the Greek word δώδεκα, twelve; that dodecuple oscillation generally takes place in the second week of the month, but it is not equally marked every month, and besides it is not true to say that it is always exhibited by a depression of the mean temperature.

The November dodecuple oscillation decidedly exhibits a warming effect. February, March, and May have, on the contrary, a cooling effect. For centuries May and November were observed and noted as the "Saints de Glace" of the spring and Martinmas summer. But other oscillations, viz. February and March, which are generally very cold, were unnoticed.

The range of the oscillations, as well as their exact position *in time*, are different for different years, very probably because there is more than one single law in operation to produce them. Happily M. Charles Sainte-Claire Deville has discovered an indication which enables him to foresee which oscillations are to be the largest or the smallest.

Each dodecuple thermometrical oscillation is preceded by a similar dodecuple barometrical oscillation. The difference of time between both oscillations is variable, but the ordinary value is *five days*. Consequently, having noted a large barometrical dodecuple oscillation on March 2, he was certain that by the 8th the regular thermometrical dodecuple oscillation for March should appear very decidedly. The deviation of the thermometrical oscillation is uncertain, to the extent of four or five days.

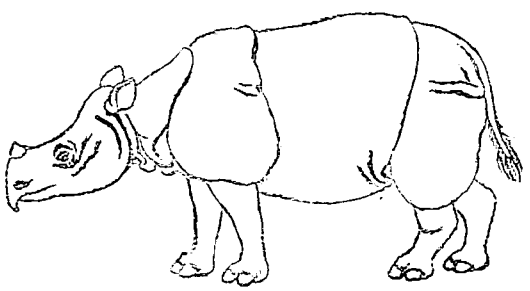
Everything is empirical in this wonderful method of announcing future oscillations of the thermometer by the careful observation of the barometer.

M. Charles Sainte-Claire Deville is of opinion that the phenomenon is owing to the presence of certain cosmical streams of meteoric bodies which may chance to be distributed in an irregular manner in the celestial space. These do not always keep just in the same place, owing to multifarious perturbations; they also vary in breadth, thickness, &c. All these assumptions are merely theoretical, but the existence of the dodecuple period in itself is based on pure observation, and cannot be questioned like the explanation offered for its origin.

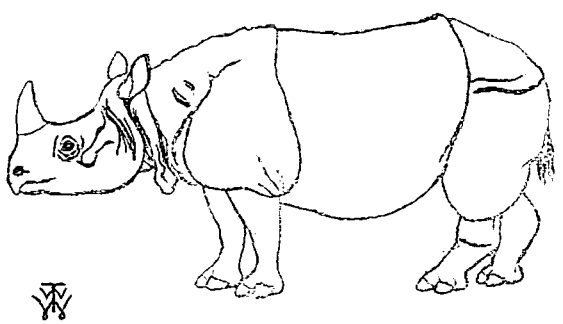
W. DE FONVIELLE

ON THE ARRANGEMENT OF THE SKIN-FOLDS IN THE ONE-HORNED RHINOCERI

IN the two accompanying woodcuts Mr. T. W. Wood has very carefully and accurately mapped out for us the manner in which the peculiar skin-folds, so conspicuous in both the Indian one-horned rhinoceri, are arranged over the surfaces of their bodies. The sketches were both taken from the specimens now living in the Zoological Gardens, the Indian animal (*Rhinoceros unicornis*) being a fully adult male, presented by Mr. A. Grote in 1864, and the Javan (*R. sondaicus*), the not quite full-grown example, of the same sex, just purchased. A fortnight ago (NATURE, vol. ix. p. 363) we mentioned some of the most important points by which the two species



R. sondaicus.



R. indicus.

are distinguished, laying stress on what is rendered so much more evident by the sketches we now give, namely, the peculiar manner in which the lateral shoulder-fold—which in the Indian species does not run up the middle line of the back, but is lost over the upper part of the scapula before it reaches the post-scapular transverse fold, as it is continued longitudinally backwards—in *Rhinoceros sondaicus* is carried perpendicularly upwards along the middle of the scapular shield, quite to the back, so as to cut off an extra, independent, saddle-shaped, small, median segment, which covers the nape of the neck. The peculiar notch in the post-scapular transverse fold, and the less extent of the longitudinal fold in the gluteal shield in the Javan species, is also very apparent. Another point which is well indicated is the difference in the shape of the upper lip in the two animals, it being short and blunt in *R. indicus*, whilst it is long, pointed, and semi-prehensile in *R. sondaicus*.

The head of the Javan rhinoceros is also proportionately smaller, whilst the skin-folds along the inferior surface of its neck are more symmetrical and numerous, being arranged so as to appear very like the surface of a coarse three-cord braid. Its skin, especially over the back, is covered with hair to a degree which would hardly have been expected, as in the Indian species there is but little hair to be seen. The ears are also fringed, much in the same way that they are in *Rhinoceros lasiotis* and *R. sumatranus*, the two Asiatic two-horned species.

The two sketches are made of one size to facilitate comparison, but it must be borne in mind that the Javan animal never reaches anything like the bulk of its Indian ally. It is also almost certain that its skin never becomes so coarsely tuberculated.

In rhinoceri kept in confinement there is nothing to be learnt from the shape or length of the horns, because that depends so much on the opportunities which their owners have had of rubbing them down. In the wild state the continual employment of the horn or horns in tossing and dividing comparatively yielding substances, such as loose earth and wood, causes them to become pointed, long, and polished, because they wear at the sides almost entirely. But in captivity the seasoned wood, iron, and stone of the cages only break off the tips and leave the sides comparatively unworn, or very unequally so; this is why museum specimens of horns are generally so very unlike those found on exhibited living animals.

Those who noticed the illustrations we gave two months ago (NATURE, vol. ix. p. 227) of the huge *Brontotherium ingens* discovered by Prof. Marsh, will be struck, on looking at the Javan rhinoceros, with the general similarity in the proportions of the head in the two animals. The nose is undoubtedly different, but there is the same extreme shallowness of the frontal and interorbital region, combined with great zygomatic breadth. In Brontotherium the two expanded symmetrical nasal processes were probably covered with tough skin, like those on the face of the wart-hog, to replace in function the coreless but none the less well-developed horn of the rhinoceros.