Prof. Domenico Lovisato, of the Cagliari University, is remarkable for its richness in aluminium, and the highly oxidised state of the iron contained in it. Outwardly it strongly resembles zoisite, although its crystalline system and optical properties leave no doubt as to its true character.—On some peculiarities in the organisation of the Schizonemertians, by M. Remy Saint-Loup. The exact disposition of the cephalic fossettes is here determined by a comparative study of three types of these organisms.—On the colonial vascular system of the Tunicata, by M. F. Lahille. A careful study of this system leads the author to the conclusion that there is no valid reason for separating the Monascidians and Synacidians into two distinct orders of Tunicata.—On the cranial nerves of a human embryo thirty-two days old, by M. C. Phisalix. Balfour's theory, based on negative grounds, that the cranial nerves are disposed on a type absolutely different from the spinal nerves, seems disproved by the anatomical study of this subject.—Researches on the physiological action of methylal, by MM. A. Mairet and Combemale. These researches show that, in whatever way introduced into the system, methylal always produces the same hypnotic effects, but more rapidly by hypodermic than by pulmonary injection.—On the existence of submerged valleys in the Gulf of Genoa, by M. A. Issel. From the recent hydrographic surveys of Capt. J. B. Magnaghi, it appears that the valleys of the Bisagno, Polcevera, Quiliano, and other Ligurian streams are continued seawards by submarine valleys, which retain the same fluvial direction, and are perfectly distinct to a depth of at least 900 metres.—On the Artesian wells and new oases created in the Wed Rir', South Algeria, by M. G. Rolland. Since 1859, the French have sunk 117 wells in this region, creating five new oases, and increasing fivefold the value of the land. In the same period the population has been doubled, and many thousands of date-palms planted.

Berlin

Physical Society, December 3, 1886.—Prof. von Helmholtz in the chair.—Dr. König exhibited a von Kries colour-mixing apparatus, the third specimen of the kind hitherto turned out in the factory of Schmidt and Hänsch, and discussed in a searching manner the construction of this instrument. The instrument contained essentially two displaceable slits, the light of which was by a prism decomposed into two spectra falling on each other and producing the mixture of the colours. A second double slit, and a simple fifth slit allowed a comparison of the mixed colours and an admixture at pleasure of white light.—Dr. Weinstein reported on his deductions from observations of the earth's current in the telegraph lines of the German Empire. Among the results already elsewhere published of his calculations (*vide* NATURE, vol. xxxiii. p. 624) it may here be brought out that, apart from its disturbances, the earth's current showed a daily period with eight fluctuations, which, however, did not occur throughout the whole year, nor always in a similar direction. These fluctuations were least in the morning between five and seven o'clock. They were the cause that the statements respecting the daily maxima and minima differed so considerably among the different authors. The earth's current showed an intimate relation to the earth's magnetism, and especially to the declination. The speaker failed, however, to discover a relation in the earth's current to the period of the sun's rotation, although such a relation was asserted for the earth's magnetism. The latter, too, was a point which the speaker doubted, and that because he had been unable to confirm the relation, which was likewise affirmed, between the aurora and the sun's rotation. It was true he obtained an average period of about twenty-five days, but the minima amounted to twelve and the maxima to thirty-seven days, and between such extremes a mean was not allowable. For the earth's current likewise he found minima of twelve days and maxima of thirty-seven days, and this result appeared to him to conflict with the assumption of a connection between the earth's current and the sun's rotation. He conjectured that in the case of the earth's magnetism single values deviating too strongly from one another had been united into a mean. Be it further related that the intensity of the earth-current proved itself to be nearly proportional to the length of the lines. In the discussion following this address, Dr. Brix spoke of the earth plates which had been introduced in the lines used for measurements of the earth-currents, and which had hitherto proved so little disturbing that for the present the introduction of unpolarisable plates was desisted from.

Christiania

Society of Science, October 15, 1886.—Herr Schöyen announced that through experiments carried out during the summer he had succeeded in demonstrating that the parasite *Tylenchus hordei*, described by him, which in the district of Lom causes the remarkable disease on rye termed "krok," also attacks *Elymus arenarius*, whereby his opinion that the parasite was transmitted from the latter to the rye-fields has been confirmed. He further stated that he had received samples of rye affected with the same disease from Heligoland; here, too, it extended along the coast in the proximity of *Elymus arenarius*.

BOOKS AND PAMPHLETS RECEIVED

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