This statement is not perfectly correct.

The expression of the Chamberlain of the Corporation, as recorded in the official register, and as correctly reported in the principal newspapers, was:—

"When the national standards of measure and ponderosity were by accident lost to the nation, you were applied to for the accomplishment of their restoration with that mathematical exactitude which was indispensable."

The statement in NATURE will be made correct by erasing the word "Metric" and substituting "National."

G. B. AIRY

The Origin of our Numerals

MR. DONISTHORPE'S ingenious construction of our numerals by corresponding numbers of lines (NATURE, vol. xii. p. 476) induces me to offer a few remarks on this subject, which has a literature of its own. There can be no doubt, I believe, that our forms were derived directly from the Arab series called Gobar; that the Arabs had them from the Indians, and the Indians from the Chinese. My esteemed friend Dr. Wilson, of Bombay, published a "Note on the Origin of the Units of the Indian and European numerals," in 1858,* in which he showed the derivation of some of our numerals from ancient Indian forms found on cave inscriptions of Western India, on the Bhilsa Topes, and on coins. My remarks are founded wholly on the forms given in this note, which is little known, I believe, in England.

Dr. Wilson obtains our first four numeral forms from the Chinese, traced through different Indian script characters nearly as supposed by Mr. Donisthorpe. One, two, three horizontal bars and a square for 4. He also finds the eight in the forms ,  , and  on the cave inscriptions.

Before proceeding to the other numerals I wish to notice a rule which may be deduced from the consideration of the changes in the forms of numerals in passing from one people to another, that the same form may be turned through angles of 90° or 180°, and may be inverted or reversed without altering its value. Even the same people have used a form turned in different ways for the same numeral. The Arabs used their 2, 3, and 4 in two ways, making angles of 90° with each other; the 2, 4, and 5 of Sacro Bosco and Roger Bacon were the Indian script Modi (and ours) turned through 180°, or upside down; other examples will be noticed.

The most important derivation by Dr. Wilson is that from the Chinese  ten; this is found on the Bhilsa Topes with a circle round it (Dr. Wilson thinks to distinguish it from the oldest form of K found on the cave inscriptions). The nine is found on the Bhilsa Topes as  , or one under ten, and on old coins thus:  . The Indian caves give half of ten  ,  , for five (as V is the half of the Roman ten, X). It is from this form that Dr. Wilson derives the Indian Modi and Nagari fives  ,  ,  . It is here that I venture to differ slightly from Dr. Wilson. One of the cave forms of four is  , which Dr. Wilson interprets (as in the case of nine) one under five, or five less one; now this form without the under bar, as well as the other forms of five, are, it seems to me, the halves not of the cross () merely, but of the cross and circle thus:  ,  ,  , which are as nearly as possible two half diameters and half circumference. The form  is, I believe, the origin of our four, and not the Chinese or Indian square, as supposed. This I think will be evident when we compare the Arab four () with the Indian four above. The Arab four s also employed thus:  , which inverted gives  , a sufficiently near approximation to our four.

Dr. Wilson has not been able to find the origin of our seven, but this is obtained from his Arab seven  , by turning it round () and making one leg shorter than the other, nearly resembling the Gobar seven  . We may also find an earlier source in the Chinese seven turned round 180°,  , which is almost exactly the German written seven. Neither six nor seven is to be found on the cave inscriptions. In Dr. Wilson's Arab series the Indian five  is used for six, and the Gobar six, as well as ours, may be taken from the Nagari seven  . We may also find an origin in the Chinese six  , by omitting the horizontal bar, as in the case of the seven. That such liberties were taken is evident on a consideration of the five of Sacro Bosco and Roger Bacon (), the Indian five *without the bar*, and turned round 180°. If there is any merit in these suggestions it belongs to Dr. Wilson.

JOHN ALLAN BROUN

* See "India Three Thousand Years Ago." By John Wilson, D.D., F.R.S. (Bombay; Smith, Elder, and Co., 1858.)

On the Cup-shaped Joints in Prismatic Basalt

THE difference between Mr. Mallet (NATURE, vol. xiii. p. 7) and myself is simply this. He asserts, as necessary to his theory, that the "convexities" should always project in the direction in which the cooling and consequent "splitting is proceeding" ("Proceedings of the Royal Society," No. 158, p. 182). I referred him to the beautiful specimen, in the hall of the Geological Society's Museum, of three columns, one of which exhibits an articulation in the shape of a double-concave lens; the adjacent convexities consequently pointing, in this case, in *opposite directions*.

Mr. Mallet's reply to this is, that the cooling must have proceeded, in this instance, in different directions, and met in the biconcave-lens-shaped articulation. Now, inasmuch as this articulation is only a few inches (three or four) thick, and shows no sign of seam or separation across it, and Mr. Mallet himself declares (in the article mentioned above) that the plane which separates the part cooled from above, from that which cooled from below, "consists of irregular fragments," I maintain that his explanation is inadmissible and self-contradictory. Any geologist who takes sufficient interest in the question to examine the columns for himself will be easily satisfied on this point.

Nov. 8 G. P. SCROPE

A New Palmistry

THE proportions of the fingers in the two hands are not, I think, always the same. With me the index finger of the left hand is considerably longer than the ring; in the right they are very nearly equal.

R. A. PRYOR

Hatfield, Nov. 12

OUR ASTRONOMICAL COLUMN

THE MINOR PLANETS.—The discovery of No. 154 by M. Prosper Henry at the Observatory of Paris, on November 6th, is announced in M. Leverrier's Bulletin and by circular with the "Astronomische Nachrichten;" and that of No. 155 by Herr Palisa at Pola on the 8th inst., in the Paris Bulletin of the 13th. They are of the same magnitude (twelfth) as the three previously detected during the present month.

The rapid increase in the number of small planets must soon occasion serious difficulty, not only in predicting their positions with sufficient approximation to allow of their being recognised without considerable expenditure of time and trouble, but likewise in securing observations, especially on the meridian, according to the system pursued for some years past at Greenwich and Paris, by agreement between the Astronomer Royal and M. Leverrier.

As regards the preparation of ephemerides, it is well known that the conductor of the "Berliner Astronomisches Jahrbuch," Prof. Tietjen, makes it a speciality of his work, with the aid of a numerous body of astronomers in various parts of Europe and in the United States, and hitherto he has succeeded in providing observers with an ephemeris of nearly every small planet detected to within a short time of publication. Thus, in the Jahrbuch for