Letters

Laboratory Animals for Rheumatism Research

The Nuffield Foundation, as part of its program of research into possible underlying causes of rheumatic disease, is anxious to intensify the search for naturally occurring forms of rheumatoid, or rheumatoid-like, lesions in animals suitable for laboratory study. A naturally occurring rheumatoid arthritis in monkeys, for example, would have important implications for the controlled study of the disease. The fact that no evidence—or very little—has so far been obtained that this affliction of man is shared by other primates may simply be due to the almost total preponderance of young animals among those which have been available for study. The foundation would now like to extend the search to cover a reasonably large sample of older monkeys, and to submit to expert examination the hands and feet (including wrist and ankle joints) of elderly monkeys, preferably of known age.

I would be very grateful to anyone who could put me in touch with possible sources of such material. Centers already concerned in primate studies, in the laboratory or in the field, and where colonies of monkeys are maintained over their natural life span, would evidently be in the best position to help. Would anyone able and willing to help please be kind enough to get in touch with me stating what numbers, species, and age-groups of monkeys could be made available for examination? In some cases it might be possible to arrange for on-the-spot x-radiography. In other cases, for instance following death, it might be possible to send specimens, suitably preserved, to the rheumatologist who would be examining the joints for the foundation. Suitable instructions about this, and any other help required, which may include defrayment of expenses, can then be given according to circumstances.

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Refresher Courses in Education Research

Abelson's editorial "Continuing education" (12 Nov., p. 831) greatly resembled the discussion at an interim meeting of the Executive Council of the American Educational Research Association in Chicago recently. [Abelson described the need to combat "the obsolescence" of scientists and engineers and cited the American Chemical Society's new program of 2- and 3-day refresher courses given immediately before or after annual meetings.] The council appointed a presession organizer for the February 1967 annual convention in New York City to get such refresher courses of 1 to 5 days' duration set up in "professional-university" style. Already a number of presessions are being planned for 12–16 February 1966 in Chicago, preceding the 3-day AERA convention. One of these, on the design of educational experiments, will last the full 5 days and have a faculty of four: Richard E. Schutz (Arizona State University, Tempe), director; Gene V. Glass (University of Illinois); Leslie E. McLean (University of Toronto); and J. C. Stanley (12–13 February only).

Inquiries may be addressed to Schutz. Applicants should have an earned doctorate and be educational researchers (broadly defined). Preference will be given to AERA members, but others will be considered also.

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Fluorapatite and Teeth

Sognnaes' article on "Fluoride protection of bones and teeth" (19 Nov., p. 989) moves me to report my own observations in this connection. In 40 years of experimentation, I have observed that sodium fluoride is toxic if there is not sufficient calcium and phosphate in the diet to cause it to be deposited as fluorapatite in the bones and teeth. In 1923 (*Rock Products* **25**, 27) I showed that powdered fluorapatite is sufficiently soluble in the alimentary canal to be effective on the density of the bones and teeth. I have ground fluorapatite crystals to a powder in a special mill, made minute fluorapatite crystals synthetically, and finally substituted impure fluorapatite known as rock phosphate, since the impurities are not detrimental to health (and may even be beneficial; there is enough iodine and cobalt in Tennessee brown rock phosphate to prevent deficiency of these elements in sheep). In one experiment, I have given 12 generations of ewes all their salt in the form of a mixture containing 1 percent fluorine (1 part powdered rock phosphate containing about 4 percent fluorine, mixed with 3 parts salt). The flock was kept down to 10 ewes with a maximum age of 7 years (older ewes lose teeth), and was grazed on 12 acres of woodland and in addition daily fed corn (maize) from a fenced 1-acre cornfield. The jaws of experimental and control animals were x-rayed in the field with a portable apparatus. The teeth and jawbones of the fluorapatite-fed ewes were found to be in healthy condition, whereas some of the controls showed caries in teeth and jawbones. This experiment was terminated by a pack of Weimaraner dogs.

I have ingested fluorapatite, in varying amounts up to 100 milligrams of fluorine a day, for 25 years, and at age 85 have enough natural teeth to masticate my food.

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Map of India: Correction

The map in V. K. McElheny's "Report from India" (16 July, p. 285) erroneously shows the state of Jammu and Kashmir as part of India. The state of Jammu and Kashmir is a disputed territory and not a part of India. The question of its status is now before the Security Council of the United Nations, and till such time as a free and fair plebiscite, under the aegis of the U.N., takes place it will remain a disputed territory. In keeping with international practice, it is so shown on United Nations maps.

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