

of the 19th century, and it has also been widely influential beyond the schools. Instead of his atheism Hegel speaks of his acosmism, and Novalis dubs him a God-intoxicated man. Schleiermacher's fine apostrophe is well known, in which he calls upon us to "offer a lock of hair to the manes of the holy and excommunicated Spinoza."

Spinoza's personal appearance is described by Colerus from the accounts given him by many people at The Hague who knew him familiarly. "He was of a middle size, and had good features in his face, the skin somewhat dark, black curled hair, and the long eyebrows of the same colour, so that one might easily know from his looks that he was descended from the Portuguese Jews." Leibnitz also gives a similar description: "The celebrated Jew Spinoza had an olive complexion and something Spanish in his face." These characteristics are preserved in a portrait in oil in the Wolfenbüttel library, which was probably the original of the (in that case unsuccessfully rendered) engraving prefixed to the *Opera Posthuma* of 1677. This portrait has recently been photographed for Dr Martineau's *Study of Spinoza*. In 1880 a statue was erected to Spinoza at The Hague by international subscription among his admirers.

Spinoza's philosophy is a thoroughgoing pantheism, which has both a naturalistic and a mystical side. The foundation of the system is the doctrine of one infinite substance, of which all finite existences are modes or limitations (modes of thought or modes of extension). God is thus the immanent cause of the universe; but of creation or will there can be no question in Spinoza's system. God is used throughout as equivalent to nature (*Deus sive natura*). The philosophical standpoint comprehends the necessity of all that is—a necessity that is none other than the necessity of the divine nature itself. To view things thus is to view them, according to Spinoza's favourite phrase, *sub specie eternitatis*. Spinoza's philosophy is fully considered in the article CARTESIANISM (see vol. v. p. 152 sq.).

Literature.—The contents of the *Opera Posthuma* included the *Ethics*, the *Tractatus Politicus*, and the *De Intellectus Emendatione* (the last two unfinished), a selection from Spinoza's correspondence, and a *Compendium of Hebrew Grammar*. The *Treatise on the Rainbow*, supposed to be lost, was published anonymously in Dutch in 1687. The first collected edition of Spinoza's works was made by Paulus in 1802; there is another by Gfrörer (1830), and a third by Bruder (1843-46) in three volumes. Van Vloten's volume, published in 1862, *Ad Benedicti de Spinoza opera quæ supersunt omnia supplementum*, is uniform with Bruder's edition so as to complete it by a supplementary volume. It contained the early treatise *De Deo et homine*, the *Treatise on the Rainbow*, and several fresh letters. A complete and authoritative edition has only recently been achieved by Dr Van Vloten and Professor J. P. N. Land. The work was undertaken by them for the Spinoza Memorial Committee formed in Holland to celebrate the bicentenary of the philosopher's death; the funds remaining after the erection of the statue mentioned above were devoted to the publication of this handsome edition (2 vols., 1882-83). An English translation of *The Chief Works of Spinoza*, by R. H. M. Elwes, appeared in 1883, and a separate translation of the *Ethics* by W. H. White was published in the same year; previous translations were unscholarly in execution. The main authority for Spinoza's life is the sketch published in 1705, in Dutch, with a controversial sermon against Spinozism, by Johannes Colerus. The French version of this *Life* (1706) has been several times reprinted as well as translated into English and German. The English version, also dating from 1706, has been reprinted by Mr Frederick Pollock at the end of his work, *Spinoza, his Life and Philosophy* (1880). Mr Pollock's book and Dr Martineau's *Study of Spinoza* (1882), both admirable pieces of work, are in a manner complementary, and may with advantage be studied together. In his introduction Mr Pollock gives a list of the biographical sources, and also some account of the early literature relating to Spinoza. The Spinoza literature in more recent times has become so extensive as to forbid quotation. A. van der Linde's *Benedictus Spinoza: Bibliografie* (The Hague, 1871) is a classified catalogue as nearly as possible complete down to that date. (A. SE.)

