

of studying either the countless treasures which form the chief glory of the great city or the manners and customs of modern Romans. He attended, with insatiable curiosity, the services in the Sistine Chapel; and his keen power of observation enabled him to throw much interesting light upon them. His letters on this subject, however, lose much of their value through his incapacity to comprehend the close relation existing between the music of Palestrina and his contemporaries and the ritual of the Roman Church. His Lutheran education kept him in ignorance even of the first principles of ordinary chanting; and it is amusing to find him describing as enormities peculiar to the papal choir customs familiar to every village singer in England, and as closely connected with the structure of the "Anglican chant" as with that of "Gregorian music." Still, though he could not agree, in all points, with Baini, the greatest ecclesiastical musician then living, he fully shared his admiration for the *Impropria*, the *Miserere*, and the *cantus planus* of the *Lamentationes* and the *Exultet*, the musical beauty of which he could understand, apart from their ritual significance.

In passing through Munich on his return in October 1831, he composed and played his pianoforte concerto in G minor, and accepted a commission (never fulfilled) to compose an opera for the Munich theatre. Pausing for a time at Stuttgart, Frankfurt, and Düsseldorf, he arrived in Paris in December, and passed four pleasant months in the renewal of acquaintances formed in 1825, and in close intercourse with Liszt and Chopin. On February 19, 1832, the overture to *A Midsummer Night's Dream* was played at the conservatoire, and many of his other compositions were brought before the public; but he did not altogether escape disappointments with regard to some of them, especially the Reformation symphony, and the visit was brought to a premature close in March by an attack of cholera, from which, however, he rapidly recovered.

On the 23d of April 1832 he was again in London, where he twice played his G minor concerto at the Philharmonic concerts, gave a performance on the organ at St Paul's, and published his first book of *Lieder ohne Worte*. He returned to Berlin in July, and during the winter he gave public performances of his Reformation symphony, his concerto in G minor, and his *Walpurgisnacht*. In the following spring he paid a third visit to London for the purpose of conducting his Italian symphony, which was played for the first time, by the Philharmonic Society, on the 13th of May 1833. On the 26th of the same month he conducted the performances at the Lower Rhine festival at Düsseldorf, with such brilliant effect that he was at once invited to accept the appointment of general-music-director to the town, an office which included the management of the music in the principal churches; at the theatre, and at the rooms of two musical associations. This post he willingly accepted, and it formed a stepping-stone to a far more important one.

Before entering upon his new duties, Mendelssohn paid a fourth visit to London, with his father, returning to Düsseldorf on the 27th of September 1833. His influence produced an excellent effect upon the church music and in the concert-room; but his relations with the management of the theatre were not altogether pleasant; and it was probably this circumstance which first led him to forsake the cultivation of the opera for that of sacred music. At Düsseldorf he first designed his famous oratorio *St Paul*, in response to an application from the Cäcilien-Verein at Frankfurt, composed his overture to *Die schöne Melusine*, and planned some other works of importance. He liked his appointment, and would probably have retained it much longer had he not been invited to undertake the permanent direction of the Gewandhaus concerts at Leipsic, and thus

raised to the highest position attainable in the German musical world. To this new sphere of labour he removed in August 1835, opening the first concert at the Gewandhaus, on the 4th of October, with his overture *Die Meeresstille*, a work possessing great attractions, though by no means on a level with the *Midsummer Night's Dream*, *The Isles of Fingal*, or *Melusine*.

Mendelssohn's reception in Leipsic was most enthusiastic; and under their new director the Gewandhaus concerts prospered exceedingly. Meanwhile *St Paul* steadily progressed, and was first produced, with triumphant success, at the Lower Rhine festival at Düsseldorf, on May 22, 1836. On October 3 it was first sung in English, at Liverpool, under the direction of Sir George Smart; and on March 16, 1837, Mendelssohn again directed it at Leipsic.

The next great event in Mendelssohn's life was his happy marriage, on March 28, 1837, to Cecile Charlotte Sophie Jeanrenaud, whose amiable disposition, surpassing beauty, and indescribable charm of manner endeared her to all who knew her. The honeymoon was scarcely over before he was again summoned to England to conduct *St Paul*, at the Birmingham festival, on September 20th. During this visit he played on the organ, at St Paul's and at Christ Church, Newgate Street, with an effect which exercised a lasting influence upon English organists. It was here also that he first contemplated the production of his second oratorio, *Elijah*.

Passing over the composition of the *Lobgesang* in 1840, a sixth visit to England in the same year, the scheme for the erection of a monument to Sebastian Bach, and other events on which space does not permit us to enlarge, we find Mendelssohn in 1841 recalled to Berlin by the king of Prussia, with the title of Kapellmeister. Though this appointment resulted in the production of *Antigone*, *Edipus Coloneus*, *Athalie*, the incidental music to the *Midsummer Night's Dream*, and other great works, it proved an endless source of vexation, and certainly helped to shorten the composer's life. In 1842 he came to England for the seventh time, accompanied by his wife, conducted his Scotch symphony at the Philharmonic, again played the organ at St Peter's, Cornhill, and Christ Church, Newgate Street, and was received with all possible honour by the queen and the prince consort. He did not, however, permit his new engagements to interfere with the direction of the Gewandhaus concerts; and in 1843 he founded in Leipsic the great conservatoire which soon became the best musical college in Europe, opening it on April 3, in the buildings of the Gewandhaus. In 1844 he conducted six of the Philharmonic concerts in London, producing his new *Midsummer Night's Dream* music, and playing Beethoven's pianoforte concerto in G with extraordinary effect. He returned to his duties at Berlin in September, but happily succeeded in persuading the king to free him from his most onerous engagements, and his delight at this relief was unbounded.

