to a great height bare of boughs, while on the upper part the branches are short and irregular. The bark is red, like that of the Scotch fir, deeply furrowed, with the ridges often much curved and twisted. When young the tree is one of the most graceful of the conifers: the stem rises straight and tapering, with somewhat irregular whorls of drooping branches, the lower ones sweeping the ground,—giving an elegant conical outline. The twigs are densely clothed with flat spreading linear leaves of a fine glossy green above and glaucous beneath; in the old trees they become shorter and more rigid and partly lose their distichous habit. The globular brown catkins appear early in June; the cones, from 1 to 2 inches long, are at first of a bluish green colour, but when mature change to a reddish brown; the scales are very small at the base, dilating into a broad thick head, with a short curved spine below the deep transverse depression. The redwood forms woods of large extent on the seaward slope of the Coast Range and occurs in isolated groups farther inland. From the great size of the trunk and the even grain of the red cedar-like wood it is a valuable tree to the farmer and carpenter: it splits readily and evenly, and planes and polishes well; cut radially, the medullary plates give the wood a fine satiny lustre; it is strong and durable, but not so elastic as many of the western pines and firs. In England the tree grows well in warm situations, but suffers much in severe winters,—its graceful form rendering it ornamental in the park or garden, where it sometimes grows 30 or 40 feet in height; its success as a timber tree would be doubtful. In the eastern parts of the United States it does not flourish. Discovered by Menzies in the end of the 18th century, it has long been known in British nurseries under the name of *Taxodium sempervirens*.

The only other member of the genus is the giant tree of the Sierra Nevada, *S. gigantea*, the largest of known conifers; it is confined to the western portion of the great Californian range, occurring chiefly in detached groups