SPIRES (Germ. *Speyer* or *Speier*), the chief town of the Rhenish palatinate, Bavaria, and formerly a free imperial city, is situated on the left bank of the Rhine, at the mouth of the Speyerbach, 21 miles to the south of Worms. The principal streets are broad but irregular, and the general appearance of the town little corresponds to its high antiquity, owing to the fact that it was burned by the French in 1689. The only important ancient building that has survived the flames is the cathedral, a very large and imposing basilica of red sandstone, and one of the noblest examples of Romanesque architecture now extant. Beyond the general interest attaching to it as one of the old

Romanesque churches of the Rhineland, Spires cathedral has a peculiar importance in the history of architecture as probably the earliest Romanesque basilica in which the nave as well as the side arcades was vaulted from the first. Built in 1030-61 by Conrad II. and his successor, this church has had a chequered history, its disasters culminating in 1689, when the soldiers of Louis XIV. burned it to the bare walls and scattered the ashes of the eight German emperors who had been interred in the kings' choir. Restored in 1772-84 and provided with a vestibule and façade, it was again desecrated by the French in 1794; but in 1846-53 it was once more thoroughly restored and adorned in the interior with gorgeous frescos at the expense of the king of Bavaria. The large cathedral bowl (Domnappf) in front of the west façade formerly marked the boundary between the episcopal and municipal territories. Each new bishop on his election had to fill the bowl with wine, while the burghers emptied it to his health. The heathen tower to the east of the church, on foundations supposed to be Roman, was probably part of the town wall built in 1080 by Bishop Ruder. Of the Retscher, or imperial palace, so called because built after the model of the Hradschin at Prague, only a mouldering fragment of wall remains. It was in this palace that the famous diet of Spires met in 1529, at which the Reformers first received the name of Protestants. The Altpörtel (alta porta), a fine old gateway of 1246, is a relic of the free imperial city. Among the modern buildings are several churches and schools, a museum and picture gallery, &c. Spires, although rebuilt in 1697, has never recovered from the cruel injuries inflicted by the French in 1689. Its trade is insignificant, although it still has a free harbour on the Rhine. Its manufactures include paper, tobacco and cigars, sugar, sugar of lead, vinegar, beer, and leather. Vines and tobacco are grown in the neighbourhood. The population in 1880 was 15,589 and in 1885 16,228.

Spires, known to the Romans as *Augusta Nemeturum* or *Nemetes*, and to the Gauls as *Naviomagus*, is one of the oldest towns on the Rhine. The modern name appears first, under the form *Spira*, about the 7th century. Captured by Julius Caesar in 47 B.C., it was repeatedly destroyed by the barbarian hordes in the first few centuries of the Christian era. The town had become an episcopal seat in the 4th century; but heathenism supervened, and the present bishopric dates from 610. In 830 Spira became part of the Frankish empire, the emperors having a "palatium" here; and it was especially favoured by the Salic imperial house. The contentions between the bishops and the citizens were as obstinate and severe as in any other city of Germany. The situation of the town opposite the mouths of several roads through the Rhine valley early fostered its trade; in 1294 it rose to be a free imperial city, although it owned no territory beyond its walls and had a population of less than 30,000. It enjoyed great renown as the seat of the imperial supreme court from 1527 till 1689; it was fifth among the free cities of the Rhine, and had a vote in the Upper Rhenish diet. Numerous imperial diets assembled here. From 1801 till 1814 it was the capital of a department of France; but it was restored to Bavaria in the latter year. By the peace of Spires in 1544 the Hapsburgs renounced their claims to the crown of Sardinia.

SPIRITUALISM. The term "spiritualism" is used by philosophical writers to denote the opposite of materialism. It is also used in a narrower sense to describe the belief that the spiritual world manifests itself by producing in the physical world effects inexplicable by the known laws of nature. The belief in such occasional manifestations has probably existed as long as the belief in the existence of spirits apart from human bodies, and a complete examination into it would involve a discussion of the religions of all ages and nations. In 1848, however, a peculiar form of it, believed to be based on abundant experimental evidence, arose in America and spread there with great rapidity and thence over the civilized world. To this movement, which has been called "modern spiritualism," the discussion in the present article is confined. The movement began in a single family. In 1848 a Mr and

Mrs Fox and their two daughters, living at Hydeville (Wayne), New York, were much disturbed by unexplained knockings. At length Kate Fox discovered that the cause of the sounds was intelligent and would make raps as requested, and, communication being established, the rapper professed to be the spirit of a murdered pedlar. An investigation into the matter seemed to show that none of the Fox family were concerned in producing the rappings; but the evidence that they were not concerned is insufficient, although similar noises had been noticed occasionally in the house before they lived there. It was, however, at Rochester, where the two Fox girls soon afterwards went to live with a married sister (Mrs Fish) that modern spiritualism assumed its present form, and that communication was, as it was believed, established with lost relatives and deceased eminent men. The presence of certain "mediums" was required to form the link between the worlds of the living and of the dead, and Kate Fox and her sister were the first mediums. Spiritualists do not as yet claim to know what special qualities in mediums enable spirits thus to make use of them. The earliest communications were carried on by means of "raps," or, as Mr Crookes calls them, "percussive sounds." It was agreed that one rap should mean "no" and three "yes," while more complicated messages were—and are—obtained in other ways, such as calling over or pointing to letters of the alphabet, when raps occur at the required letters.

The idea of communicating with the departed was naturally attractive even to the merely curious, still more to those who were mourning for lost friends, and most of all to those who believed that this was the commencement of a new revelation. The first two causes have attracted many inquirers; but it is the last that chiefly gives to modern spiritualism its religious aspect. Many came to witness the new wonder, and the excitement and interest spread rapidly. "Spirit-circles" were formed in several families, and other mediums discovered, exhibiting phenomena of various kinds (see below). The interest in mesmerism and the phenomena of hypnotic trance, which was widely diffused at this time both in America and Europe (see MAGNETISM, ANIMAL, vol. xv. p. 277 sq.), was favourable to the new idea. Information about other worlds and from higher intelligences was thought to be obtained from persons who could be put into the sleep-waking state, of whom Andrew Jackson Davis was in America the most prominent example. His work, *Nature's Divine Revelations* (New York, 1847), was alleged to have been dictated in "clairvoyant" trance. Many reputed "clairvoyants" developed into mediums. The movement spread like an epidemic. There is very little evidence to show that it arose anywhere spontaneously; but those who sat with the Foxes were often found to become mediums themselves and then in their turn developed mediumship in others. The mere reading of accounts of seances seemed to develop the peculiar susceptibility in some persons, while others, who became mediums ultimately, did so only after prolonged and patient waiting.

There seems to have been little practical interest in spiritualism in Europe till Mrs Hayden, a professional medium from Boston, came over in 1852. It spread like wildfire within a few months of her arrival,—its first development being in the form of a mania for table-turning, which seems to have prevailed all over Europe in 1853.

¹ It is possible that the family of Dr Phelps were unaware of the "Rochester knockings" when the disturbances began in his house at Stratford, Connecticut, in 1850 (see Capron's *Modern Spiritualism, its Facts, &c.*); but these disturbances, as recorded, have a closer resemblance to the ordinary occurrences at a spiritualistic seance than those which took place at Tedworth in 1661 (see Glanvill's *Sadducismus Triumphatus*) and at Slawensik in 1806 (see Kerner's *Scherin von Prevorst*), and others too numerous to mention.

Daniel Dunglas Home, the next medium of importance who appeared in London, came over from America in 1855. But it was at Keighley in Yorkshire that spiritualism as a religious movement first made any mark in England, and it was there that the first English spiritualistic periodical, the *Yorkshire Spiritual Telegraph*, was started in 1855. The extent to which the movement has spread and the present number of spiritualists are very difficult to estimate. Vague calculations have from time to time been attempted: in 1867 one spiritualist estimated the number in America at 11,000,000 or two-fifths of the population, and another has held 3,000,000 to be an extreme estimate (see *Spiritual Magazine* for 1867). The periodicals devoted to spiritualism may perhaps be taken to indicate the present state of the movement. There are in England two weekly newspapers, *Light* and *The Medium and Daybreak*; one of these has advertisements of Sunday meetings in sixty different towns and in eighty different rooms. The spiritualistic journals outside Great Britain number about 100, though probably only about a quarter of these are of any importance. Of these 30 are in English (26 published in America and 4 in the Australian colonies), 15 to 20 in French, and 6 in German. But nearly 40 are published in Spanish in Spain and South America. Private circles which meet regularly are believed to be numerous in England; and there are numerous public and semi-public trance-speaking and clairvoyant mediums, especially among the miners in the north.

In the present article it is impossible to give an exhaustive catalogue of the phenomena and modes of communication of modern spiritualism. Many have not now appeared for the first time in history, though it is difficult to suppose any historical connexion between the new developments and the old. Perhaps the most striking parallelism is that between the proceedings at modern seances and those connected with the later Greek oracles.² The greater part of the phenomena may be divided into two classes. To the first and earliest developed class belong what may be called the physical phenomena of spiritualism,—those, namely, which, if correctly observed and due neither to conscious or unconscious trickery nor to hallucination on the part of the observers, exhibit a force hitherto unknown to science, acting in the physical world otherwise than through the brain or muscles of the medium. The earliest of these phenomena were the raps already spoken of and other sounds occurring without apparent physical cause, and the similarly mysterious movements of furniture and other objects; and these were shortly followed by the ringing of bells and playing of musical instruments. Later followed the appearance of lights; quasi-human voices; musical sounds, produced, it is supposed, without instruments; the "materialization" or presence in material form of what seem to be human hands and faces, and ultimately of complete figures, alleged to be not those of any person present, and sometimes claimed by witnesses as deceased relatives; "psychography," or "direct writing and drawing," asserted to be done without human intervention; "spirit-photography," or photographing of human and other forms invisible to all but specially endowed seers; unfastening of cords and bonds; elongation of the medium's body; handling of red-hot coals; and the apparent passage of solids through solids without disintegration. The phenomena observed at Tedworth belong to this class. Somewhat similar was the Cock Lane ghost in 1762.³ A practice of causing heavily loaded tables to rise by "magic" seems to have existed among the German Jews in the 17th century.⁴ Kerner records movements

² See *Essays Classical*, by F. W. H. Myers, 1883.

³ See *Gentleman's Magazine*, 1762.

⁴ Von Harless, *Aegyptische Mythen*, 1856, pp. 130-132.

of objects in connexion with Madame Hauffe in 1825-28,¹ and such movements also occurred in presence of the so-called electric girl in 1846.² The second class of phenomena, which we may call the automatic, consists in table-tilting and turning with contact; writing, drawing, &c., through the medium's hand; convulsive movements and involuntary dancing; entrancement, trance-speaking, and personation by the medium of deceased persons, attributed to temporary "possession"; seeing spirits and visions and hearing phantom voices. This class bears affinity to some of the phenomena of hypnotism and of certain nervous complaints, to certain epidemics of the Middle Ages,³ and to phenomena that have occurred at some religious revivals. According to quotations given by Chevreul,⁴ the divining-rod was used at the end of the 17th century for obtaining answers to questions, as table-tilting now is. In a third class must be placed the cure of disease by healing mediums. This cannot well be treated apart from mesmeric healing and "faith cures" and "mind cures," and belongs to medical psychology.

The class of automatic phenomena are much the commonest. The investigations of Carpenter on unconscious cerebration and of Faraday on unconscious muscular action⁵ have shown that it is not necessary to look outside the medium's own brain and organism for the explanation of such things as automatic writing and table turning. It is about the matter communicated by these means that the controversy now turns. Spiritualists maintain that true information is thus given, provably unknown to the medium or other persons present, or at least expressed in a way obviously beyond their powers to originate. Another view, which is now gaining ground, is that the information in some exceptional cases does not come from the mind of the medium, but is due to the influence wrought on his mind by that of other persons, and more than this is not proved.⁶

At no period of the spiritualistic movement has the class of physical phenomena been accepted altogether without criticism. Most spiritualists know that much fraud in connexion with them has been discovered—frequently by spiritualists themselves—and that the conditions favourable to obtaining them are often such as favour fraud. It is with a full knowledge of these difficulties in the way of investigation that they maintain that unmistakably genuine phenomena are of constant occurrence. Many volumes containing accounts of such phenomena have been printed, and appeal is often made to the mass of evidence so accumulated. "No physical science can array a tithe of the mass of evidence by which psychism" (*i.e.*, what is usually called spiritualism) "is supported," says Serjeant Cox.⁷ But the majority of these accounts have scarcely any scientific value. Spiritualists have, as a rule, sought to convince not by testimony but by ocular demonstration. Yet, if there is not a mass of scientific evidence, there are a number of witnesses—among them distinguished men of science and others of undoubted intelligence—who have convinced themselves by observation of the genuineness of the phenomena,—a fact of undeniable importance, even without careful records, when the witnesses are otherwise known to be competent and trustworthy observers. Mr Maskelyne has affirmed⁸ that he has witnessed table-turning where he was satisfied that there was neither trickery nor unconscious muscular action. Moreover, if

¹ Scherir von Prevost.
² Tanchou, *Enquête sur l'authenticité des phénomènes électriques d'Angélique Cottin*, Paris, 1846.
³ See Hecker, *Epidemics of the Middle Ages*, 1859.
⁴ *De la baguette divinatoire*, &c., 1854.
⁵ *Athenæum*, 2d July 1853; see also on this subject Chevreul, *op. cit.*
⁶ See Ch. Richet, "La Suggestion Mentale," in *Revue Philosophique*, December 1884, and *Proc. Soc. for Psychical Research*, vols. ii. and iii.
⁷ *Mechanism of Man: What am I?* vol. ii. p. 313, 1879.
⁸ See *Pall Mall Gazette*, 18th, 20th, and 23d April 1885.

the phenomena are not genuine, we have to assume a large amount of apparently aimless fraud.

Amongst the proposed explanations of these phenomena that of hallucination need not detain us long. Sensory hallucination of several persons together who are not in a hypnotic state is a rare phenomenon, and therefore not a probable explanation. Moreover, it cannot be regarded as being generally applicable, partly because material traces of what occurs often remain, and partly because of the general agreement not only of all the witnesses but of all the senses as to what is perceived, as distinguished from what is inferred. Nevertheless something of the kind may occasionally have happened, especially at some of the seances of Home.⁹ If collective hallucination really occurs at seances, it is a very interesting fact, and deserves to be carefully studied.

What may broadly be called conjuring is, however, a much more probable explanation of most of the recorded phenomena; and in the vast majority of cases the witnesses do not seem to have duly appreciated the possibilities of conjuring, nor to have taken sufficient precautions to exclude it. Besides, not even a conjuror knows all the possibilities of his art and can describe in detail all the accidental circumstances which may on any particular occasion favour deception, and perhaps never exactly recur. We require, therefore, to know not only that the witness is careful and accurate but that he has allowed a sufficiently wide margin for the possibilities of conjuring; and some leading spiritualists do not allow this. It is often urged that mediums are not conjurors because they frequently fail, whereas "imposture can be reproduced at will," and because they can produce the phenomena in private rooms, and under conditions which exclude the possibility of conjuring. But the phenomena produced by mediums in private rooms would generally be uninteresting and unsuited to public performance, so that it would not pay a professional conjuror to practise them. Amateur conjurors might do something in this way, and the present writer has seen one imitate successfully some of the phenomena of professional mediums for "direct writing"; but to compete with mediums on really equal terms the conjuror must have the same conditions throughout, and this is difficult to arrange, since it involves securing witnesses who are doubtful as to whether what they see is conjuring or not. Still more important to the conjuror is that very privilege of failing whenever he pleases, so largely used by mediums, that he may avail himself of accidental opportunities for trickery, which would be interfered with by a settled programme. The extent to which the absence of programme obtains at seances appears from the following statement by a leading spiritualist who writes under the *nom de plume* of "M.A. (Oxon.)": "In 99 out of every 100 cases people do not get what they want or expect. Test after test, cunningly devised, on which the investigator has set his mind, is put aside, and another substituted."¹⁰ In other words, the evidence is rarely strictly experimental, and this not only gives facilities for fraud but makes it necessary to allow a much larger margin for accidents, mistakes, and mal-observation. It must be borne in mind that the most excellent moral character in the medium is no guarantee against trickery, unless it can be proved that he was in no abnormal mental condition when the phenomena occurred; for extraordinary deceptions have been carried on by hysterical patients and others with no apparent motive but a desire to secure attention.

