

Zinzendorf as the second bishop of the Moravian church. From these two the existing Moravian episcopate is derived.

A remarkable instance of a Roman Catholic episcopal church not in communion with the papal see is to be found in the so-called Jansenist Church of Holland. Preserved with difficulty through the tempestuous period of the Dutch Reformation, when after fierce struggle the Protestant faith obtained the ascendancy it has ever since maintained in Holland, the episcopate was in danger of dying out at the beginning of the 18th century, through the refusal of the papal authorities to allow consecrations to the vacant sees, in revenge for the resolute adherence of the church to Jansenist doctrines. The episcopate was indeed only saved from extinction by the singularly opportune presence of a duly consecrated bishop of Babylon (Dominique Marie Varlet, previously vicar-general of Louisiana), who, having been suspended unheard by a notoriously uncanonical sentence, in consequence of his having manifested sympathy with the oppressed Church of Holland, by administering the rite of confirmation during his sojourn at Amsterdam on his outward journey, had made that city his home, on his return to Europe in 1721, while waiting the result of his appeal. Convinced that they had no hope of obtaining a prelate from the papal court, the chapter of Utrecht met and elected Cornelius Steenoven archbishop, April 27, 1723. More than a year having been spent in vain applications to neighbouring diocesan bishops to perform the ceremony, the newly-elected prelate was consecrated by the bishop of Babylon at Amsterdam, October 15, 1724. The act was declared unlawful and execrable by Pope Benedict XIII., and all who had taken part in it were excommunicated. The national church maintained a firm attitude, and on the death of the new archbishop, within half a year of his consecration, the chapter proceeded to the immediate election of a successor, Barchman Waytiers, who was also consecrated by the bishop of Babylon, September 30, 1725. On the death of Waytiers, May 13, 1733, before he could succeed in securing the consecration of any suffragan, Theodore van Croon was elected by the chapter, and received consecration from the same hands, October 28 of that year. Once again, and for the last time, on the death of this archbishop, June 9, 1739, the bishop of Babylon was called upon to save the Dutch episcopate from extinction by the consecration of Peter John Meindaerts, October 18, 1739. The chapter of Haarlem, whose unwillingness to offend the papal authorities by electing a bishop had hitherto prevented the increase of the episcopate, still refusing to act, the new archbishop took the matter into his own hands, nominated and consecrated a bishop to that see in 1742, and added a third member to the episcopal college in the person of the bishop of Deventer, consecrated in 1758. The succession has continued unbroken from that time to the present day, though in more than one instance its existence has hung precariously on a single life. Each consecration has been followed by a formal excommunication by the pope, and, all the attempts to obtain reconciliation being repelled with insult, the church has at length settled down into the true Gallican position of protest against ultramontaniam whether of doctrine or of discipline. (A. W. Haddan's *Remains*, p. 413; Neale's *Jansenist Church of Holland*.)

The national Church of Holland has been the instrument of conferring the episcopate on the community known as "Old Catholics," whose separation from the Church of Rome, under the leadership of Dr Döllinger, was occasioned by the publication of the Vatican decrees relating to papal supremacy and infallibility, passed at the so-called oecumenical council of 1870. Dr J. H. Reinkens, the individual chosen to be the first bishop of the new church at the synod, consisting of priests and lay delegates, held at Cologne, June 4, 1873, was consecrated on August 11 by

Mgr. Heykamp, the bishop of Deventer.—Archbishop Loos of Utrecht, who had promised to administer the rite, having died on the very day of the new bishop's election. A second bishop, Edward Herzog, was consecrated for the members of the Old Catholic body in Switzerland by Bishop Reinkens at Rheinfelden in Aargau, September 18, 1876, having been previously elected by a synod assembled at Olten.

The episcopate in the colonies and dependencies of the English crown commenced with the consecration of Dr Charles Inglis to the diocese of Nova Scotia, which took place at Lambeth, August 12, 1787, the same year which had witnessed the foundation of the episcopate of the American Church. Quebec was formed into a separate diocese in 1793, and Nova Scotia was again subdivided by the foundation of the sees of Newfoundland in 1839, and Fredericton (New Brunswick) in 1845. The original diocese of Quebec has also been broken up by the establishment of the sees of Toronto (1839), Montreal (1850), Huron (1857), Ontario (1861), and Niagara (1875). These are all suffragans to Montreal, the metropolitan see of the Dominion of Canada. In 1849 the diocese of Rupert's Land was formed out of the vast territories of the Hudson's Bay Company. This has subsequently been constituted metropolitan, having as its suffragans the bishops of Moosonee (1872), Athabasca (1874), Saskatchewan (1874), and the missionary bishop of Algoma (1873).

The next part of the British dependencies to receive the episcopate was the East Indies. The see of Calcutta was formed, to which Dr Middleton was consecrated at Lambeth in 1814. The unwisely diocese intrusted to his supervision, including eventually all British subjects in India, Ceylon, Mauritius, Australia, New Zealand, and Tasmania, has been gradually broken up into more than twenty separate dioceses, and the process of subdivision is continually going on.