After a brief residence in Frankfurt, Mendelssohn returned to Leipsic in September 1845, resuming his old duties at the Gewandhaus, and teaching regularly in the conservatoire. Here he remained, with little interruption, during the winter,—introducing his friend Jenny Lind, then at the height of her popularity, to the critical frequenters of the Gewandhaus, and steadily working at *Elijah*, the first performance of which he conducted at the Birmingham festival, on August 26, 1846. The enthusiastic reception of this great work is well known. Unhappily, the excitement attendant upon its production, added to the irritating effect of the worries at Berlin, made a serious inroad upon the composer's health. On his return to Leipsic he worked on as usual, but it was

clear that his health was seriously impaired. In 1847 he visited England for the tenth and last time, to conduct four performances of *Elijah* at Exeter Hall, on the 16th, 23d, 28th, and 30th of April, one at Manchester on the 20th, and one at Birmingham on the 27th. Again the queen and prince consort received him with marked respect,—one might almost venture to say, affection,—and all seemed prosperous and happy. But the necessary exertion was far beyond his strength. He witnessed Jenny Lind's first appearance at Her Majesty's Theatre, on the 4th of May, and left England on the 9th, little anticipating the trial that awaited him in the tidings of the sudden death of his sister Fanny, which reached him only a few days after his arrival in Frankfurt. The loss of his mother in 1842 had shaken him much, but the suddenness with which this last sad intelligence was communicated broke him down completely. He fell to the ground insensible, and never fully recovered. In June he was so far himself again that he was able to travel, with his family, by short stages, to Interlaken, where he stayed for some time, illustrating the journey by a series of water-colour drawings, but making no attempt at composition for many weeks. He returned to Leipsic in September, bringing with him fragments of *Christus*, *Loreley*, and some other unfinished works, taking no part in the concerts, and living in the strictest privacy. On the 9th of October he called on Madame Frege, and asked her to sing his latest set of songs. She left the room for lights, and on her return found him in violent pain, and almost insensible. It was the beginning of the end. He lingered on, now better now worse, through four weary weeks, and on the 4th of November he passed away, in the presence of his wife, his brother, and his three dear friends, Moscheles, Schleinitz, and Ferdinand David. A cross now marks the site of his grave, in the Alte Dreifaltigkeits Kirchhof, at Berlin.

Mendelssohn's title to a place among the greatest composers of the century is incontestable. His style, though differing but little in technical arrangement from that of his classical predecessors, is characterized by a vein of melody peculiarly his own, and easily distinguishable by those who have studied his works, not only from the genuine effusions of contemporary writers, but from the most successful of the servile imitations with which, even during his lifetime, the music-shops were deluged. In less judicious hands the rigid symmetry of his phrasing might, perhaps, have palled upon the ear; but under his skilful management it serves only to impart an additional charm to thoughts which derive their chief beauty from the evident spontaneity of their conception. In this, as in all other matters of a purely technical character, he regarded the accepted laws of art as the medium by which he might most certainly attain the ends dictated by the inspiration of his genius. Though caring nothing for rules, except as means for producing a good effect, he scarcely ever violated them, and was never weary of impressing their value upon the minds of his pupils. His method of counterpoint was modelled in close accordance with that practised by Sebastian Bach. This he used in combination with an elastic development of the sonata-form, similar to that engrafted by Beethoven upon the lines laid down by Haydn. The principles involved in this arrangement were strictly conservative; yet they enabled him, at the very outset of his career, to invent a new style no less original than that of Schubert or Weber, and no less remarkable as the embodiment of canons already consecrated by classical authority than as a special manifestation of individual genius. It is thus that Mendelssohn stands before us as at the same time a champion of conservatism and an apostle of progress; and it is chiefly by virtue of these two apparently incongruous though really perfectly compatible phases of his artistic character that his influence and example have, for so many years, held in check the violence of reactionary opinion which a little injudicious encouragement might easily have fanned into revolutionary fury. Happily, this wholesome influence is still at work among us; and in his oratorios, his symphonies, his overtures, his concertos, and his smaller pianoforte pieces Mendelssohn sets before us an example the value of which is universally recognized, and not likely to be soon forgotten.

Concerning Mendelssohn's private character there have never been two opinions. As a man of the world, he was more than ordinarily accomplished,—brilliant in conversation, and in his lighter moments overflowing with sparkling humour and ready pleasantry,

loyal and unselfish in the more serious business of life, and never weary of working for the general good. As a friend he was unvaryingly kind, sympathetic, and as true as steel. His earnestness as a Christian needs no stronger testimony than that afforded by his own delineation of the character of St Paul; but it is not too much to say that his heart and life were pure as those of a little child.

