the President-Elect of the British Association) is after all in error, and that the true agency which has carved out our valleys and given us our mountain scenery is still to seek. The evidence of the new channel agrees with that to be found elsewhere (on its grandest scale in the cañons of North America), in showing that the action of streams is to excavate not open valleys, but narrow and vertical clefts. On the other hand, the agencies of "sub-aërial waste" are seen to have worked their will for untold ages on the Cambrian sandstone of Glen Beansdale, and to have produced—nothing. They have not even removed the blocks of the old berg-fall, which looked as if they might have fallen within the memory of man, instead of at a date which must be reckoned by thousands, if not millions, of years. There remains the power of ice, which I am by no means disposed to undervalue; but the traces of the last "glacial period" are in this case clear enough, and amount at most to a slight deepening of the lower part of the glen, while to assume previous and much more intense glacial action, of which no direct evidence remains, would scarcely be justifiable. WALTER R. BROWNE

A "Nightly Resurrection"

YESTERDAY, in the *Pall Mall Budget* of July 11, 1879, p. 22, in a review of Mr. Stevenson's—"Travels with a Donkey in the Cevennes," I read the following, which is an extract of Mr. Stevenson's book. It is a very interesting observation. He slept a good deal under trees at night, and he says: "And there is one stirring hour unknown to those who dwell in houses, when a wakeful influence goes abroad, and all the out-door world (meaning animals and men who sleep in the open) are on their feet. It is then that the cock first crows. . . . Cattle awake in the meadows, sheep break their fast on dewy hill-sides, and change to a new lair among the ferns; and houseless men, who have lain down with the fowls, open their dim eyes and behold the beauty of the night. . . . Even shepherds and old country folk, who are the deepest read in these arcana, have not a guess as to the means or purpose of this nightly resurrection. Towards two in the morning they declare the thing takes place, and neither know nor inquire further."

This is a very curious and interesting fact, but Mr. Stevenson is mistaken when he states that this "stirring hour," "when a wakeful influence goes abroad," between the hours of *one and two in the morning*, is unknown to those who dwell in houses. I have been aware of it for a long time, and have noticed it year after year on myself, although I dwell in a house. In the winter I usually go to sleep at 9 P.M., and then feel cold and require a good deal of bed covering to keep me warm; but between one and two in the morning I feel uncomfortable, wake, and feel hot, and am obliged to throw off some of the bed clothes. Afterwards this discomfort passes away, I pull over me the blankets again, and go to sleep till daylight. This occurs morning after morning as regularly as possible.

In the summer I awake as regularly as possible about the same hour, and feel uneasy and toss about for some little time, although at this season no blankets are used, and then go to sleep again.

Since I have been at Fyzabad I have been able to test more accurately the hour in which this wakeful influence begins to occur. I used to awake at the usual hour, and while awake I invariably heard the railway whistle of the train which leaves for Lucknow at 12.50 A.M. Latterly I have not been noticing this whistle, and I am not aware that I wake at that hour, but there has been and is plenty of rain during this rainy season, saturating the soil and atmosphere with moisture. Probably this moisture may prevent that subtle "wakeful influence" from reaching the nervous system. Again, I am rather subject to an occasional neuralgic pain on the left side of my forehead. When this occurs at night, it goes on increasing to its *maximum* between one and two o'clock in the morning, and afterwards it begins to subside. I often suspected that some change in the *terrestrial magnetism* some time after the passage of the sun across the meridian, on the other side of the earth, may be the cause of this "subtle influence." Perhaps those who take observations on terrestrial magnetism may throw some light on this subject. Whatever may be this "subtle influence" which acts on the nervous system of animals between *one and two o'clock* A.M., there is a similar influence in the *day*, between one and two P.M., although it may not have been noticed. I have observed it, because when I get the before-named neuralgic pain in *the day*, it goes on increasing till between one and two o'clock P.M., when it begins to subside. This question arises: are the periodical exacerbations in fever and neuralgias, &c., due to some similar cosmical influence? Statistics on these points are worth collecting. It is natural to suppose that the nervous system of animals—a most sensitive tissue—would be readily influenced by any magnetic change of the earth, or by other subtle cosmical influences. E. BONAVIA

Fyzabad, August 19

A Habit of Cattle

MR. H. C. DONOVAN, in a letter headed as above (NATURE, vol. xx. p. 457), describes the bone munching of cattle in Natal, and asks whether they have a similar habit in other places. Such is the case in Norway, especially at the upper pasturages around the "saeters," or mountain chalets, where they are commonly supplied with a daily modicum of fish-bones and salt, which they eat with great avidity. There is but little lime on the Norwegian fjelds, the prevailing rock is mica schist.

Stonebridge Park, Willesden, September 17

W. MATTIEU WILLIAMS

Intellect in Brutes

LAST year we spent our holiday at Llan Bedr, Merionethshire. Our host has a house in the above village and another at Harlech, a town three miles distant. His favourite dog, Nero, is of Norwegian birth, and a highly intelligent animal. He is at liberty to pass his time at either of the houses owned by his master, and he occasionally walks from one to the other. More frequently, however, he goes to the railway station at Llan Bedr, gets into the train, and jumps out again at Harlech. Being, most probably, unable to get out of the carriage, he was on one occasion taken to Talsarnau, the station beyond Harlech, where he left the carriage, and waited on the platform for the return train to Harlech. If Nero did not make use of "abstract reasoning" we may as well give up the use of the term.

Manchester, September 20 WILLIAM HORSFALL

BERNHARD VON COTTA

ON the 14th inst. at Freiberg, in Saxony, this distinguished geologist breathed his last. Science has lost in him an ardent and conscientious follower, one in whom great powers of observation and reflection were harmoniously associated. He possessed in especial that "combining understanding" which Alexander von Humboldt so highly prized.

The youngest of four sons of the late Oberforstrath v. Cotta, of Tharand, in Saxony—a man celebrated as forester and founder of the Forstacademie in that picturesque little town not far from Dresden—Bernhard was born, October 24, 1808. His father had taken a great interest in natural sciences, and had much occupied himself with palæontology; and Bernhard appears to have inherited this taste. Early in life he was a student at the Freiberg Mining Academy—where he subsequently became Professor of Geology—and he likewise studied at Heidelberg and received a degree as Doctor of Philosophy. His intellectual activity soon became strongly pronounced and led, from the attainment of manhood till near the close of his life, to the publication of numerous valuable works. Whilst still a student at Freiburg, his first work, "Die Dendrolithen," was written (published 1832). Subsequently, associated with Prof. Naumann, he worked at the geological map of Saxony, which was published in twelve sections, and he afterwards alone completed a similar work for Thuringia. In 1836 appeared the first part of a work entitled "Geognostische Wanderungen," and in 1838 a second part; in these the principal geological features of the kingdom of Saxony are described and explained. He likewise wrote other works of great practical value, of which "Gangstudien," "Lehre von der Erzlagerstätten," and "Gesteinslehre" deserve most favourable mention. Of more theoretical value is a work which has gone through many and enlarged editions: "Anleitung zum Studium der Geognosie und Geo-