India alone now remains under the metropolitan of Calcutta, who has as his suffragans the bishops of Madras (1835), Bombay (1837), Colombo (Ceylon) (1845), Labuan (1855), Lahore (1878), and Rangoon (1878). The diocese of Victoria (Hong Kong) was established in 1849, that of the Mauritius in 1854, and of North China in 1872.

The West India islands came first under episcopal supervision in 1824, when the dioceses of Barbados and Jamaica (now Kingston) were founded. In 1842 the diocese of Barbados was divided into three by the formation of the separate sees of Antigua and Guiana, and in 1861 the Bahamas were severed from Jamaica and became the see of Nassau. The bishopric of Trinidad was founded in 1872.

In 1836 Australia and the adjacent English dependencies were withdrawn from the nominal supervision of the bishops of Calcutta by the consecration of Dr W. G. Broughton as first bishop of Australia (now Sydney). New Zealand was erected into a separate see (now Auckland) in 1841, and Tasmania in 1842. The see of Sydney has since become metropolitan, containing the dioceses of Adelaide, Melbourne, Newcastle (all three founded in 1847), Perth (1857), Brisbane (1859), Goulburn (1863), Grafton and Armidale (1867), Bathurst (1869), and Ballarat (1875). The original diocese of New Zealand is now divided into six under its own metropolitan, the primacy being elective and not attached to any specified see. These dioceses are Auckland (1869), Christchurch (1856), Wellington, Nelson, and Waiapu (all three founded in 1858), and Dunedin (1866). To these should be added the missionary bishopric of Melanesia (1861). The Polynesian island of Hawaii became the seat of the bishop of Honolulu in 1861, the Falkland Islands were constituted a see in 1870, and after many difficulties Madagascar received the episcopate in 1874

After the colony of the Cape of Good Hope had been in British possession for more than forty years, the episcopate was granted to it. Bishop Gray was consecrated first bishop of Cape Town on St Peter's Day 1847. This energetic prelate lost no time in subdividing his enormous diocese. The first new sees were those of Graham's Town and Natal, founded in 1853. St Helena became a bishopric in 1859, the Orange River Territory (now Bloemfontein) in 1863, Maritzburg in 1869, Zululand in 1870, and Pretoria (the Transvaal) in 1878. The diocese of Independent Kaffraria (St John's) was founded by the Scotch Episcopal Church in 1873. We must not omit to mention the missionary bishopric of Central Africa, or the Zambesi, founded by the Universities Mission in 1861, of which the lamented Charles Mackenzie was the first bishop.

On the western coast of Africa, Sierra Leone was constituted a diocese in 1850. In 1864 the Niger territory, including Lagos and Abbeokuta, was taken from it as a missionary diocese. On the seaboard between the two, the republic of Liberia is ecclesiastically subject to a bishop of the American church stationed at Cape Palmas.

In 1842 Gibraltar was made the seat of a bishop, whose jurisdiction extends over the clergy and members of the Church of England on the seaboard and islands of the Mediterranean, Archipelago, and Black Sea. In 1846 a bishop was consecrated, under the title of bishop of Jerusalem, to take oversight of the Protestant settlements in Asia Minor, Egypt, Palestine, and Syria.

The episcopate of the Protestant Episcopal Church of the United States of North America was originally derived partly from the Episcopal Church of Scotland, partly from that of England. As, however, the Scottish bishops trace their succession to those consecrated by English bishops in 1661, the American Church may be regarded as a legitimate daughter of the Anglican Church, with which she is united in doctrine and discipline, and in legally authorized communion. The first bishop of the American Church was Dr Samuel Seabury, elected by the clergy of Connecticut. The oath of allegiance, with which the archbishop had no power to dispense without a special Act of Parliament, forming an inseparable obstacle to his consecration in England, Dr Seabury had recourse to the Scotch Episcopal Church, and was admitted to the episcopate at Aberdeen, November 14, 1784, by the hands of the bishops of Aberdeen, Ross, and Moray. Three years later, the formal difficulty having been in the meantime removed, Dr White and Dr Provoost, the elected respectively of the conventions of Pennsylvania and New York, were consecrated at Lambeth on February 4, 1787, by Archbishops Moore and Markham and Bishops Moss of Bath and Wells and Hinchcliffe of Peterborough. There being now three bishops in the American Church, the number held canonically necessary under ordinary circumstances to a rightful consecration, though not absolutely essential to its validity, they proceeded to consecrate others, the first being Dr Madison for Virginia. By the beginning of the new century the number of diocesan bishops had risen to seven, and now (1878) it amounts to fifty-seven, to whom must be added several missionary bishops consecrated for work among the heathen. The right of electing a bishop is vested, by the constitution of the American Church, in the convention of the diocese, lay as well as clerical. Their choice is submitted to the general convention, if sitting, if not, to the standing committees of the dioceses, and must receive the sanction of the majority before the bishops can consecrate. (E. V.)