A complete list of Mendelssohn's published compositions—one hundred and nineteen in number, besides some five and twenty unnumbered works of considerable importance—will be found in the thematic catalogue published by Messrs Breitkopf and Härtel at Leipsic, and also in Grove's *Dictionary of Music and Musicians*, vol. II, pp. 308, 309. Among his miscellaneous writings, we may mention a translation of the *Andria* of Terence, in German verse, and an immense collection of letters, posthumously printed, and calculated to give the reader a far closer acquaintance with his life and character than any biographer can hope to convey. (W. S. R.)

MENDELSSOHN, MOSES (1729-1786), philosopher and scholar, well known as Lessing's friend and the prototype of his "Nathan," was born on September 6, 1729, at Dessau on the Elbe, where his Jewish father made a scanty livelihood by teaching a small school and transcribing copies of the "law." The leading events of Mendelssohn's career have been indicated elsewhere (see *Jews*, vol. xiii. p. 680). His numerous writings include *Ueber Evidenz in metaphysischen Wissenschaften* (1763), which gained the prize in a competition in which Immanuel Kant took part; *Briefe über die Empfindungen* (1764); *Phædon, oder über die Unsterblichkeit der Seele* (1767), an argument for immortality, founded on the nature of the soul as exempting it from the ordinary laws of change, which has been severely criticized by Kant; *Jerusalem, oder die religiöse Macht und Judenthum* (1783), a specially important contribution to the question of Jewish emancipation; a number of contributions to his friend Nicolai's *Literaturbriefen* and *Bibliothek der schönen Wissenschaften*; one or two tracts in Hebrew; and some new German translations from the Old Testament. The controversy which led to the publication of his *Morgenstunden* (1785-86), a reply to Jacobi's *Briefe über die Lehre Spinoza's*, is said to have been more or less directly the cause of his death, which took place on January 4, 1786 (see *JACOBI*, vol. xiii. p. 537). Of Mendelssohn's three sons, the second, Abraham, settled as a banker in Hamburg and married a Jewess, Lea Salomon Bartholdy, who bore him four children; these, by advice of their mother's brother, himself a conscientious convert from Judaism, were educated as Christians, and thenceforth joined their mother's second surname to their own. The second of them, Felix, is the subject of the preceding notice. In later life Abraham Mendelssohn was accustomed to say,—“When I was young I was the son of my father; now I am the father of my son.” See *The Mendelssohn Family*, 1882.

MENDOZA, a city of the Argentine Republic, the only town of the province of Mendoza, lies 700 miles west-north-west of Buenos Ayres, at the foot of the Cordilleras, 2510 feet above the sea-level, in 32° 53' S. lat. and 68° 45' W. long. It was formerly a frequent stopping-place on the route across the Andes by the Uspallata Pass, and used to rank as one of the best-built towns in the country, but in 1861 it was almost completely destroyed by an appalling earthquake, in which the people, for the most part collected in the churches, perished to the number of about 12,000. Bravard, a French geologist who had often predicted the catastrophe, was one of those who perished. Extensive ruins still mark the site of the old town; the new town, which has been built at a little distance, has grown rapidly. Situated in a richly cultivated district, Mendoza depends mainly on agriculture and fruit-growing.

The city was founded in 1559 by Garcia de Mendoza; and in 1776 it was made the administrative centre of the vice-royalty of La Plata. See Mulhall, *Handbook of the La Plata States*, 1875; and Mrs Mulhall, *Between the Amazon and the Andes*, 1882.

MENDOZA, DIEGO HURTADO DE (c. 1503-1575), novelist, poet, diplomatist, and historian, was a younger son of the member of the illustrious Mendoza family to whom

the government of Granada was entrusted not long after its surrender, and was born in that city about the year 1503. The marquis of Santillana, so prominent a figure at the court of John II. of Castile, was his great-grandfather. At an early age Mendoza, who had been destined for the church, was sent to Salamanca, where he studied with success, and also, some time between the years 1520 and 1525, produced his *Lazarillo de Tormes*, the work upon which his literary celebrity largely rests. Having persuaded his father to allow him to enter the army, he served with the Spanish troops of Charles V. in Italy, and also availed himself of opportunities as they arose to hear the lectures of famous professors at Bologna, Padua, and Rome. In 1538 he was taken into the diplomatic service of the emperor and sent as ambassador to Venice; there he cultivated friendly relations with the Aldi, and energetically set about collecting a library, not only procuring copies of many old MSS. in the public library of the city, but also sending to Thessaly and Mount Athos for new ones; it was from his collection that the complete text of Josephus was first printed. For some time he held the post of military governor of Siena, and, after having been present in an official capacity in Trent at the beginning of the oecumenical council, he was in 1547 sent as special plenipotentiary to Rome, where he continued to act for some years. In 1554, shortly before the abdication of Charles, he was recalled to Spain, and his official career came to an end. He was never a favourite with Philip II.; and in consequence of a quarrel with a courtier, in which he had lost his temper badly, he was finally banished from court in 1568. The remaining years of his life, which were spent at Granada, he devoted partly to the study of Arabic, partly to poetical composition, and partly to the preparation of his history of the Moorish insurrection of 1568-70 (*Guerra de Granada*). He died at Madrid (which he had obtained leave to visit on some business errand) in April 1575.

