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 Tournantes* (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 board@@1 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,* 1874-76.

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·,* Zöllner, *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,