

freshwaters. A larval life so extremely prolonged, as Dr. Schmidt points out, is quite unique. The rate of growth, moreover, is extraordinarily slow. At full size, after about three years' growth, the larvæ are approximately three inches long, although the temperature of the water in which they are immersed is comparatively high. In our own waters with much lower temperatures most young fishes would attain a corresponding length in as many months. The extremely slow growth of the larvæ of the European eel is thus an adaptation to the prolonged journey.

It is scarcely possible to understand this unique phase in the life cycle of the European eel on the hypothesis that the geographical conditions were formerly the same as now exist. But if Wegener's theory be accepted, the explanation is simple. As the coasts slowly receded from one another the larval life of what became the European species was more and more prolonged by natural selection in correspondence with the greater distance to be traversed.

T. WEMYSS FULTON.

41 Queen's Road, Aberdeen,  
February 16.

### The Stoat's Winter Pelage.

SIR HERBERT MAXWELL'S letter on the above in NATURE of February 17, p. 220, raises points of great interest. Presumably if his glacial explanation be correct, stoats taken from the Scottish Highlands to the south of England will still become white in the winter; whereas stoats brought from the southern counties to the north of Britain will remain the same colour the year round. Has this ever been put to the test?

It would be instructive to know whether winter coats intermediate in shade between brown and cream-white are ever assumed. I ask this from the point of view of mutation, which is so much to the fore at present. Have, for example, circumpolar white animals arisen from coloured ones through chance albinos being preserved and increased by Mendelian segregation, or have they appeared through the selection of paler and paler forms leading eventually up to white?

Then again, taking Sir Herbert Maxwell's explanation as correct, have we not here an example revealing how slowly evolution may work? The elimination of the arctic winter garb of the stoat in Britain is not yet complete, though some thousands of years at least must have elapsed since the last ice age.

One more point: Is the British stoat as regards its pelage reverting to the pre-glacial condition, and if so, how does this harmonise with the view that evolution is irreversible?

JOHN PARKIN.

The Gill, Brayton, Cumberland.

SIR HERBERT MAXWELL'S attractive thesis (NATURE, February 17, p. 220), that latitude and not winter temperature regulates the seasonal change of the stoat's pelage from brown to white, does not meet all the facts of the case. Islay is farther north than Monreith, and yet in Islay a large proportion of the stoats retain their summer colour throughout the winter.

Having made arrangements some time ago to obtain specimens of the Islay stoat, regarded by Mr. Gerrit Miller as a distinct race, I was struck by the fact that individuals killed in December and February were in summer coat. This suggested inquiry as to the usual course of events in the island, and Mr. Macdonald reported that there white winter stoats are rather the exception than the rule: that

of more than 20<sup>7</sup>stoats he had killed during the winter of 1921-22, only one was entirely white, although in the previous winter the proportion was higher, about six being white; but that only in exceptional years did the proportion of white individuals attain to about half of the total number killed.

Now the latitude of Edinburgh is not far off that of Islay, yet my impression is that here almost all the stoats become white in a normal winter.

These and other facts strengthen the old idea that climate is somehow involved in the colour-change, which seems also to depend to some extent on the condition of the individual animal.

JAMES RITCHIE.

The Royal Scottish Museum,  
Edinburgh, February 21.

SIR HERBERT MAXWELL, in NATURE of February 17, p. 220, directed attention to what he considered the conditions determining the winter change of colour in stoats, and inferred that the tendency to undergo such a change is usually the inherited characteristic of some particular strain or breed, rather than the outcome of any special present local severity of climate. He said the effect was most marked in the Highlands of Scotland and diminished regularly as one travelled south, until on reaching Cornwall the winter blanching seemed almost entirely in abeyance.

Since his observations appear to be confined to the island of Great Britain, Sir Herbert may be interested to learn that as a boy at Jersey, about the year 1880, I happened to come across a white stoat. This was shot by a neighbour, in St. Lawrence valley, and, after being stuffed, kept by us for some years. It represented a perfect ermine, the fur being pure white except for a black tail. I never heard of, or saw, any other specimen in Jersey, either white or brown. The case seems interesting, for the stoat belonged to a breed which must have been free from any extraneous admixture, particularly from the north, since that remote period in the past, when the French coast (on which the Channel Islands are situated) was finally separated from Great Britain by the English Channel. Further, the climate being mild and uniform, the tendency to assume a winter pelage can only have resulted from very ancient inheritance.

R. DE J. F. STRUTHERS.

Exeter College, Oxford.

### The Subject Index to Periodicals.

MAY I add a few words of information to the appreciative review of the above publication which appeared in NATURE of February 17, p. 214. Our headings are "The Subject Headings used in the Dictionary Catalogues of the Library of Congress" to which an annual supplement is published. These are linked up with the corresponding classes in the shelf-classification of that library. The advantage of this type of catalogue is that, if properly compiled, it combines system and uniformity with the property of immediate reference. It is in fact a class catalogue in which the headings are arranged in "index" order. Your reviewer's suggestion that we should print a list of the journals indexed in each Class List will be certainly adopted when our funds admit of it. Our Class Lists for 1915-16 contained such Lists as well as Authors' Indexes, and it was with the utmost regret that we were compelled to discontinue these features.

The following extract from an official letter now being circulated widely throughout the British Empire may interest some of your readers: