

Science Notes.

M. E. J. Marnenè drew the attention of the Academy of Sciences, at the sance of April 28th, to the presence of manganese in wines. An appreciable quantity of this metal was found by him in thirty-four samples of wine which he had tested. He had also found it in several cereals proving, in connection with the detection of its presence in nearly all rocks, the very general diffusion of this metal.

M. Butchot in a memoir read before the Academy of Sciences, of Paris, on April 21st "On the Scale of Temperatures, and on Molecular weights" endeavours to show that the study of specific heat tends to establish the striking fact that, heat, which resolves compound molecules into their elements, resolves also the complex groups of particles which constitute the bodies considered as elementary.

The idea that such diseases as small-pox which spread by communication and of which the virus multiplies itself in the human body, are generated by a *contagium vivum* of some kind, is by no means a new one, having been suggested by the resemblance of the definite course followed by these diseases to the development, maturation, and decline of living organisms, and by the analogy between the regeneration of the *contagium* within the body in greatly increased amount and the production of seeds or eggs.—Dr Carpenter, Nineteenth Century.

At the last meeting of the Physical Society of Berlin Professor Landolt exhibited a solid cylinder of carbonic acid he made only an hour before. The carbonic acid was liquified in a compressing vessel, and a stream of the liquid was then made to penetrate into a conical cloth bag. This bag was soon filled with a loose snow of carbonic acid, and the latter was then by means of a stamper actually hammered in a cylindrical vessel into a solid cylinder. In this solid state the carbonic could be touched by the hand. It possesses the appearance and hardness of common chalk, and is very brittle.

A remarkable contribution to the study of morbid heredity is made by Mr. Alfred Lingard in a communication to the 'Lancet.' Not only has he recorded the occurrence of the malformation termed hypospadias in the males of six successive generations in one family numbering fourteen individuals, but the male in the third generation transmitted it by what has been called indirect atavism to eight individuals of another family. His wife, after his death, married a person not affected with hypospadias, and gave birth to four sons all of whom had it, and two of whom in their turn transmitted it to their sons, in whom the taint seems to have worn itself out. This is an important addition to the instances frequently observed more often in other animals than in man, of the influence of a first impregnation upon subsequent offspring.

The microscopic researches of Professors Crudeli of Rome, and Kleis of Prague, have shown that the lower strata of the atmosphere of the Campagna, its surface soil, and its stagnant waters, contain micro-organisms of the "Bacillus" type which they have cultivated in various kinds of soil, and then introduced by inoculation into the blood of healthy dogs. All the animals thus experimented upon became the subjects of malarial fever, which ran its regular course, producing the same enlargement of the spleen as seen in the human subject naturally affected by the disease: and the spleens of these dogs were found to contain a great quantity of the *bacilli*. This *Bacilli Malarie* has also been detected in the blood of human patients during the period of the invasion of the disease, the rod-shaped cells disappearing and being replaced by micro-spores, as the fever reaches its acme.

Facts, both ethnological and philological, have recently come to light which are compelling scientific ethnologists to modify the usually accepted theory that the original home of the Aryan race was Central Asia, and that the earliest migration started thence. Indeed, Europe, and not Asia, is now declared by some of them to have been their ancestral seat, more particularly the Eastern portions, including the western borders of Asia. One distinguished German anthropologist holds the starting point of Aryan emigration

to have been Scandinavia; and nearly all our leading scientists who have gone into the subject have given up the Himalayan plateau as the cradle of the Aryan race, and are now teaching us that our Aryan ancestors were probably herdsmen as well as forest-rangers, living partly on the treeless plains of European Russia, and partly in the forest lowlands of Scandinavia and north-eastern Germany. Professor Schrader even holds that the Swiss lake-dwellers were Aryans.

The distinguished German pathologist Professor Koch, whose investigations into the nature and history of bacteria and other germs, has already gained for him a world-wide renown, has recently discovered the bacillus of cholera in tank water in one of the suburbs of Calcutta. He went to India accompanied by two other savans, at the instance of the German Government, for the purpose of studying cholera in what is generally regarded as its original home. He attended the cholera hospitals, and found a species of bacillus always present in the lower intestines of patients who had died of the disease, just as he had previously found it in cholera victims in Egypt. It so happened that an outbreak of cholera occurred whilst Professor Koch and his companions were studying it, in the neighbourhood of a tank at Balli Hagata in the suburbs of Calcutta. With an instinctive eyesight into the probable cause of the epidemic he submitted the water of the tank to microscopic examination, and found that it teemed with the bacillus of cholera. Further, it was discovered that as the bacilli in the water decreased in number, the disease decreased in the vicinity of the tank. Professor Koch has attempted to communicate the disease by inoculation, but so far has failed. Only cats, dogs, &c., were of course experimented upon. Professor Koch and his associates intend returning to India after next summer for the purpose of continuing their cholera investigations, and they now return to Europe with the intention of studying malaria and other fevers.

The Vienna correspondent of the Times gives the following interesting account of Archduke Rainer's Egyptian papyri:—The sifting and arrangement of the papyrus collection bought by Archduke Rainer has led to further interesting discoveries. Of the hieroglyphic, hieratic, demotic, and Coptic papyri about 20 date from the pre-Christian period. Among these are one nearly 3,000 years old, in the hieratic letter, containing the representation of a funeral, with a well preserved sketch of the deceased, some hieroglyphic legends, and a demotic papyrus on the subject of mathematics. The coptic documents—about 1,000 in all—mostly letters and legal documents of the period from the sixth to the tenth century of our era. There are some important papyri containing translations of the Bible in the Central Egyptian dialect, of which there have hitherto been found but a few specimens; and a leaf of parchment from an octavo edition of the book of Ruth in the Sahidic dialect. Among the Greek papyri is a hitherto unknown speech of Isocrates, one of the finest specimens of Alexandrian calligraphy. Another fragment has been found of the book of the Thucydides manuscript, previously mentioned. Portions have also been discovered of the Iliad, and of a paraphrase of the Fourth Book. Then a metanvia has been found, dating from the beginning of the fourth century, this being one of the oldest Christian manuscripts. The collection contains many well-preserved documents in an almost continuous series of the Roman and Byzantine Emperors beginning with Trajan and ending with Heraclius. There are also documents in the Iranic and Semitic languages. The former are written on papyrus parchment and skins; and amongst them are two fragments which it is believed will furnish the key to the Pehlewi language. Among the Arabian papyri, 25 documents have been found with the original leaden seeds attached. They begin with a fragment of the 54th year of the Hegira. Another is an official document of the 90th year of the Hegira, appointing a revenue collector. Perhaps the most valuable part of the collection is 155 Arabian documents on cotton paper, of which the eighth century, which is about the time of the invention of this material by the Arabs to the year 953. Many thousands of manuscripts have still to be deciphered.

The man who has nothing to boast of but his illustrious ancestry is like a potato—the only good belonging to him is underground.—SIR THOMAS OSBURY.