EPISCOPIUS, SIMON (1583–1643), a distinguished theologian (whose name in Dutch was Bisschop), was born at Amsterdam on the 1st January 1583. In 1600 he entered the university of Leyden, where he took his master of arts

degree in 1606. He afterwards studied theology under Arminius, and Arminius's opponent Gomar; but soon becoming a strong sympathizer with the Arminian doctrines, he, on the death of Arminius in 1609, left Leyden for the university of Franeker. In 1610, the year in which the Arminians presented the famous Remonstrance to the States of Holland, he was ordained minister at Bleyswich, a small village in the neighbourhood of Rotterdam; and in the following year he advocated the cause of the Remonstrants at the Hague conference. In 1612 he succeeded Gomar as professor of theology at Leyden, an appointment which awakened the bitter enmity of the Calvinists, and, on account of the influence lent by it to the spread of Arminian opinions, was doubtless an ultimate cause of the meeting of the Synod of Dort in 1618. Episcopius was chosen as the spokesman of the thirteen representatives of the Remonstrants before the synod; but he was refused a hearing, and the Remonstrant doctrines were condemned without any explanation or defence of them being permitted. At the end of the synod's sittings in 1619, Episcopius and the other representatives were deprived of their offices and expelled from the country. Episcopius retired to Brabant, but ultimately went to France, and took up his residence at Rouen. He devoted the most of his time to the promotion by writings of the Arminian cause; but the attempt of Wadding to win him over to the Romish faith involved him also in a controversy with that famous Jesuit. After the death of the stadtholder Maurice, the violence of the Arminian controversy began to abate, and Episcopius was permitted in 1626 to resume his duties in the Remonstrant church of Rotterdam. He was afterwards appointed rector of the Remonstrant college at Amsterdam, where he died in 1643. Episcopius may be regarded as in great part the theological founder of Arminianism. Its principles were enunciated by Arminius, but in a fragmentary and somewhat tentative shape, and it is to Episcopius that the merit is due of having developed them into a complete and distinctive form of belief, and of having given them a widely extended and permanent influence. Besides opposing at all points the peculiar doctrines of Calvinism, Episcopius protested against the tendency of Calvinists to lay so much stress on abstract dogma, and argued that Christianity was practical rather than theoretical,—not so much a system of intellectual belief as a moral power,—and that an orthodox faith did not necessarily imply the knowledge of and assent to a system of doctrine which included the whole range of Christian truth, but only the knowledge and acceptance of so much of Christianity as was necessary to effect a real change on the heart and life.

The principal works of Episcopius are his *Confessio s. declaratio sententiae pastorum qui in federato Belgio Remonstrantes vocantur super praecipuis articulis religionis Christianae* (1621), his *Apologia pro Confessione* (1629), and his uncompleted work *Institutiones Theologicae*. A life of Episcopius was written by Limborch, and one was also prefixed by his successor Curcellæus to an edition of his collected works published in 2 vols. (1650–1665).

EPITAPH (*ἐπιτάφιος*, sc. λόγος, from *ἐπί*, upon, and *τάφος*, a tomb) means strictly an inscription upon a tomb, though by a natural extension of usage the name is applied to anything written ostensibly for that purpose whether actually inscribed upon a tomb or not. Many of the best known epitaphs, both ancient and modern, are merely literary memorials, and find no place on sepulchral monuments. Sometimes the intention of the writer to have his production placed upon the grave of the person he has commemorated may have been frustrated, sometimes it may never have existed; what he has written is still entitled to be called an epitaph if it be suitable for the purpose, whether the purpose has been carried out or not. The most obvious external condition that suitability for mural inscription imposes is one of rigid limitation as to length. An epitaph

cannot in the nature of things extend to the proportions that may be required in an elegy.

The desire to perpetuate the memory of the dead being natural to man, the practice of placing epitaphs upon their graves has been common among all nations and in all ages. And the similarity, amounting sometimes almost to identity, of thought and expression that often exists between epitaphs written more than two thousand years ago and epitaphs written only yesterday is as striking an evidence as literature affords of the close kinship of human nature under the most varying conditions where the same primary elemental feelings are stirred. The grief and hope of the Roman mother as expressed in the touching lines—

Lagge fili bene quiescas
Mater tua rogat te,
Ut me ad te recipias :
Vale !

find their echo in similar inscriptions in many a modern cemetery.

Probably the earliest epitaphial inscriptions that have come down to us are those of the ancient Egyptians, written, as their mode of sepulture necessitated, upon the sarcophagi and coffins. Those that have been deciphered are all very much in the same form, commencing with a prayer to a deity, generally Osiris or Anubis, on behalf of the deceased, whose name, descent, and office are usually specified. There is, however, no attempt to delineate individual character, and the feelings of the survivors are not expressed otherwise than in the fact of a prayer being offered. Ancient Greek epitaphs, unlike the Egyptian, are of great literary interest, deep and often tender in feeling, rich and varied in expression, and generally epigrammatic in form. They are written usually in elegiac verse, though many of the later epitaphs are in prose. Among the gems of the Greek anthology familiar to English readers through translations are the epitaphs upon those who had fallen in battle. There are several ascribed to Simonides on the heroes of Thermopylæ, of which the most celebrated is the epigram—

"Go tell the Spartans, thou that passest by,
That here, obedient to their laws, we lie."

