

laid on the supposed identity of the *Sequoia couttsiae* of Bovey with that of the *Hamstead* beds." (*Hempstead?*) Now in Mr. Pengelly's paper *Sequoia couttsiae* occurs in the *Hempstead* list, but so far from special stress being laid on it, it is not referred to again. The correlation is shown not by the evidence of a single species, but by converging lines of argument all bearing on the same point.

"The mistake having been made by such 'heroes of geology' as Heer and Pengelly, is extremely hard to eradicate." The mistake referred to is the recognition of *Sequoia couttsiae* at *Hempstead*. If mistake it be, it is one for which Pengelly could not be held responsible, as it was eminently a case in which he could only rely on a specialist in botany. There is, however, no proof that Pengelly made any mistake in correlating the *Hempstead* and *Bovey* beds. What he did was this: suspecting the *Hempstead* beds to be on about the same horizon as *Bovey*, he commissioned Mr. Keeping, who made the excavations at *Bovey*, to collect fossils at *Hempstead*. The evidence of these fossils confirmed Mr. Pengelly in the belief that the *Hempstead* and *Bovey* beds were of the same age, but whether Eocene or Miocene, depended upon where the line of demarcation was to be drawn. This disputed point, about which English and French geologists had long been at issue, did not affect Pengelly's argument, as his object was to show the contemporaneity of *Bovey* and *Hempstead*, not to define the boundary between Eocene and Miocene.

Geologists will await with interest Mr. Starkie Gardner's proofs that the *Bovey* beds are not lacustrine.

Prof. Boyd Dawkins well describes Pengelly as one of the old heroes who laid the foundations of geological science. Pengelly's papers are models of scientific writing, with every fact tested, quotation verified, authority cited, and argument polished, to the utmost of the author's ability.

Two extempore interjections of Pengelly will suffice to reveal the cause of his strength, and his springs of action. On one occasion the present writer, seeking to turn a discussion which was getting wide of the mark, said: "That fact is unimportant." Pengelly instantly broke in with: "No fact is unimportant." On another occasion a member of the Devonshire Association, when on the platform replying on a paper, incautiously used the words "I think." Pengelly at once ejaculated, "We want to hear what Mr. X. *knows*, not what he *thinks*."

Taken seriously these pithy comments lie at the very root of all sound research, and of every paper worth printer's ink, which many are not.

A. R. HUNT.

Torquay, April 14.

#### A Fine Aurora Australis.

ON February 25 one of the finest displays of auroral light seen in Australia for many years took place. It was first seen at Balranald at 8.30 p.m., and latest at Albury at 11.30 p.m., Albury, 190 miles east of Balranald, being the farthest east of reporting stations, and the last display being seen in the east.

At Adelaide Observatory, the farthest west, the latest time given is 10 p.m.; the range in longitude between these places is 8° 30', the point farthest north is Wilcannia, latitude 31° 35', and the farthest south in New South Wales was Deniliquin, 36° 10'; it is however, reported to have been seen in Melbourne also. In Sydney it was not visible, the night being very cloudy. At Deniliquin it was first seen at 9.30 p.m., presenting the form of an intense crimson arch from south to south-west, which lasted until nearly 11 p.m., when streamers of crimson and yellow were observed. The highest point reached was 30° above the horizon, and it was partly obscured by black clouds all the time. The postmaster at Balranald, who gives the best account of it, says: "An intensely brilliant aurora began here at 8.30 p.m.; it was by far the most extensive ever seen here. The display commenced at 8.30 p.m. with a dull red flush in the south, which disappeared at 9 p.m. At 9.50 the whole sky from a few degrees east of south to west-north-west, and almost up to the zenith, suddenly flashed into brilliant crimson. At intervals of a few minutes intensely bright steely shafts darted quite up to the zenith, and these changing gradually through phases of yellow to deepest red. At 10.40 p.m. the display trended more to eastward, and terminated with several very remarkable broad streaky and variegated flashes of dazzling brilliance, which shot up from east-south-east about 11.50 p.m."

March 17.

H. C. RUSSELL.

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#### Lepidosiren paradoxa.

PROF. HOWES says in NATURE, April 19, that the villi of the pelvic fins of this fish were "referred to" by me in NATURE of April 12. I think it is desirable to correct this inaccuracy. The villi in question were not "referred to" by me, but were described and figured by me on March 20 (published April 12). The description and figures were sent to NATURE a fortnight before the meeting of the Zoological Society at which Dr. Günther exhibited his specimens and mentioned the fact that Prof. Ehlers had "referred to" their existence in a recently published number of the *Göttingen Nachrichten*. I have not yet seen Prof. Ehlers's remarks on the subject. My specimens were purchased from a well-known London dealer; and I know nothing of Dr. Bohl or the "signification of his intentions" as to specimens collected by him.

Prof. Howes is correct in his statement that six specimens of *Lepidosiren paradoxa* have been authoritatively recorded before the appearance of several in the market during the present year; but the arrival of these specimens tends to the conclusion that his statement in NATURE (vol. xxxviii.) to the effect that this species is "rapidly approaching extinction" is due to imagination, and does not correspond with the facts. E. RAY LANKESTER.

Oxford, April 23.

[The communication from Prof. Lankester was received on March 22. Proofs were sent to him on March 31 and April 2. The proofs were returned by him for press on April 6.—ED. NATURE.]

#### Are Birds on the Wing Killed by Lightning?

I CAN answer the question put in NATURE (of April 19) by "Skelfo," not only from several authentic records in my possession, but from personal observation. Many years ago I was standing on the steps of a woollen mill stair (outside) in the village of the Haugh, Ayrshire, in the company of others, some of whom are still alive, watching a terrific thunderstorm over the fields adjoining the river Ayr. What was then familiarly termed "forked lightning" was playing in the valley with great brilliancy. A lurcher puppy dog chased some ducks from behind an old gas-works building. One bird rose in the air, and with the characteristic cry of fright flew over the mill-race in the direction of a corn-field. When on the wing it was struck by lightning and killed "like a shot." I remember examining the dead bird, but do not remember if it really "smelt villainously of brimstone." I think not.

G. W. MURDOCHS.

Kendal, Westmorland, April 19.

P.S.—One of the reasons why so few birds are killed by lightning on the wing is because during a thunderstorm they are in shelter, and take to it before the storm comes on.

G. W. M.

#### A Remarkable Meteor.

YESTERDAY evening, Sunday, April 22, a very fine meteor was seen to traverse the sky, from near the zenith to near the horizon, in an easterly or south-easterly direction. It is reported to me as having appeared about 7.25 p.m., when twilight was strong, and before any stars had come out. It threw off sparks like a rocket, and was followed by a bright train. No noise was heard after the explosion.

Haslemere, Surrey, April 23.

R. RUSSELL.

#### AFFORESTATION IN THE BRITISH ISLES.

THE question of extending the woods of the United Kingdom has recently been brought forward in the press, and questions have been asked in Parliament as to the willingness of Government to assist in furthering a scheme for stocking certain of our waste lands with trees. Now, afforestation may be required owing to those indirect advantages it affords to the climate and soil of a country, which have been described in detail by Dr. Schlich,<sup>1</sup> and again quite recently in NATURE, by Dr. Nisbet,<sup>2</sup> or merely to increase the national wealth in

<sup>1</sup> "Manual of Forestry," vol. i. p. 25-58.

<sup>2</sup> "Climatic and National Economic Influence of Forests," NATURE, January 25.