Mendoza's *Lazarillo de Tormes*, though written during his college days, was not published until 1558, when it was printed anonymously at Antwerp. Next year it was reprinted at Burgos, but ultimately it was taken exception to by the Inquisition, and the Spanish editions of 1573 and subsequent years are accordingly considerably abridged. It is a comparatively short fragment, written in vigorous and bright Castilian, and was the first example in modern literature of the "novela picaresca" of which Le Sage's *Gil Blas* now ranks as the most perfect specimen. The continuations, first by an anonymous author (1555) and afterwards by H. de Luna (1620), are of very inferior interest. Of Mendoza as a poet all that need be said here is that he followed the modern Italian models quite as far as was compatible with a due regard to his Castilian individuality. His history, though of no great bulk, is, like his novel, a work of remarkable literary execution. It relates indeed only to a comparatively brief episode in a chapter of events for which it is almost impossible to claim much general attention, and it is often needlessly erudite and sometimes provokingly obscure. But as a whole it is singularly well-informed, dignified, and picturesque; "the style is bold and abrupt, but true to the idiom of the language, and the current of thought is deep and strong, easily carrying the reader onward with its flood. Nothing in the old chronicling style of the earlier period is to be compared to it, and little in any subsequent period is equal to it for manliness, vigour, and truth" (Ticknor). The first edition of the *Guerra de Granada* did not appear until 1610, but was even then incomplete; the first perfect edition was that of 1730. The work has frequently been reprinted since.

MENDOZA, ÍÑIGO LOPEZ DE. See SANTILLANA.

MENELAUS, king of Sparta, was the brother of AGAMEMNON (*q.v.*) and the husband of HELENA (*q.v.*). He was one of the heroes of the Trojan horse, and recovered his wife at the sack of the city. On the voyage homeward his fleet was scattered off Malea by a storm which drove him to Crete; after seven years' further wandering to Cyprus, Phœnicia, Egypt, Ethiopia, Libya, and the country of the Eretni, he at last had an interview with Proteus and obtained a favourable wind which brought him home on the very day on which Orestes was holding the funeral feast over Ægisthus and Clytæmnestra. After a

long and happy life in Lacedæmon, Menelaus, as the son-in-law of Zeus, did not die but was translated to Elysium.

MENGS, ANTONY RAPHAEL (1728-1779), was the most celebrated representative of the eclectic school of painting in the 18th century, and played a great part in the early days of the classic revival. He was born in 1728 at Aussig in Bohemia, but his father, a Danish painter, established himself finally at Dresden, whence in 1741 he conducted his son to Rome. Mengs early showed that active intelligence and large capacity for laborious study which secured him the extraordinary distinction which he enjoyed through life. His appointment in 1749 as first painter to the elector of Saxony did not prevent his spending much time in Rome, where he had married in 1748, and abjured the Protestant faith, and where he became in 1754 director of the Vatican school of painting, nor did this hinder him on two occasions from obeying the call of Charles III. of Spain to Madrid. There Mengs produced some of his best work, and specially the ceiling of the banqueting hall, the subject of which was the Triumph of Trajan and the Temple of Glory. After the completion of this work in 1777, Mengs again returned to Rome, and there he died, two years later, in poor circumstances, leaving twenty children, seven of whom were pensioned by the king of Spain. Besides numerous paintings in the Madrid gallery, the Ascension at Dresden, Perseus and Andromeda at St Petersburg, and the ceiling of the Villa Albani must be mentioned among his chief works. In England, the duke of Northumberland possesses a Holy Family, and the colleges of All Souls and Magdalen, at Oxford, have altar-pieces by his hand. In his writings, in Spanish, Italian, and German, Mengs has put forth his eclectic theory of art, which treats of perfection as attainable by a well-schemed combination of diverse excellences.—Greek design, with the expression of Raphael, the chiaroscuro of Correggio, and the colour of Titian. His close intimacy with Winkelmann—who constantly wrote at his dictation—has greatly enhanced his historical importance, for he formed no scholars, and the critic must now concur in Goethe's judgment of Mengs in *Winkelmann und seine Jahrhundert*; he must deplore that so much learning should have been allied to a total want of initiative and utter poverty of invention, and embodied with a strained and artificial mannerism.

See *Opere di Antonio Raffaello Mengs*, Parma, 1780; *Mengs' Werke*, übersetzt v. G. F. Prange, 1786; *Zeitschrift für bildende Kunst*, 1880; Bianconi, *Elogio Storico di Mengs*, Milan, 1780; Nagler's *Künstlerlexikon*.

MENHADEN, economically one of the most important fishes of the United States, known by a great number of local names, "menhaden" and "mossbunker" being those most generally in use. In systematic works it appears under the names of *Clupea menhaden* and *Brevortia tyrannus*. It is allied to the European species of shad and pilchard, and, like the latter, approaches the coast in its wanderings in immense shoals, which are found throughout the year in some part of the littoral waters between Maine and Florida, the northern shoals retiring into deeper water or to more southern latitudes with the approach of cold weather. The average size of the menhaden is about 12 inches. Although it was long known as a palatable table-fish, and largely used, when salted, for export to the West Indies, and as bait for cod and mackerel, the menhaden fishery has been developed to its present importance only within the last twenty years. A large fleet of steamers and sailing vessels is engaged in it; and a great number of large factories have sprung into existence to extract the oil, which is used for tanning and currying, and for adulterating other more expensive oils, and to manufacture the refuse into a very valuable guano. In the year 1877 2,426,589 gallons of oil and 55,444 tons of guano were produced.