A hymn of Simonides on the same subject contains some lines of great beauty, which may be regarded as a literary epitaph:—

"In dark Thermopylæ they lie;
Oh death of glory, there to die !
Their tomb an altar is, their names
A mighty heritage of fame ;
Their dirge is triumph.—Cankering rust,
And time that turneth all to dust
That tomb shall never waste nor hide.—
The tomb of warriors true and tried,
The full-voic'd praise of Greece around
Lies buried in that sacred mound ;
Where Sparta's king, Leonidas,
In death eternal glory has."

In Lacedæmonia epitaphs were inscribed only upon the graves of those who had been especially distinguished in war; in Athens they were applied more indiscriminately. They generally contained the name, the descent, the demise, and some account of the life of the person commemorated. It must be remembered, however, that many of the so-called Greek epitaphs are merely literary memorials not intended for monumental inscription, and that in these freer scope is naturally given to general reflections, while less attention is paid to biographical details. Many of them, even some of the monumental, do not contain any personal name, as in the one ascribed to Plato:—

"I am a shipwrecked sailor's tomb; a peasant's there doth stand:
Thus the same world of Hades lies beneath both sea and land."

Others again are so entirely of the nature of general reflections upon death that they contain no indication of the

particular case that called them forth. It may be questioned, indeed, whether several of this character quoted in ordinary collections are epitaphs at all, in the sense of being intended for a particular occasion.

Roman epitaphs, in contrast to those of the Greeks, contained, as a rule, nothing beyond a record of facts. The inscriptions on the urns, of which numerous specimens are to be found in the British Museum, present but little variation. The letters D.M. or D.M.S. (*Diis Manibus* or *Diis Manibus Sacrum*) are followed by the name of the person whose ashes are inclosed, his age at death, and sometimes one or two other particulars. The inscription closes with the name of the person who caused the urn to be made, and his relationship to the deceased. It is a curious illustration of the survival of traces of an old faith after it has been formally discarded to find that the letters D.M. are not uncommon on the Christian inscriptions in the catacombs. It has been suggested that in this case they mean *Deo Maximo* and not *Diis Manibus*, but the explanation would be quite untenable, even if there were not many other undeniable instances of the survival of pagan superstitions in the thought and life of the early Christians. In these very catacomb inscriptions there are many illustrations to be found, apart from the use of the letters D. M., of the union of heathen with Christian sentiment (see Maitland's *Church in the Catacombs*). The private burial places for the ashes of the dead were usually by the side of the various roads leading into Rome, the Via Appia, the Via Flaminia, &c. The traveller to or from the city thus passed for miles an almost uninterrupted succession of tombstones, whose inscriptions usually began with the appropriate words *Siste Viator* or *Aspice Viator*, the origin doubtless of the "Stop Passenger," which still meets the eye in many parish churchyards of Britain. Another phrase of very common occurrence on ancient Roman tombstones; *Sit tibi terra levis*,—Light lie the earth upon thee,—has continued in frequent use, as conveying an appropriate sentiment, down to modern times. A remarkable feature of many of the Roman epitaphs was the terrible denunciation they often pronounced upon those who violated the sepulchre. Two impressive examples may be quoted:—

"Male pereat, Insepultus jacet,
Non resurgat, Cum Juda partem habeat,
Si quis sepulchrum hunc violaverit."

The second is more refined but not less terrible in its malediction:—

"Quisquis
Hoc Sustulerit aut lesserit
Ultimus Suorum moriatur."

Such denunciations were not uncommon in later times. A well known instance is furnished in the lines on Shakespeare's tomb at Stratford-on-Avon, said to have been written by the poet himself:—

"Good friend for Jesus sake forbear,
To digg the dust enclosed here;
Blest be y^e man y^e spares thes stones,
And curst be he y^e moves my bones."

The earliest existing British epitaphs belonged to the Roman period, and are written in Latin after the Roman form. Specimens are to be seen in various antiquarian museums throughout the country; some of the inscriptions are given in Bruce's *Roman Wall*, and the seventh volume of the *Corpus Inscriptionum Latinarum* edited by Hübnér, containing the British inscriptions, is the most valuable repertory for the earlier Roman epitaphs in Britain. The earliest, of course, are commemorative of soldiers belonging to the legions of occupation, but the Roman form was afterwards adopted for native Britons. Long after the Roman form was discarded, the Latin language continued to be used, especially for inscriptions of a more public

