

the two regions this identity would be required by symmetry, but as the warping of space-time is quite different near the sun from what it is at the distance of the earth, does it follow that these two systems are necessarily equivalent? It does not seem to the writer that the failure to find this shift invalidates the part of Einstein's theory from which his law of gravitation is deduced, and it certainly does not contradict this law itself.

LEIGH PAGE.

Sloane Laboratory, Yale University, New Haven, Connecticut, January 22.

Biological Science in Secondary Schools.

I SHOULD like to direct attention to a very important paragraph in the Report of the Investigators of the Secondary School Examinations Council which is not referred to in the article which appeared in NATURE of February 19 (p. 660). It is the paragraph which deals with natural history and zoology.

It is quite clear from this paragraph that the Investigators wish to discourage the teaching of the animal side of biology in secondary schools—a very serious matter in itself. But when the Investigators proceed to state that "the principles of biological science can be [better] illustrated by means of botany," they are expounding a doctrine as to the teaching of a science which is bound to have most serious and harmful results.

The principles of biological science can be taught or illustrated only by persons with a competent knowledge of both botany and zoology, and a suggestion such as this, issued as the considered judgment of a body of educationists, that a knowledge of botany alone is sufficient for this purpose, will only exaggerate the present-day incompetence of the teaching of biology in many of our secondary schools, in which the teachers have had no training in zoology. This matter has already been considered by a representative meeting of zoologists in London, and steps are being taken to represent the views of zoologists to the President of the Board of Education at an early date.

SYDNEY J. HICKSON.

The Victoria University of Manchester,
February 23.

Change of Colour in Captive Birds.

MR. HAROLD MILLAR invites notes on this subject (NATURE, February 5, p. 600). The case of the crossbill (*Loxia curvirostra*, Linn.) seems in point. My attention was directed to it some years ago, when I saw a number of crossbills—six or eight, if I remember aright—confined in a large cage or small aviary at Glenferness, Nairnshire. The brilliant scarlet plumage which distinguishes the adult male in a state of freedom had changed on these captives to yellowish-olive, and I was informed that this was the invariable effect of captivity. The late Lord Lilford kept a number of crossbills in his famous aviary, and has the following note in his *coloured "Figures of Birds of the British Isles"*:—

"On the vexed question of the plumage of the crossbill, I can only say that every red bird that I ever possessed lost that brilliant colour at the first moult, and never regained it" (vol. iv., p. 76).

In all the stuffed specimens that I remember to have seen the scarlet hue had faded to the same dingy olive.

HERBERT MAXWELL.

Monreith.

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Volcanic Rocks in Northern Kordofan, Sudan.

IN view of the discovery of the Bayuda volcanic field observed by Dr. Chalmers Mitchell during the *Times* African flight, and referred to by Prof. J. W. Gregory in NATURE of February 19, some interest attaches to a specimen of a volcanic rock sent to the Mineral Department of the British Museum for identification in July, 1912, by Dr. C. G. Seligmann. The specimen was collected by Dr. Seligmann at the base of Jebel Katul, Northern Kordofan, where he found many stone implements made of the same rock.

Jebel Katul is 350 miles south-west of the volcanic field seen by Dr. Chalmers Mitchell, and is on the trend of the north-east to south-west depression indicated by Prof. Gregory as running from the coast of the Red Sea south of Adal Oaqa, and following the course of the Nile from Abu Hamed to Korti.

The rock is very fine-grained and slate-blue in colour, weathering to pale green. Examination shows it to be a riebeckite-rhyolite showing "flow structure," but too fine in grain to enable the nature of the felspar or the relative amount of quartz present to be determined. The rock is nearly allied to the riebeckite-rhyolites of Gilgil, north of Lake Naivasha, and to the riebeckite-bearing trachytes of Senafé and Fakoda, North Abyssinia, described by Dr. G. T. Prior in 1903, both of which occurrences are on the line of the Great Rift Valley.

W. CAMPBELL SMITH.

Mineral Department, British Museum
(Natural History), Cromwell Road,
S.W., February 23.

Scientific Workers and a National Federation.

CONSIDERABLE misapprehension seems to have arisen with regard to the action taken by the National Union of Scientific Workers in connection with the inaugural Conference of Professional Associations on February 7, convened for the purpose of forming a National Federation of Professional, Technical, Administrative, and Supervisory Workers. I shall be glad if you will give publicity to the following statement of fact:

This union was invited to send delegates to the inaugural conference and accepted the invitation, as there were many other technical and scientific associations invited with which it was felt this union had almost identical interests. As the result of the preliminary discussion, it was found that such bodies as this would be out-voted and out-influenced in any such federation by unions with which it has little in common. With the help of other associations we moved an amendment in an attempt to prevent the new federation from taking a definite bias at its inception. This amendment was lost, whereupon we abstained from taking further part in the proceedings.

The report as it appeared in the Press stated that the resolution to form a federation was carried unanimously, the inference being that this union, which was represented at the meeting, had decided to join the federation, and many of our members, seeing this misleading statement, have assumed that this is the case. I trust that this disclaimer will reassure them and other such persons who are interested in the union.

A. G. CHURCH,
Secretary.

National Union of Scientific Workers,
10 Tothill Street, Westminster,
S.W.1, February 19.