One of the possibilities to be allowed for is that of un-

⁹ See, e.g., *Report on Spiritualism of the Committee of the London Dialectical Society*, 1871, pp. 367-369, 207. See also Guldenstæbe, *De la réalité des esprits*, 1857, p. 66.
¹⁰ *Human Nature*, 1876, p. 267.

usual muscular endowment in the medium. For instance, in 1851, the remarkable loud double raps occurring in the presence of the Fox girls, which in 1849 had puzzled several investigating committees at Rochester, were explained by Professors Flint, Lee, and Coventry of Buffalo as produced by rapidly partially dislocating and restoring the knee and other joints. They stated that they had experimented with another lady who could do the same; and, challenged by Mrs. Fish, they tried some experiments with her and Margaretta Fox which strongly supported their view.

Besides the general arguments for supposing that the physical phenomena of spiritualism may be due to conjuring, there are two special reasons which gain in force as time goes on. (1) Almost every medium who has been prominently before the public has at some time or other been detected in fraud, or what cannot be distinguished from fraud except on some violently improbable hypothesis; and (2), although it is easy to devise experiments of various kinds which would place certain phenomena above the suspicion of conjuring, by eliminating the necessity for continuous observation on the part of the investigators, there is no good evidence that such experiments have ever succeeded. Nevertheless there does exist evidence for the genuineness of the physical phenomena which deserves consideration. Count Agénor de Gasparin, in his *Tables Tournautes* (Paris, 1854), gives an account of what seem to have been careful experiments with his own family and friends, which convinced him that by some unknown force tables could be got to move without contact. He did not believe that spirits had anything to do with it. His experiments were conducted in broad daylight and with sceptical witnesses (whose testimony, however, he does not give) looking on outside the circle. The minutes of the sub-committee No. 1 of the committee of the Dialectical Society (*op. cit.*, pp. 373-391) report that tables moved without contact, whilst all the persons present knelt on chairs (the backs of which were turned to the table), with their hands on the backs. The report, however, would be of greater value if the names of the medium and of the working members of the committee were given—we only know that of Sergeant Cox—and if they had written independent accounts of what they witnessed. The conditions of some of Mr Crookes's experiments with D. D. Home on alterations in the weight of a partially suspended board¹ appear to have been so simple that it is difficult to imagine how the witnesses can have been deceived. Some very remarkable evidence is contained in "Researches in Spiritualism during the Year 1872-3," by "M.A. (Oxon.)," published in a spiritualistic periodical called *Human Nature*, March and August 1874. The papers give accounts of phenomena obtained through the writer's own mediumship, generally in the presence of one or two friends, and extending over almost the whole range of spiritualistic manifestations.

