

scheme as an improvement upon the present organization as far as the recording of zoological literature is concerned. Perhaps in the far distant future a record of geology and botany might further be incorporated in the above scheme, to make an "International Record of the Progress of Biological Science." It is scarcely to be hoped, however, that we are within a measurable distance of such a convenience. Would it not be a reasonable thing that the Royal Society of London should initiate such a progress in the recording of scientific literature as that here advocated?

E. A. MINCHIN.

University Museum, Oxford, August 2.

#### Pilchards and Blue Sharks.

YOU may like to know that the pilchards in coming in on the Cornish coasts this season are followed by great quantities of blue sharks (*Squalus glaucus*) from four to nine feet in length.

Just now they are hanging about four or five miles from land, and evidently are disturbing the pilchards in their feeding very much, as they are not scattering and playing on the surface of the sea in the evening twilight as they usually do, but are keeping in closely-packed schools throughout the night; hence our fishermen are having a very uncertain time of it as the consequence, some boats having rather heavy catches, and others only a few hundred of fish. And all are complaining of the damage done to the nets by the sharp teeth of these monsters, as in attacking the pilchards in the fishermen's nets, there is no hesitancy on the part of the sharks, for the net is bitten through and carried off with the pilchards. Last Friday morning the fishing-boat *Wave* landed seven of these sharks, and the master said, had he desired it, he could have caught a dozen, or more.

MATHIAS DUNN.

Mevagissey, Cornwall, August 16.

#### Aurora Borealis.

STANDING by the Hampstead Heath flagstaff last Friday evening (12th), a few minutes before ten, I witnessed a feeble but characteristic display of the Aurora Borealis. Looking to the north-west, and midway between Ursa Major and the horizon, was a speck of pale bluish-green luminousness. While wondering as to the cause, a flickering shaft of crimson-tinted light shot upward in the direction of the "Pointers." This was followed by other streamers and "glows," sometimes white, sometimes slightly coloured. Occasionally patches of hazy light would be formed, through which the stars could be seen, and once a number of horizontal bands or waves passed upward from the horizon in quick succession, travelling almost to the star G in Ursa Major before they faded away. At 10.20 p.m., when I left the spot, the streamers had apparently ceased, but the sky was still luminous. Throughout the display was very faint and the colours very weak—mere tints.

A. BUTCHER.

ON Friday evening, August 12th, between the hours of nine and ten p.m., there was visible here a magnificent display of the aurora borealis. The streamers were very bright at times, and those on each extreme were more or less reddish. I think it worth recording because of the unusual time of year for such a display. It was doubtless seen over a wide region, and the telegraph system may have had some experience of earth currents.

EDMUND McCCLURE.

Mundesley, Norfolk, August 13.

AN active aurora of great brilliancy was visible here on Friday night from nine till ten p.m. The whole realm of the sky from north-west to north-east and from horizon to zenith was filled with a vaporous and highly luminous mass with streamers and rays,

NO. 1190, VOL. 46]

the light sufficing for reading moderately large type. The streamers and rays were projected from the upper edge of an arch of dark-coloured vapours resting on the northern horizon. The sky space occupied by the points of the streamers covered the constellation Ursa Major on the west, Cassiopea on the east, and the intermediate region. Among the brilliant sheaf of white streamers an occasional dark-coloured ray shot upwards from the generating arch.

J. LLOYD BOZWARD.

Worcester, August 13.

#### Aurora Australis.

A FRIEND (Mr. Hamilton S. Dove) who has resided for several years in Tasmania having sent me a full account of an unusually splendid aurora recently observed by him, but which met with little notice even locally, I enclose a condensed description of it, thinking it worthy of record in your columns. In previous occurrences of Southern Aurora he had observed "only a greenish yellow light, and was very much surprised at the grand fiery-red cloud-like patches, which formed so striking a feature in this phenomenon."

WILLIAM WHITE.

The Ruskin Museum, Sheffield.

"On the night of Wednesday, May 18th, 1892, a grand display of aurora was witnessed by us in the Calder district, near the township of Wynyard, Table Cape, North-west Tasmania. The sun had set at about ten minutes to five, and the night was very clear and cold—no clouds were to be seen—with a keen frosty wind blowing from the south-west. Shortly after seven o'clock a bright light was visible above the southern horizon, somewhat similar to the light preceding sunrise. Then two broad zones of greenish light appeared, extending from the south-east to the south-west, in the form of a depressed arch, one zone being a short distance above the other, like the bands of a rainbow. At times parts of these bands faded, whilst other parts became brighter. Presently some patches of a dark-red colour, as of illuminated sunset clouds, began to appear above the zones of greenish light, spreading along, but with intervals between, the whole expanse of the zones—one specially large and deep red patch being conspicuous in the extreme south-west. These patches glowed and faded alternately in the same manner as the zones of greenish light.

"After continuing for the space of about half an hour the coloured lights gradually faded, leaving the strong whitish light which appeared at first. Towards nine o'clock, however, a further manifestation occurred, beginning with a brilliant red light in the south-east, and extending from the horizon to a considerable distance upward, resembling the glow from a huge fire. This also paled and brightened, till presently the two broad zones of greenish light again appeared, this time, however, confined chiefly to the south and south-east heavens, very little reaching south-west. After this reappearance of the zones some broad white stripes commenced to radiate from the horizon, crossing the zones more than half the way upwards to the zenith. The stripes began to appear near the red glow in the south-east, and several others occurred south-east by south, only two rather faint ones being to the west of south.

"Almost directly one of the white stripes appeared one of the red cloud-like patches came to the east of it, and gradually extended towards it, so that the sky above the zones of greenish-yellow light was eventually covered with red glowing patches and pale vertical stripes, which similarly paled and brightened.

"The later appearances, like the first, lasted for about half an hour and then disappeared, the moon rising soon afterwards.

"H. S. DOVE.

"G. W. EASTON."

#### Units Discussion at British Association.

REFERRING to the preliminary memorandum printed in your issue of August 4th, page 334, I wish to correct a slip in the statement about the fall between two surfaces joined by a "weber." I ought to have added, "if their area is one square centimetre." Enlargement of the area to a metre would diminish the pull to 40 tons. Also I may observe that at the meeting I did not press all the proposed resolutions, but withdrew Nos. 4, 5, 6, and 8.

OLIVER J. LODGE.