character, as being from its supposed permanence the most suitable medium of communication to distant ages. It is only, in fact, within recent years that Latin has become unusual, and the more natural practice has been adopted of writing the epitaphs of distinguished men in the language of the country in which they lived. While Latin was the chief if not the sole literary language, it was, as a matter of course, almost exclusively used for epitaphial inscriptions. The comparatively few English epitaphs that remain of the 11th and 12th centuries are all in Latin. They are generally confined to a mere statement of the name and rank of the deceased following the words "Hic jacet." Two noteworthy exceptions to this general brevity are, however, to be found in most of the collections. One is the epitaph to Gundrada, daughter of the Conqueror (d. 1085), which still exists at Lewes, though in an imperfect state, two of the lines having been lost; another is that to William de Warren, earl of Surrey (d. 1089), believed to have been inscribed in the Abbey of St Pancras, near Lewes, founded by him. Both are encomiastic, and describe the character and work of the deceased with considerable fullness and beauty of expression. They are written in Leonine verse. In the 13th century French began to be used in writing epitaphs, and most of the inscriptions to celebrated historical personages between 1200 and 1400 are in that language. Mention may be made of those to Robert, the third earl of Oxford (d. 1221), as given in Weever, to Henry III (d. 1272) at Westminster Abbey, and to Edward the Black Prince (d. 1376) at Canterbury. In most of the inscriptions of this period the deceased addresses the reader in the first person, describes his rank and position while alive, and, as in the case of the Black Prince, contrasts it with his wasted and loathsome state in the grave, and warns the reader to prepare for the same inevitable change. The epitaph almost invariably closes with a request, sometimes very urgently worded, for the prayers of the reader that the soul of the deceased may pass to glory, and an invocation of blessing, general or specific, upon all who comply. Epitaphs preserved much of the same character after English began to be used towards the close of the 14th century. The following to a member of the Savile family at Thornhill is probably even earlier, though its precise date cannot be fixed:—

"Bonys emongg stonys lys ful
steyl gwylste the sawle wand-
eris were that God wylethe."

That is, Bones among stones lie full still, whilst the soul wanders whither God willeth. It may be noted here that the majority of the inscriptions, Latin and English, from 1300 to the period of the Reformation, that have been preserved, are upon brasses. (See BRASSES, MONUMENTAL.)

It was in the reign of Elizabeth that epitaphs in English began to assume a distinct literary character and value, entitling them to rank with those that had hitherto been composed in Latin. There is one on the dowager countess of Pembroke (d. 1621), remarkable for its successful use of a somewhat daring hyperbole. It is usually attributed to Ben Jonson, but there seems reason to believe that it was written by William Browne, author of *Britannia's Pastorals*:—

"Underneath this marble hearse
Lies the subject of all verse;
Sydney's sister, Pembroke's mother;
Death, ere thou hast slain another
Fair and learn'd and good as she,
Time will throw his dart at thee.
Marble piles let no man raise
To her name for after days;
Some kind woman, born as she,
Reading this, like Niobe,
Shall turn marble, and become
Both her mourner and her tomb."

If there be something of the exaggeration of a conceit in the second stanza, it needs scarcely to be pointed out that epitaphs, like every other form of composition, necessarily reflect the literary characteristics of the age in which they were written. The depreciation of marble as unnecessary suggests one of the finest literary epitaphs in the English language, that by Milton upon Shakespeare:—

"What needs my Shakespeare, for his honoured bones
The labour of an age in piled stones?
Or that his hallowed reliques should be hid
Under a star-ypointing pyramid?
Dear Son of Memory, great heir of fame,
What need'st thou such weak witness of thy name?
Thou in our wonder and astonishment
Hast built thyself a live-long monument.
For whilst, to the shame of slow-endeavouring art,
Thy easy numbers flow; and that each heart
Hath, from the leaves of thy unvalued book,
Those Delphic lines with deep impression took;
Then thou our fancy of itself bereaving,
Dost make us marble with too much conceiving;
And so sepulchred, in such pomp dost lie,
That kings for such a tomb would wish to die."

The epitaphs of Pope are generally considered to possess very great literary merit, though they were rated higher by Johnson and critics of his period than they are now. Two are quoted in most collections as, each in its own way, a typical specimen. The first is on Mrs Corbet:—

"Here rests a woman, good without pretence,
Blest with plain reason and with sober sense;
No conquests she, but o'er herself, desired,
No arts essayed, but not to be admired.
Passion and pride were to her soul unknown,
Convinced that virtue only is our own.
So unaffected, so composed a mind;
So firm, yet soft; so strong, yet so refined;
Heaven, as its purest gold, by tortures tried;
The saint sustained it, but the woman died."

The other, to Sir Isaac Newton, is not inscribed upon any monument:—

"Nature and Nature's laws lay hid in night;
God said, Let Newton be! and all was light."

Objection has been taken to it as "savouring of profanity,"—a criticism which will be differently estimated by different minds.