An extensive business is also carried on in converting menhaden of a suitable size into "American sardines."

A very complete account of this fishery is given by G. Brown Goode in "The Natural and Economic History of the American Menhaden," *United States Commission of Fish and Fisheries*, part v., Washington, 1879.

MENIN, a small Belgian town, in the province of West Flanders; it is traversed by the river Lys, which there forms the boundary between France and Belgium. The population in 1880 was 10,200. Commercially and industrially Menin ranks high for its size, possessing, as it does, important manufactures of linen, oil, soap, &c., as well as sugar refineries, breweries, and tanneries, and a good corn and cattle market. Tobacco is extensively grown in the neighbourhood, and forms one of the main items of lawful trade, a good deal of illicit traffic also being carried on across the French frontier.

Menin does not appear to have been in any way worthy of note until the 14th century. Philip II. caused it to be fortified in 1578. It was taken by Turenne in 1658. Vauban subsequently surrounded it with elaborate works, and made it one of the strongest citadels in France; but all its fortifications were razed in 1744. It belonged to the Netherlands in 1815, and became part of Belgium in 1830.

MENINGITIS (from *μηνιγξ*, a membrane), a term in medicine applied to inflammation affecting the membranes of the brain (cerebral meningitis) or spinal cord (spinal meningitis) or both.

Of cerebral meningitis there are two varieties:—(1) that due to the presence of tubercle in the membranes of the brain, which gives rise to the disease known as tubercular meningitis, or acute hydrocephalus; and (2) simple or acute meningitis, which may arise from various causes. Among the more common are injuries of the head, extension of disease from contiguous parts, such as erysipelas of the scalp or caries of the bones of the ear, exposure to cold or to extreme heat, the presence of tumours in the substance of the brain. It may likewise occur in the course of fevers, rheumatism, and inflammatory affections, and also as a result of mental overwork, sleeplessness, and alcoholic excess. This latter variety of meningitis is less common than the former, but it is on the whole more amenable to treatment. The symptoms present such a general resemblance to those already described in tubercular meningitis that it is unnecessary to refer to them in detail (see HYDROCEPHALUS), and the treatment is essentially the same for both.

Spinal meningitis, or inflammation of the membranes investing the spinal cord, generally results from causes of a similar kind to those producing cerebral meningitis,—injuries, exposure to cold or sudden changes of temperature, diseases affecting adjacent parts such as the vertebral column or the spinal cord itself, or extension downwards of inflammation of the membranes of the brain. It is said to be most common in males. As in the case of the brain, the membranes become extremely congested; exudation of lymph and effusion of serum follow; and the spinal cord and roots of the nerves become more or less involved in the morbid process.

The chief symptoms are fever, with severe pain in the back or loins shooting downwards into the limbs (which are the seat of frequent painful involuntary startings), accompanied with a feeling of tightness round the body. The local symptoms bear reference to the portion of the cord the membranes of which are involved. Thus when the inflammation is located in the cervical portion the muscles of the arms and chest are spasmodically contracted, and there may be difficulty of swallowing or breathing, or embarrassed heart's action, while when the disease is seated in the lower portion, the lower limbs and the bladder and rectum are the parts affected in this way.\* At first there

is excited sensibility (hyperæsthesia) in the parts of the surface of the body in relation with the portion of cord affected. As the disease advances these symptoms give place to those of partial loss of power in the affected muscles, and also partial anæsthesia. These various phenomena may entirely pass away, and the patient after some weeks or months recover; or, on the other hand, they may increase, and end in permanent paralysis.

The treatment is directed to allaying the pain and inflammatory action by opiates. Ergot of rye is strongly recommended by many physicians. The patient should have perfect rest in the recumbent, or better still in the prone, position. Cold applications to the spine may be of use, while scrupulous attention to the functions of the bladder and bowels, and to the condition of the skin with the view of preventing bed-sores, is all-important.

Epidemic Cerebro-spinal Meningitis.—This name, as well as *cerebro-spinal fever*, is applied to a disease defined in the *Nomenclature of Diseases* as "a malignant epidemic fever, attended by painful contractions of the muscles of the neck and retraction of the head. In certain epidemics it is frequently accompanied by a profuse purpuric eruption, and occasionally by secondary effusions into certain joints. Lesions of the brain and spinal cord are found on dissection." This disease appears to have been first distinctly recognized in the year 1837, when it prevailed as an epidemic in the south-west of France, chiefly among troops in garrison. For several years subsequently it existed in various other localities in France, and mostly among soldiers. At the same time in other countries in western and central Europe the disease was observed in epidemic outbreaks, both among civil and military populations. In 1846 it first showed itself in Ireland, chiefly among the inmates of workhouses in Belfast and Dublin. Numerous outbreaks occurred also about the same period in many parts of the United States. In more recent times the disease has repeatedly appeared both in Europe and America, but it has seldom prevailed extensively in any one tract of country, the outbreaks affecting for the most part limited communities, such as garrisons or camps, schools, workhouses, and prisons.