But what chiefly interests spiritualists is the assurance of life and progress after death, and the moral and religious teaching, which they obtain through automatic writing and trance-speaking. It was discovered very early in the movement that the accuracy of these communications could not always be relied on; but it is maintained by spiritualists that by the exercise of the reason and judgment, by prolonged acquaintance with particular communicating intelligences, and by proofs of identity with persons known to have been trustworthy on earth, it is possible to obtain valuable information from beings not infallible, but with the knowledge of spirit life superadded to their earthly experience. Still the agreement between

¹ *Quart. Journ. of Science*, July and October 1871; republished, with other papers by Mr Crookes, under the title of *Researches on the Phenomena of Spiritualism*, 1874 &c.

communications so received has not been sufficiently great for anything like a universal spiritualistic creed to have been arrived at. In France the doctrine of successive reincarnations with intervals of spirit life promulgated by Allan Kardec (Léon Hippolyte Denisart Rivail) forms a prominent element of spiritualistic belief. This view has, however, made but little way in England and America, where the opinions of the great majority of spiritualists vary from orthodox Christianity to Unitarianism of an extreme kind. Probably it would be impossible to unite spiritualists in any creed, which, besides the generally accepted belief in God and immortality, should postulate more than the progress of the spirit after death, and the power of some of the dead to communicate with the living by means of mediums.

Spiritualism has been accused of a strong tendency to produce insanity; the charge, however, seems to be in the main a mistaken inference from the fact that the delusions of the insane not unfrequently take the form of supposed converse with invisible beings. It is, however, probable that the spiritualistic theories of possession and obsession sometimes injure persons with incipient insane impulses, by weakening their sense of responsibility for these and their efforts to control them. Spiritualism has also been accused of fostering free love and other doctrines subversive of society. But this charge too has been made without adequate grounds; for, though certain spiritualistic bodies have at times taught such doctrines, they have always been repudiated by the mass of spiritualists. The great scandal of spiritualism is undoubtedly the encouragement it gives to the immoral trade of fraudulent mediumship.

In addition to the works already mentioned, the student, for a general idea of the whole subject, should consult the following:—E. W. Capron, *Modern Spiritualism, its Facts, &c.*, Boston, 1855, for the early history of the movement in America; Edmonds and Dexter, *Spiritualism*, New York, 1854-55; R. Hare, *Experimental Investigations of the Spirit Manifestations*, New York, 1856; Allan Kardec, *Livre des Esprits*, 1st ed. 1853; Mrs De Morgan, *From Matter to Spirit*, London, 1863, with preface by Professor De Morgan; Alfred Russel Wallace, *Miracles and Modern Spiritualism*, 1876; M.A. (Oxon.), *Spirit Identity and Spirit Teaching*; Zollner, *Wissenschaftliche Abhandlungen* (the part relating to spiritualism has been translated into English under the title *Transcendental Physics* by C. C. Massey). A succinct account of typical frauds of spiritualism is contained in D. D. Home's *Lights and Shadows of Spiritualism*, 2d ed., 1877-78. (E. M. S.)

SPITZBERGEN. This group of rocky, barren, and snowclad islands, lost in the solitudes of the Arctic Ocean, 400 miles north-north-west of the North Cape of Norway (see vol. xix. pl. II.), but nevertheless well known for at least four centuries to European whalers and seal-hunters, has of late acquired new interest from the scientific expeditions by which it has been selected either as a base for attempts to reach the north pole or as a field in which to inaugurate a new era of scientific exploration in the arctic regions. From Spitzbergen Parry started in 1827 on the sledge journey which brought him within 480 miles of the pole; it was the starting-point of the investigations which led Charles Martins to his brilliant generalizations of the flora, present and past, of the earth; and numerous Swedish expeditions from 1858 onwards have accumulated an amount of knowledge, so vast and so important, as to be comparable only with the results of the great equatorial and arctic journeys of the first years of the 19th century.

The Spitzbergen archipelago, lying between 76° 30' and 80° 30' N. lat. and 10° and 30° E. long.—half-way between Greenland and Nova Zembla—consists of six large and a great number of smaller islands. The chief, that of West Spitzbergen, shaped like a wedge pointed towards the south, and deeply indented on the west and north by long branching fjords, has an area of nearly 15,200 square miles. High mountains, reaching 4560 feet in the Horn Sound Tind, cover its southern parts; while a wide plateau