Dr Johnson, who thought so much of Pope's epitaphs, was himself a great authority in both the theory and practice of this species of composition. His essay on epitaphs is one of the few existing monographs on the subject, and his opinion as to the use of Latin had great influence. The manner in which he met the delicately insinuated request of a number of eminent men that English should be employed in the case of Oliver Goldsmith was characteristic, and showed the strength of his conviction on the subject (see Boswell's *Life*, vol. vi. c. 7). The arguments in favour of Latin were chiefly drawn from its inherent fitness for epitaphial inscriptions and its classical stability. The first of these has a very considerable force, it being admitted on all hands that few languages are in themselves so suitable for the purpose; the second is outweighed by considerations that had considerable force in Dr Johnson's time, and have acquired more since. Even to the learned Latin is no longer the language of daily thought and life as it was at the period of the Reformation, and the great body of those who may fairly claim to be called the well-educated classes can only read it with difficulty, if at all. It seems, therefore, little less than absurd, for the sake of a stability which is itself in great part delusive, to write epitaphs in a language unintelligible to the vast majority of those for whose information presumably they are intended. Though a stickler for Latin, Dr Johnson wrote some very beautiful English epitaphs, as, for example, the following on Philips, a musician:—

Philips, whose touch harmonious could remove
The pangs of guilty power or hapless love;
Rest here, distressed by poverty no more,
Here find that calm thou gav'st so oft before;
Sleep undisturbed within this peaceful shrine
Fill angels wake thee with a note like thine!"

In classifying epitaphs various principles of division may be adopted. Arranged according to nationality they indicate distinctions of race less clearly perhaps than any other form of literature does,—and this obviously because when under the influence of the deepest feeling men think and speak very much in the same way whatever be their country. At the same time the influence of nationality may to some extent be traced in epitaphs. The characteristics of the French style, its grace, clearness, wit, and epigrammatic point, are all recognizable in French epitaphs. Instances such as "*La première au rendezvous*," inscribed on the grave of a mother, Piron's epitaph written for himself after his rejection by the French Academy—

"Ci-gît Piron, qui ne fut jamais rien,
Pas même Académicien—

and one by a relieved husband, to be seen at Père la Chaise—
"Ci-gît ma femme. Ah! qu'elle est bien
Pour son repos et pour le mien—"

might be multiplied indefinitely. One can hardly look through a collection of English epitaphs without being struck with the fact that these represent a greater variety of intellectual and emotional states than those of any other nation, ranging through every style of thought from the sublime to the commonplace, every mood of feeling from the most delicate and touching to the coarse and even brutal. Few subordinate illustrations of the wonderfully complex nature of the English nationality are more striking than this.

Epitaphs are sometimes classified according to their authorship and sometimes according to their subject, but neither division is so interesting as that which arranges them according to their characteristic features. What has just been said of English epitaphs is, of course, more true of epitaphs generally. They exemplify every variety of sentiment and taste, from lofty pathos and dignified eulogy to coarse buffoonery and the vilest scurrility. The extent to which the humorous and even the low comic element prevails among them is a noteworthy circumstance. It is curious that the most solemn of all subjects should have been frequently treated, intentionally or unintentionally, in a style so ludicrous that a collection of epitaphs is generally one of the most amusing books that can be picked up. In this as in other cases too it is to be observed that the unintended humour is generally of a much more entertaining kind than that which has been deliberately perpetrated. It would be out of place to give here any specimens of a class of epitaphs which—just because they are the most amusing—are the most abundantly represented in all the ordinary collections.

See Weever, *Ancient Funerall Monuments*, 1631, 1661 (Tooke's edit., 1767); Philip Labbe, *Thesaurus epitaphiorum*, Paris, 1666; *Theatrum Funebre extructum a Dodone Richea sen Ottone Aicher*, 1675; Hackett, *Select and Remarkable Epitaphs*, 1757; De la Place, *Recueil d'épithaphes*, 3 vols., Paris, 1782; Pulleyn, *Churchyard Gleanings*, c. 1830; L. Lewysohn, *Sechzig Epitaphien von Grabsteinen d. israelit. Friedhofes zu Worms*, 1855; Pettigrew, *Chronicles of the Tombs*, 1857; S. Tissington, *Epitaphs*, 1857; Robinson, *Epitaphs from Cemeteries in London*, Edinburgh, &c., 1859; Le Blant, *Inscriptions Chrétiennes de la Gaule antérieures au VIII^e siècle*, 1856, 1865; Blommaert, Gaillard, &c., *Inscriptions funéraires et monumentales de la prov. de Flandre Orient.* Ghent, 1857, 1860; *Inscriptions fun. et mon. de la prov. d'Anvers*, Antwerp, 1857-1860; Chwolson, *Achtzehn Hebraische Grabschriften aus der Krim*, 1859; J. Brown, *Epitaphs, &c.*, in *Greyfriars Churchyard*, Edinburgh, 1867; H. J. Loaring, *Quaint, Curious, and Elegant Epitaphs*, 1872; Cansick, *Epitaphs in Cemeteries and Churches of St Pancras*, 1872; Northend, *Book of Epitaphs*, New York, 1873; J. R. Kippax, *Churchyard Literature: Choice coll. of American Epitaphs*, 1876. (W. B. S.)

