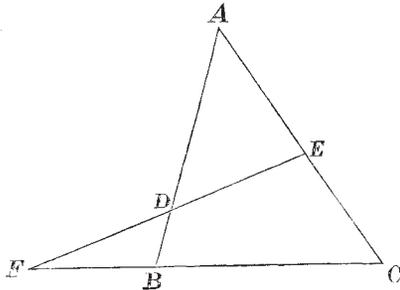


In Hutton's "Mathematical and Philosophical Dictionary" (1796) we find:—

"ANTIPARALLELS, in geometry, are those lines which make equal angles with two other lines but contrary ways; that is, calling the former pair the 1st and 2nd lines, and the latter pair the 3rd and 4th lines, if the angle made by the 1st and 3rd lines be equal to the angle made by the 2nd and 4th, and, contrariwise, the angle made by the 1st and 4th equal to the angle made by the 2nd and 3rd; then each pair of lines are antiparallels with respect to each other, viz. the 1st and 2nd, and the 3rd and 4th.



"So if AB and AC be any two lines, and FC, FE two others cutting them so that the angle B is equal to the angle E and the angle C is equal to the angle D; then BC and DE are antiparallels with respect to AB, AC; also these latter are antiparallels with respect to the two former."

It is curious also to note an error as regards the ratios of the segments of the sides, similar to but not identical with the one pointed out by the contributor to the *Miscellanea Mathematica* as occurring in "Clark's Dictionary"; for the next paragraph states:—

"It is a property of these lines that each pair cuts the other into proportionate segments, taking them alternately;

$$\begin{aligned} \text{viz. } AB : AC &:: AE : AD :: DB : EC \\ \text{and } FE : FC &:: FB : FD :: DE : BC. \end{aligned}$$

Here the third ratio in each line is wrongly stated to be equal to the two which precede it; for keeping the triangle ABC and therefore also the direction of FE fixed, it is clear that the ratios  $AB : AC$ ,  $AE : AD$  remain fixed, while  $DB : EC$  may range from zero to infinity. E. M. LANGLEY.

### The Force of "Example" in Animals.

SOME years ago we had two cats—a tabby, and a powerful tom perfectly white all over. One day I happened to be in the attic, and noticed them go out on the slates, when Tom jumped across the yard to the next roof. It appeared to me a splendid leap, considering the width of the yard and the height of the roof. When Tabby came to the edge of the slates her courage failed, and she uttered a cry of distress, whereupon Tom turned round and leaped back, and giving a cheerful mew as much as to say, "Look how easily it can be done," jumped across again, this time followed by Tabby, to my great delight.  $\phi$ .

### "Astrarchia stephanix."

IN the interesting "Geographical Notes" from New Guinea, published in NATURE of September 5 (p. 449), it is stated that Sir William MacGregor procured, among others, "a female *Astrarchia stephanix*, the only male bird of that species being in the Museum, Berlin." Will you permit me to rectify this in communicating to you that the only male *Astrarchia stephanix* is in the Zoological Museum of Dresden. The bird was described and figured by Dr. Finsch and myself in the year 1885, and the name is correctly written as I have just given it. Dresden, September 8. A. B. MEYER.

### THE RECENT GREAT EARTHQUAKES IN JAPAN.

FULL details have now been received of the recent earthquakes in Japan. According to the report of the Governor of the Kumamoto district, in the Island of

Kiushiu, the centre of the earthquake was a mountain situated to the west of Kumamoto, the chief town in the province of Higo. Knipo is one of a chain of volcanoes connected with Mount Aso, one of the most noted volcanoes in the country, which was visited and described a few years ago by Prof. Milne, who regards it as one of the two or three largest volcanoes in the world. No eruption, however, has ever as yet taken place there, but fears are now entertained of a terrible eruption; rumblings have been heard, and the mountain has discharged lava in several places. Aso Yama, or Mount Aso, has for many years been known as the only active volcano on the Island of Kiushiu. This mountain rises to a height of nearly 5000 feet. Its last eruption was in 1874, when a large quantity of grayish-white pumice ashes was discharged. It would seem, however, that more or less constant discharges have taken place at intervals ever since the premonitory signs. On the morning of July 28, the day of the destructive shock, the weather was agreeably cool, but at twilight the sky was clothed with a dark cloud tinged with a pale reddish colour, and the atmosphere became quite close. About ten minutes past eleven p.m. a noise as of thunder was heard. Simultaneously a strong earthquake movement commenced. As the nature of the shock was unusual, some of the inhabitants dressed, whilst others with scarcely any clothing, rushed from their houses, a number of them only to be crushed to death by falling walls and trees. The Castle of Kumamoto, which was the scene of the memorable siege by General Saigo at the time of the Kagoshima rebellion, and is noted for the solidity of its structure, was damaged in several parts. In the streets fissures appeared in several places, some of the cracks measuring six feet in width. In other parts of the town subsidences occurred; in some instances water was seen spouting from the fissures created by the seismicological disturbance. There were several incipient fires caused by the overturning of lamps, but they were speedily extinguished, and much additional loss of property was thus avoided. Houses were overturned and the occupants killed. The first shock was soon followed by several smaller and two severe ones. With the break of day the dull cloud moved off, to leave the sky covered with yellowish little patches. The most severe shock was the first one, when even unusually strong houses were almost displaced from their foundations. Old houses and those not very strongly built were brought to the ground with sufficient force to kill, and in other cases injure numbers of persons. The losses sustained by chemists and china-ware merchants were large, owing to the breakage among their brittle stock. All wells in Kumamoto have either been rendered so foul with mud as to make them useless, or are dry by reason of the escape of water. The city is being temporarily forsaken by those who can afford to remove their families. In the town of Kumamoto the list of casualties is three persons crushed to death and six wounded. Twenty-two houses were thrown down and sixteen partially wrecked. In the neighbouring district of Akita, however, the force of the shock seems to have been felt more severely. Fifteen lives were lost, thirteen persons were injured, and thirty-two dwellings were overthrown, while many farmhouses were more or less damaged. In Sage, also a district of Kiushiu, there were underground sounds as of many cannons; then ensued prolonged vibrations from south to north-west, dwellings leaning over at inclinations varying from  $70^\circ$  to  $80^\circ$ , accompanied by loud crackling of posts and walls. The ground quivered so that pedestrians stumbled and fell. This shock continued for about four minutes. During the night there were two other disturbances, the last being the most severe. The greatest disorder and fright prevailed, and a night of terror was passed in the open air by the unclad population. In the districts of Sakanami and Kami-Tunaki the ground for a space of 9 acres began to