Little is known regarding the causation of this disease. All ages seem liable to suffer, and, as regards sex, males are affected more commonly than females. Occupation and condition of life appear to exercise no influence. It has been observed to occur most frequently in cold seasons. The question of the contagiousness of cerebro-spinal fever remains still unsettled, but the weight of authority appears to be in favour of the theory of the communicability of the disease. It cannot, however, be regarded as contagious in the same degree as some other specific fevers, such as typhus fever, small-pox, or scarlatina.

The following are the more prominent symptoms. After a few days of general discomfort the attack comes on sharply with rigors, intense headache, giddiness, and vomiting. Neuralgic pains in the abdomen, and pain with spasmodic contractions in the muscles of the extremities, occur at an early stage. The headache continues with great severity, and restlessness and delirium supervene, accompanied with periods of somnolence. The pains and spasms rapidly increase, the muscles of the neck, spine, and limbs being specially affected. The patient's head is drawn backwards and rigidly fixed, the spine arched, and the arms and legs powerfully flexed, the whole condition bearing a considerable resemblance to tetanus. For a time there is greatly increased sensibility of the skin, pain being excited by the slightest contact. There is more or less fever present. About the fourth day of the disease an eruption on the skin both of the face and body frequently appears, in the form either of purpuric spots or small clear vesicles. Death may take place in from a few hours to eight or ten days. Should the patient survive the immediate shock of the attack, serious complications are apt to appear in the form of destructive inflammation of the eyes or ears, inflammation with effusion into certain joints, and paralysis of limbs; or, again, recovery may take place after a prolonged convalescence. The mortality appears to vary in different epidemics, in some being as high as 80 per cent., in others only about 20 per cent. Certain forms of the disease are of malignant character from the first, and very rapidly fatal.

The changes found after death in cerebro-spinal fever are intense inflammation of the membrane of the brain and spinal cord, with effusion of serum or pus into the ventricular and arachnoid spaces. The treatment is similar to that of other febrile conditions, but for the special symptoms of pain, spasm, &c., opium seems to have been found of eminent service, while quinine and ergot of rye are also recommended.

MENNONTES is a name borne by certain Christian communities in Europe and America, denoting their adherence to a type of doctrine of which Menno Simons

was, not indeed the originator, but the chief exponent at the time when the anti-pædo-baptism of the congregations in which he laboured took permanent form in opposition to ordinary Protestantism on the one hand and to the theocratic ideas of the Münster type of anabaptism on the other. The original home of the views afterwards called Mennonite was in Zürich, where, as early as 1525, Grebel and Manz founded a community having for its most distinctive mark baptism upon confession of faith. The chief doctrines of these Zürich Baptists have been already stated in the article BAPTISTS, vol. iii. p. 353. The main interest of the sect lay not in dogma but in discipline. Within the communities evangelical life was reduced to a law of separation from the world, and this separation—enforced by a stringent use of excommunication and the prohibition of marriage beyond the brotherhood—involved not only abstinence from worldly vanities but refusal of civic duties (the state being held to be un-Christian)—refusal to take an oath or use the sword. In their revolt against the corruptions of the mediæval church the Reformers neither denied the continuity of the church as an organization nor impugned the Christian character of the state. The new sect did both; and their position thus appeared so radically subversive of the foundations of society that it is not surprising, under the imperfect views of toleration then current, that they became the objects of bitter persecution from Protestants as well as from Catholics. But the Grebelians had no desire, like the fanatics of Münster, to found a new theocracy in opposition to the anti-Christian state. They sought only to withdraw from what their conscience condemned, content to live as strangers upon earth, and devoting all their energy to preserve the purity of their own communities. The mediæval conception of separation from the world as the true path of Christian perfection had leavened all middle-class society in Europe, and prepared many to accept separatist views of the church as soon as they were reached by the impulse of revolt against Roman Catholicism; the pursuit of holiness in a society protected by a strict discipline is an idea which experience has shown to have a great attraction for one class of earnest minds; hence, in spite of persecutions incomparably fiercer than any of the larger Protestant bodies ever underwent, the new doctrine and praxis rapidly spread from Switzerland to Germany, Holland, and even to France. Each community was quite independent, united to the rest only by a bond of love. There was no sort of hierarchy, but only "exhorters" chosen by the congregation, of whom the most prominent were also "elders" entrusted with the administration of the sacraments—an organization so easily kept alive or reproduced that the movement could hardly be checked by any persecution short of the total annihilation which, at length was actually the fate of many of the Swiss communities. The remnants of the Swiss Mennonites broke in 1620 into two parties, the stricter of which, the Ammanites or Upland Mennonites, were distinguished from the Lowland Mennonites by holding that excommunication of one party dissolved marriage, and by their rejection of buttons and the use of the razor. Their persecution lasted till 1710; a few congregations still remain and keep themselves quite distinct from Baptist bodies of more modern origin. In Germany the Mennonites are somewhat more numerous; more important are the German Mennonite colonies in southern Russia, brought thither in 1783 by the empress Catherine, which in turn have recently sent many emigrants to America. America indeed, and especially Pennsylvania, early became a refuge for the Mennonites of Switzerland, the Palatinate, and Holland, and is now the chief home of the body (175,000 in the United States and 25,000 in Canada). The oldest congregation is that of Germantown (since 1683); the most

numerous of several divisions are the Old Mennonites, corresponding to the less strict of the Swiss sections.