EPITHALAMIUM (from *ἐπι*, and *θάλαμος*, a nuptial chamber), originally among the Greeks a song which was sung by a number of boys and girls at the door of the nuptial chamber. According to the scholiast on Theocritus, one form the *κατακοιμητικόν*, was employed at night, and another, the *διεγερτικόν*, to amuse the bride and bridegroom on the following morning. In either case, as was natural, the main burden of the song consisted of invocations of blessing and predictions of happiness, interrupted from time to time by the ancient chorus of *Hymen hymenæe*. Among the Romans, a similar custom was in vogue, but the song was sung by girls only, after the marriage guests had gone, and it contained much more of what modern morality would condemn as obscene. In the lands of the poets the epithalamium was developed into a special literary form, and received considerable cultivation. Sappho, Anacreon, Stesichorus, and Pindar are all regarded as masters of the species, but the finest example preserved in Greek literature is the 18th Idyll of Theocritus, which celebrates the marriage of Menelaus and Helena. Catullus, Statius, Ausonius, Sidonius Apollinaris, and Claudian are the authors of the best known epithalamia in classical Latin; and they have been imitated by Buchanan, Scaliger, Sannazarius, and a whole host of modern Latin poets, with whom, indeed, the form was at one time in great favour. The names of Ronsard, Malherbe, and Scarron are especially associated with the species in French literature, and Marini and Metastasio in Italian. Perhaps no poem of the class has been more universally admired than the epithalamium of Spenser, though he has found no unworthy rivals in Ben Jonson and one or two of his successors.

EPSOM, a market town in the county of Surrey, is situated about 14 miles S.W. of London, on a branch of the London and Brighton railway. The town is irregularly built, but contains some handsome new houses. The principal building is the parish church, a Gothic edifice, rebuilt in 1823, the interior of which contains some fine sculptures by Flaxman and Chantrey. Epsom has attained a wide celebrity on account of its mineral springs and its races. The former were discovered about 1618, and for some time after their discovery, the town enjoyed a wonderful degree of prosperity. After the Restoration, it was often visited by Charles II., and when Queen Anne came to the throne, her husband, Prince George of Denmark, made it his frequent resort. Epsom gradually lost its celebrity as a spa, but the annual races held on its downs have arrested the decay of the town. Races appear to have been established here as early as James I.'s residence at Nonsuch, but they did not assume a permanent character until 1730. The principal races—the Derby and Oaks—are named after one of the earls of Derby, and his seat, the Oaks, which is in the neighbourhood. The latter race was established in 1779, and the former in the following year. The spring races are held on a Thursday and Friday towards the close of April; and the great Epsom meeting takes place on the Tuesday and three following days immediately before Whitsuntide,—the Derby on the Wednesday and the Oaks on the Friday. The grand stand, erected in 1829, is 156 feet wide and 70 feet in depth, consists of three stories, accommodating nearly 5000 spectators, and includes a saloon 108 feet by 34. The population of the civil parish, in 1871 was 6276.

EPSOM SALTS, the *magnesia sulphas* of pharmacy, and the epsomite or hair-salt of mineralogical treatises, is an hydrated magnesium sulphate, of the chemical constitution $MgSO_4 \cdot 7H_2O$, and isomorphous with zinc sulphate (see vol. vi. p. 527), which it resembles in appearance. The salt crystallizes in four-sided, right-rhombic, lustrous, colourless prisms, which in the commercial article are

usually acicular in shape. It can be obtained also in crystals of the monoclinic system. It is very soluble, one part dissolving in 0.79 parts of water at 18.75°C., and has a bitter, saline, and cooling taste. The salt is prepared on the large scale by several methods, e.g., by the treatment of the bittern of salt works with sulphuric acid or ferrous sulphate, by which the magnesium chloride of the liquid is converted into sulphate; by acting on magnesite, the native magnesium carbonate, or on magnesian limestone, with sulphuric acid, preferably, in the case of the latter substance, after the removal of the calcium carbonate by means of hydrochloric acid; and, as in the neighbourhood of Genoa, by the roasting of pyritous serpentine, subsequent exposure to the air and lixiviation, peroxidization of ferrous salts by chlorine, precipitation of ferric oxide by burnt lime or dolomite, and evaporation of the resultant solution of magnesium sulphate. The mineral waters of Seidlitz, Saidschütz, Püllna, and of other places besides Epsom owe their potency to magnesium sulphate. The salt occurs in fibrous crusts or botryoidal masses in some limestone caves; in gypsum quarries, as a result of the action of the gypsum on magnesian limestone; and in the old workings of mines, where it is produced by the oxidation of pyrites in the presence of magnesium compounds. As a hydragogue purgative, it is in common use; it is more especially valuable in febrile diseases, in congestion of the portal system, and in the obstinate constipation of painter's colic. To produce diuresis, the drug is far less frequently resorted to. It possesses the advantage of exercising but little irritant effect upon the bowels. In some cases, where full doses have failed, the repeated administration of small quantities has been found effectual. The chief application of Epsom salts or "Epsoms" is for weighting cotton-cloth. As a manure, magnesium sulphate has been chiefly employed as a top-dressing for clover-hay. The chlorides of magnesium and sodium and salts of iron and of calcium may occur as impurities in Epsom salts.

