the value of certain facts supposed to throw some light on the natural history of micro-organisms in general, with special reference to the question of specific transformation. The main conclusion is that the charbon microbe entirely deprived of its virulence has not become the simple saprogenic microbe of ordinary fermentations set up in inorganic centres, for it has still preserved one of the most essential attributes that indicate the infectious nature of the pathogenic microbe; hence it has not undergone specific transformation. Such at least is the present inference, without prejudice to the question of possible ulterior metamorphoses of which *Bacillus anthracis* may be capable under the action of compressed oxygen or any other means. In a future communication it will be shown that at this stage the microbe has not even been deprived of the faculty of reverting to its virulent state.—On Egyptian blue, by M. F. Fouqué. The *author has undertaken a fresh study of this pigment, which was* discovered by Vestorius, of Alexandria, but which ceased to be made after the fall of the Western Empire. He finds its formula to be $CaO,CuO,4SiO_2$, consisting of 63·7 parts of silica, 14·3 of lime, 21·3 of copper oxide, with a trace of iron; specific gravity 3·04.—On two fossil Echinodermata from Thersakhan in Turkestan, by M. G. Cotteau. These specimens from the banks of the Sumbar, an affluent of the Attrek, are identical with the *Coraster vilanovæ* which abounds in the Upper Chalk of Alicante, Spain. Their presence in Turkestan at such a distance from the Pyrenees shows that at one time the Cretaceous seas occupied vast regions stretching eastwards to Central Asia and India.—Summary of the solar observations made at the Royal Observatory of the Collegio Romano during the second half of the year 1888, by M. P. Tacchini. Compared with the corresponding period for 1887 and 1886, the solar spots show a further decline in 1888, with a maximum of days without any spots. The protuberances have also decreased, but more irregularly, and at a less rapid rate.—On shooting-stars, by M. E. Minary. It is argued that the incandescence of these bodies cannot be explained by the transformation of motion into heat. The gases being perfectly elastic bodies, and in the upper atmospheric regions in an extremely rarefied state, heat cannot be produced by the shock of bodies endowed with great velocity and impinging on perfectly elastic molecules capable of receiving the motion and acquiring the velocity of those bodies; in this case the movement is communicated, not dissipated or transformed to heat. Had such transformation taken place, the velocity of the bodies on their trajectory would be progressively retarded, while the incandescence would be proportionately increased. But observation shows only luminous flashes, and more or less uniform velocities of translation at least for all the bodies that are not combustible. The reading of the paper was followed by some observations by M. Cornu, who remarked that the illumination of the trajectory of the shooting-stars might be attributed to a development or a discharge of static electricity without any considerable rise of temperature; as implied by the incandescence of detached particles of meteorites. This would agree with the spectral observations made on the shooting-stars, and would lend support to the view that certain cosmic phenomena, such as auroras, the zodiacal light, comets, solar protuberances, &c., are electric manifestations analogous to those that are so easily generated in rarefied gases.—On a general law relative to the effects of reversible transformations, by M. Gouy. It has been noticed that the effects produced by mechanical actions are often opposed to those actions (law of Lenz, thermic effects). Here M. Gouy establishes a general law, of which these facts form a particular instance, and which is applicable not only to direct mechanical actions, but also to a large number of reversible transformations.—Experimental studies on the dynamic and static elasticity of metallic wires, by M. E. Mercadier. As a complement to various researches in acoustics and thermodynamics, the author here determines the velocity of sound in metallic wires, first by directly registering their longitudinal vibrations, and then by deducing the velocity from the measurement of elastic expansions. His researches extend to copper, steel, platinum, aluminium, silver, and gold wire, varying in diameter from 0·5 to 1 millimetre.—On the rotatory power of crystallized chlorate of soda, by M. Ch. Eug. Guye. The results of these experiments agree fairly well with those obtained by M. Schuke for the visible parts of the spectrum. They may easily be reduced to a uniform temperature by employing the coefficient given by that physicist. These studies will be continued for the purpose of ascertaining whether the same coefficient is equally applicable to the ultra-violet radiations.—Tests for the mercaptans, by M. G. Denigès. Isatine, already used in sulphuric solution as a test for thiophene, is here shown to be also an excellent test for mercaptan.—On the origin of the eruptive rocks, by M. A. de Lapparent. From the constitution of the acid rocks—that is, those charged with silica—a fresh argument is drawn in support of the theory respecting the primordial fluidity of the globe.—Papers are contributed by M. M. Meslans, on the preparation and properties of the fluorides of propyl and isopropyl; by M. A. Lacroix, on the petrography of gneiss occurring in Ceylon and in Salem (Madras); and by MM. G. Weiss and A. Erckmann, on the optical properties of natural and false amber.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Natural Inheritance: *F. Galton (Macmillan).*—*Cactus Culture* for Amateurs: W. Watson (U. Gill).—Key to Lock's Elementary Trigonometry: H. Carr (Macmillan).—Key to Lock's Trigonometry for Beginners (Macmillan).—On Truth: St. G. Mivart (K. Paul).—The History of Ancient Civilization: edited by Rev. J. Verschoyle (Chapman and Hall).—Galileo and his Judges: F. R. Wegg-Prosser (Chapman and Hall).—The *Coleopterous* Fauna of the Liverpool District: J. W. Ellis (Liverpool, Turner).—Prodromus of the Zoology of Victoria, Decade xvii.: F. McCoy (Melbourne, Brain).—Das Klima des Aussertropischen Südafrika: Dr. K. Dove (Göttingen).—Proceedings of the Royal Society of Edinburgh, Nos. 126 and 127 (Edinburgh).—Report of the Marlborough College Natural History Society for Year ending Christmas 1888 (Marlborough).—Logic: R. F. Clarke (Longmans).—Practical Organic Chemistry: S. Rideal (Lewis).—Elementary Synthetic Geometry: N. F. Dupuis (Macmillan).—The Mineral Wealth of Queensland: R. L. Jack (Brisbane).—Basic Slag: C. M. Aikman (Edinburgh).—The Practical Use of the Spectroscope: J. Parry.—Zeitschrift für Wissenschaftliche Zoologie, Band 31–45 (Williams and Norgate).—Proceedings of the Boston Society of Natural History, vol. xxiii. Parts 3 and 4 (Boston).—Annalen der Physik und Chemie, 1889, No. 3 (Leipzig, Barth).—Quarterly Journal of the Geological Society, No. 177 (Longmans).—Journal of the Bombay Natural History Society, No. 4, vol. iii. (Bombay).—Kryptogamen-Flora von Schlesien, 3 Band, 5 Liefg. (Breslau).—Tōkyō Sūgaku Butsurigaku Kwai Kiji, Maki No. 4, Dai 2.—Die Natürlichen Pflanzenfamilien, Liefg. 26, 27, 28 (Leipzig, Engelmann).

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