All these communities in Europe and America are distinguished by an antique simplicity combined with antique prejudices, by indifference to the interests of the greater world, while at the same time their industry and self-concentration have made them generally well-to-do. Their religious type has varied very little in the course of centuries, as indeed is not surprising, their theology being ascetic rather than dogmatic or speculative. The Mennonites of Holland, on the other hand, have passed through an interesting and progressive history.

It was in Holland and the adjoining parts of Low Germany that the personal influence of Menno Simons (1492-1559) was mainly felt. He was originally a priest, and was pastor at his native place Witmarsum in Friesland from 1531 to 1536, when convictions long ripening in his mind compelled him to resign his cure. At this time the anti-pædo-baptist societies in the Low Countries were much agitated. The views which had just before received their political deathblow at Münster (see ANABAPTISTS) were not extinct, and even those who did not share them were by no means at one. Menno attached himself to the Obbenites, who held that on earth true Christians had no prospect but to suffer persecution, refused to use the sword, and looked for no millennium on earth. Menno became one of their elders, and by his wanderings among the scattered and oppressed communities, and especially by the natural eloquence and religious power of his numerous writings, did much to sustain the faith of his associates, to confirm the type of their religious life, and to prevent startling aberrations in doctrine or discipline. He was not an original thinker; but the love which all felt for the man, and which was kept alive for generations by his writings, gave him the place which the name of Mennonites expresses.

It may be ascribed to the influence of Menno's writings that the Dutch Mennonites, though for a time (since 1554) they broke into factions on questions of discipline, and especially on the effect of excommunication upon marriage, never fell so far apart as regards the type of their religious life as to preclude the possibility of reunion. The Waterlanders in North Holland, who held the least strict doctrine of excommunication, soon moved farther in the direction of liberality, and exchanged the name Mennonites for that of Doopsgezinden (Baptist persuasion). In 1579 they refused to condemn any one for opinions, even on the incarnation, which the word of Scripture did not pronounce necessary to salvation. They sided with William the Silent with money, and from 1581 to 1618 even accepted civil office. Meantime the stricter party had undergone various divisions, which, however, in 1627-32 were reunited on the basis of confessions essentially embodying Menno's teachings. They too had learned moderation, at least in their views of excommunication, and their antithesis to the state was softened since the cessation of persecution in 1581, but especially since in 1672 they were recognized as citizens. On the other hand, the adoption of a confession had deepened the separation between them and the liberal Doopsgezinden; but doctrine was never the fundamental principle of the Mennonite communities, confessionalism took no firm root, and the two sections gradually approached, and through a series of partial fusions became at length finally united when the Amsterdam congregations came together in 1801. The persuasion declined much in numbers in the 18th century; since then it has increased, and has now 127 congregations with nearly 50,000 members. The objection to hold civil office disappeared in 1795; that to carry arms in the war of freedom against Napoleon. Baptism on profession of faith and the refusal of the oath, tolerance in matters of doctrine without religious indifference, are the chief marks of the body, which in point of theological culture and general enlightenment, philanthropic zeal and social importance, has long stood very high.

*Authorities.*—The best life of Menno Simons is Cramer's, 1837. De Hoop Scheffer's article in Herzog-Plitt, *R. E.*, is excellent; only one point of consequence in his account seems to call for modification,—the book against John of Leyden, said to have been published before Menno joined the Obbenites, is almost certainly spurious. See Sepp, *Geschiedkundige Nasporingen*, 1 (1872) p. 128 sq. The complete edition of Menno's works is that in folio, 1686. Many of them are known only in bad Dutch versions; Menno himself wrote in the "Oostersch" or East Sea Dialect of Low German. For the literature on the Mennonites in general, see De Hoop Scheffer, on whom the foregoing sketch is mainly dependent.

MENSHIKOFF, ALEXANDER DANILOVICH (1672-1729), born at Moscow on the 17th of November (o.s.) 1672, was the son of a poor man, who employed him to sell cakes about the streets of that city. In this humble occupation he attracted the attention of Lefort, one of Peter the Great's most active co-operators, who was pleased with his sprightliness, and took him into his service. Peter, soon afterwards