EQUATION. The present article includes DETERMINANT and THEORY OF EQUATIONS; and it may be proper to explain the relation to each other of the two subjects. Theory of Equations is used in its ordinary conventional sense to denote the theory of a single equation of any order in one unknown quantity; that is, it does not include the theory of a system or systems of equations of any order between any number of unknown quantities. Such systems occur very frequently in analytical geometry and other parts of mathematics, but they are hardly as yet the subject-matter of a distinct theory; and even Elimination, the transition-process for passing from a system of any number of equations involving the same number of unknown quantities to a single equation in one unknown quantity, hardly belongs to the Theory of Equations in the above restricted sense. But there is one case of a system of equations which precedes the Theory of Equations, and indeed presents itself at the outset of algebra, that of a system of simple (or linear) equations. Such a system gives rise to the function called a Determinant, and it is by means of these functions that the solution of the equations is effected. We have thus the subject Determinant as nearly equivalent to (but somewhat more extensive than) that of a system of linear equations; and we have the other subject, Theory of Equations, used in the restricted sense above referred to, and as not including Elimination.

DETERMINANT.

1. A sketch of the history of determinants is given under ALGEBRA; it thereby appears that the algebraical function called a determinant presents itself in the solu-

tion of a system of simple equations, and we have herein a natural source of the theory. Thus, considering the equations

$$\begin{aligned} ax + by + cz &= d, \\ a'x + b'y + c'z &= d', \\ a''x + b''y + c''z &= d''. \end{aligned}$$

and proceeding to solve them by the so-called method of cross multiplication, we multiply the equations by factors selected in such a manner that upon adding the results the whole coefficient of y becomes = 0, and the whole coefficient of z becomes = 0; the factors in question are $b'c'' - b''c'$, $b''c - bc''$, $bc' - b'c$ (values which, as at once seen, have the desired property); we thus obtain an equation which contains on the left-hand side only a multiple of x , and on the right-hand side a constant term; the coefficient of x has the value

$$a(b'c'' - b''c') + a'(b''c - bc'') + a''(bc' - b'c),$$

and this function, represented in the form

$$\begin{vmatrix} a & b & c \\ a' & b' & c' \\ a'' & b'' & c'' \end{vmatrix},$$

is said to be a determinant; or, the number of elements being 3², it is called a determinant of the third order. It is to be noticed that the resulting equation is

$$\begin{vmatrix} a & b & c \\ a' & b' & c' \\ a'' & b'' & c'' \end{vmatrix} x = \begin{vmatrix} d & b & c \\ d' & b' & c' \\ d'' & b'' & c'' \end{vmatrix}$$

where the expression on the right-hand side is the like function with d, d', d'' in place of a, a', a'' respectively, and is of course also a determinant. Moreover, the functions $b'c'' - b''c'$, $b''c - bc''$, $bc' - b'c$ used in the process are themselves the determinants of the second order

$$\begin{vmatrix} b' & c' \\ b'' & c'' \end{vmatrix}, \begin{vmatrix} b'' & c'' \\ b & c \end{vmatrix}, \begin{vmatrix} b & c \\ b' & c' \end{vmatrix}.$$

We have herein the suggestion of the rule for the derivation of the determinants of the orders 1, 2, 3, 4, &c., each from the preceding one, viz., we have

$$\begin{aligned} |a| &= a, \\ \begin{vmatrix} a & b \\ a' & b' \end{vmatrix} &= a|b| - a'|b|, \\ \begin{vmatrix} a & b & c \\ a' & b' & c' \\ a'' & b'' & c'' \end{vmatrix} &= a \begin{vmatrix} b' & c' \\ b'' & c'' \end{vmatrix} + a' \begin{vmatrix} b'' & c'' \\ b & c \end{vmatrix} + a'' \begin{vmatrix} b & c \\ b' & c' \end{vmatrix}, \\ \begin{vmatrix} a & b & c & d \\ a' & b' & c' & d' \\ a'' & b'' & c'' & d'' \\ a''' & b''' & c''' & d''' \end{vmatrix} &= a \begin{vmatrix} b' & c' & d' \\ b'' & c'' & d'' \end{vmatrix} - a' \begin{vmatrix} b'' & c'' & d'' \\ b & c & d \end{vmatrix} + a'' \begin{vmatrix} b'' & c'' & d'' \\ b' & c' & d' \end{vmatrix} - a''' \begin{vmatrix} b' & c' & d' \\ b'' & c'' & d'' \end{vmatrix} \end{aligned}$$

and so on, the terms being all + for a determinant of an odd order, but alternately + and - for a determinant of an even order.

2. It is easy, by induction, to arrive at the general results:—

A determinant of the order n is the sum of the 1.2.3... n products which can be formed with n elements out of n^2 elements arranged in the form of a square, no two of the n elements being in the same line or in the same column, and each such product having the coefficient \pm unity.

The products in question may be obtained by permuting in every possible manner the columns (or the lines) of the determinant, and then taking for the factors the n elements in the dexter diagonal. And we thence derive the rule for the signs, viz., considering the primitive arrangement of the columns as positive, then an arrangement obtained therefrom by a single interchange (inversion, or derangement) of two columns is regarded as negative; and so in general an arrangement is positive or negative according as it is derived from the primitive arrangement by an even or an odd number of interchanges. [This implies the