

month. Neither of these would be convenient; the first is, for other reasons also, inadmissible.

On one point we agree with Mr. Pearce, and that is as regards the incidence of Easter. There is a common, but false, impression that the existing cumbersome arrangement has the authority of the Council of Nicæa. All that that council decreed was, in opposition to the so-called Quartodecimans, that Easter should always be kept on a Sunday; the particular Sunday was regulated by various cycles, the Metonic being usually followed, and the present rule was initiated by the advisers of Pope Gregory XIII., the English Prayer-Book rule arriving at the same end, when our calendar was reformed, by a slightly different process. It has not secured uniformity in Christendom because the Eastern church still follows the Julian calendar, and therefore its Easter is usually different from ours. A rule to keep Easter on the second Sunday in April (when the first Easter in all probability fell) would be very convenient, but it is an ecclesiastical question, and the alteration should be the act of the whole church. To make it always on the same day of the month, as well as week, as Mr. Pearce proposes, could not be done without accepting his other drastic and inadmissible proposals.

W. T. L.

#### PECULIARITIES IN THE STRUCTURE OF SOME HEAVENLY BODIES.

PROF. SUESS has recently contributed a suggestive paper on peculiarities in the structure of some of the heavenly bodies<sup>1</sup> to the Academy of Sciences of Vienna. He remarks at the outset that the present phase of geology is similar to that of anatomy at the time when the structure of the human body was first compared with that of other living organisms. For the purpose of comparative study it is essential that the earth should be regarded as a whole, and when this is done it becomes fairly obvious that acid rocks and their derivatives, which form so large a portion of the visible surface, are far less important as constituents of the globe than might at first sight be supposed. We see but little of those heavy substances to which the earth owes its high density, and which appear to be more closely associated with the basic than with the acid rocks. Our author considers that for the general purpose which he has in view three main types of rock should be recognised—SiAl rocks (sal or salic rocks), SiMg rocks (sima or simic rocks), and NiFe rocks (nife or nific rocks). For the simic rocks containing chromium and iron he uses the term *crofesima*. The most important occurrences of platinum are in the *crofesimic* rocks, which also contain almost always traces of nickel. These rocks are of deep-seated origin, and it is a significant fact that they frequently occur as intrusions along planes of movement in the younger mountain chains, such as the Alps, e.g. zone of Ivrea.

In 1901 the author, in a letter to Sir Norman Lockyer (NATURE, October 24, 1901, p. 629), directed attention to the fact that the metals associated with the basic rocks are not only distinct from those which often accompany the acid rocks, but that they agree closely with those which stand out prominently in the Fraunhofer spectrum and in  $\alpha$  Cygni. This led Sir Norman to institute a special research, with the result<sup>2</sup> that "the views of Prof. Suess were confirmed . . . and that the metals conspicuously represented in the spectra of the sun, the chromosphere, and  $\alpha$  Cygni are, in the main, those which are asso-

<sup>1</sup> "Über Einzelheiten in der Beschaffenheit einiger Himmelskörper" (Sitz. a. k. Akad. d. Wiss. Mathem.-naturw. Klasse, Bd. cxvi., October, 1907.)

<sup>2</sup> "Spectroscopic Comparison of Metals present in Certain Terrestrial and Celestial Light-sources." (Solar Physics Committee, 1907.)

ciated with basic rocks; also that, with the possible exception of yttrium and lithium, the metals typical of acid rocks are not represented in  $\alpha$  Cygni. There is, of course, evidence that several of the acid-rock-metals such as potassium, beryllium, cerium, tin and zirconium are represented in the Fraunhofer spectrum, but the solar lines are in each case inconspicuous."

Commenting on the above quotation, Prof. Suess points out that if the composition of the earth be considered quantitatively there is every reason to believe that it would, if subjected to the necessary physical conditions, yield a sun in which the basic group of metals would spectroscopically dominate over the acid group.

In considering the distribution of metals of the basic, or, as he now expresses himself, of the simic group, the author directs attention to the local predominance in terrestrial occurrences of certain metals, e.g. titanium over nickel and *vice versa*. Similarly, if  $\gamma$  Cygni be compared with  $\alpha$  Cygni, titanium, strontium, and scandium will be seen to be more important, and iron, chromium, and magnesium less important in the former than in the latter.

The special importance of titanium in sun-spots is compared with the predominance of this metal (ilmenite) over nickel in the contents of the diamond-pipes of South Africa, which are regarded as the most striking terrestrial examples of gaseous eruptions.

In the concluding part of the paper the author briefly reviews the theories as to the origin of meteorites, and favours the view that they, together with the planetoids, represent the fragments of an anonymous planet which formerly occupied a position between Mars and Jupiter. "The centre of this planet," he says, "consisted of nife like that of Agram or Elbogen. Towards the exterior the proportion of magnesium increased, and a transition from nife to sima took place, as is probably the case with the earth, although the supposition cannot be verified by observation. A salic outer crust was absent unless it be represented by the perfectly molten tektites."<sup>1</sup>

#### SIR JOHN ELIOT, K.C.I.E., F.R.S.

THE news of the death of Sir John Eliot, K.C.I.E., F.R.S., in his sixty-ninth year, at his residence, Bon Porto, Cavalaire, Var, France, will be received with great regret by a very large circle of friends. His death was extremely sudden, and took place in the early morning of Wednesday, March 18. He was walking on a steep hill in his own grounds, superintending the work of his men, when he suddenly sat down and passed away. The cause of death is said to have been apoplexy.

Sir John Eliot was throughout his life a most indefatigable worker, and since his retirement from the Indian Service about five years ago he had continued to work with unabated vigour. Indeed, the strenuous work which he undertook may perhaps have undermined his health, and have caused his premature death. He was one of the most genial companions possible, having a most charming personality, together with a keen sense of humour. He was most widely read and well informed in almost every subject, and at the same time he was one of the most modest of men. He was a most accomplished musician, and played the organ and piano with very great execution and feeling. He was also

<sup>1</sup> This term has been proposed by Dr. F. E. Suess ("Die Herkunft der Moldavite und verwandter Gläser," *Jahr. geol. Reichsanst.*, 1900, p. 193) for certain peculiar-vitreous bodies which he refers to an extra-terrestrial origin.