seeing the youth at Lefort's, was also delighted with him, and took him to be his page. Menshikoff soon became indispensable to the czar, assisting him in his workshop, and displaying signal bravery in the company of his master at the siege of Azoff. He formed one of the suite of Peter during his travels, and worked with him at Saardam and Deptford. Throughout his wars with the Swedes, Menshikoff was the companion of the czar, and greatly distinguished himself. For his gallantry at the battle of the Neva, on the 7th of May (o.s.) 1703, he received the order of St Andrew. In 1704 he was made general, and at the request of the czar created a prince of the Holy Roman Empire. His house on the Vasilii-Ostroff was magnificent; there ambassadors were received, and banquets were given gorgeous with gold and silver plate. Unfortunately there is a dark side to the picture, and the favourite was guilty of extortion to such an extent as to bring him under his master's censure. On the death of Peter the position of Menshikoff became very perilous; his successes had raised about him a host of enemies eager for his downfall. The Golitzins, Dolgoroukis, and all those who formed what may be called the Old Russian party, wished to proclaim the son of Alexis emperor. Those, however, whose aggrandizement was bound up with Peter's reforms—Menshikoff, Apraksin, Bontourlin, Goloffkin, and others—were in favour of giving the crown to Peter's widow, who accordingly ascended the throne as Catherine I. During her reign the influence of Menshikoff was unbounded, and he virtually governed the country; but the empress died in 1727, after a reign of two years. She had made a will, no doubt at the instigation of the favourite, to the effect that Peter, her grandson, was to be czar under the guardianship of Menshikoff, whose daughter Mary was to be married to the youthful sovereign. Under pretence of taking care of the young czar, Menshikoff caused him to be removed to his house and surrounded him with his creatures. He was now at the height of his power; foreign ambassadors remarked that even the great Peter himself was never feared so much. The young czar, however, showed no affection for Mary Menshikoff, and the girl was equally apathetic towards her betrothed, being in love with a member of the family of Sapiéha at the time her father had forced her into the engagement. The Dolgoroukis used the aversion of the young prince to his fiancée as a

means of creating dislike to the father. A chain of events was gradually leading to the downfall of the favourite. He was soon refused admittance to the summer palace, whither the young czar had retired. Next he was arrested, and so overpowered was he at his disgrace that he had an apoplectic stroke. In vain did he address letters both to the emperor and his sister. Shortly after, by order of the czar, the fallen magnate departed from St Petersburg, but more like a nobleman retiring to his estate than a culprit going into exile. The people regarded him with dislike, and most of them rejoiced over his fall. On his way a courier arrived with orders to take the czar's ring of betrothal from his daughter Mary and give her back her own, which had been worn by Peter II. Menshikoff was not permitted to pass through Moscow, but was conducted to Oranienburg, in the government of Riazan, and there placed under strict surveillance. Soon afterwards the whole family was banished to Siberia, and arrived at Berezoft towards the end of 1727. Menshikoff's wife died on the journey, and was buried near Kazan. On the arrival of the prisoners they were lodged in a wooden house, consisting of four rooms. But Menshikoff did not long endure the horrors of exile in this inclement region. According to Mannstein, he died (November 12, o.s., 1729) of an apoplectic stroke, because there was no one at Berezoft, as he himself remarked, who understood how to open a vein. The young czar ordered the release from exile of the two remaining children of Menshikoff,—his daughter Mary had died at Berezoft in the same year as her father,—and restored some of their property to them.

MENSHIKOFF, ALEXANDER SERGIEVICH (1787-1869), great-grandson of Peter's favourite, born in 1787, entered the Russian service as attaché to the embassy at Vienna. He accompanied the emperor Alexander throughout his campaigns against Napoleon, and attained the rank of general, but retired from active service in 1823. He then devoted himself to naval matters, and put the Russian marine, which had fallen into decay during the reign of Alexander, on an efficient footing. On the outbreak of the Crimean War he was appointed commander-in-chief, and suffered a severe defeat at the Alma. On the death of the emperor Nicholas in 1855 he was recalled, ostensibly on account of failing health. He died in 1869.

## MENSURATION

MENSURATION, or the art of measuring, involves the construction of measures, the methods of using them, and the investigation of rules by which magnitudes which it may be difficult or impossible to measure directly are calculated from the ascertained value of some associated magnitude. It is usual, however, to employ the term mensuration in the last of these senses; and we may therefore define it to be that department of mathematical science by which the various dimensions of bodies are calculated from the simplest possible measurements.

The determination of the lengths and directions of straight lines, including what are familiarly known as problems in heights and distances, generally depends on the solution of triangles, and will be discussed in the articles TRIGONOMETRY and SURVEYING. The remaining portions of the subject are the determinations of the lengths of curves, the areas of plane or other figures, and the volumes and surfaces of solids; and it is of mensuration as thus restricted that the present article will discuss some of the more important problems.

§1. *Units of Length, Area, and Volume.*—In measuring any magnitude we select some standard or "unit" to mea-

sure by. Thus in measuring length we take for unit an inch, a foot, or a yard. From the unit of length we derive the units of area and volume. Thus we define the unit of area to be the area of the square described upon the unit of length, and the unit of volume to be the volume of the cube whose edge is the unit of length or whose side is the unit of area. For example, if an inch be taken as the unit of length, the square whose side is 1 inch is the unit of area, and the cube whose edge is 1 inch is the unit of volume. The length of a line, the area of a surface, and the volume of a solid are then expressed by the numbers, whole or fractional, of units of length, area, and volume which they respectively contain. Hence, if  $l$  denote the linear unit, the length of a line which contains  $a$  units is  $al$ , or simply  $a$  since  $l$  is unity; similarly the area of a surface which contains  $b$  units of area is  $bm$ , or simply  $b$ , where  $m$  is the unit of area.

§2. *Commensurable and Incommensurable Magnitudes.*—When two magnitudes have a common measure, that is, when another magnitude can be found which is contained in each an exact number of times, they are said to be "commensurable." Thus a line  $4\frac{1}{2}$  and another  $3\frac{1}{2}$  inches