and is widely employed by phoneticians. The work of Mr. A. G. Bell and the late Mr. H. Sweet should also be referred to in this connection.

Of perhaps greater importance than a standard alphabet is the question of an international language. In this connection the "Academia pro Interlingua" has carried on a scientific study of the question and perhaps the majority of its members are in favor of adopting simplified Latin. Professor G. Peano, of the Turin (Italy) University, is president of the Academia which has been in existence over twenty-five years.

A. FANTI

BUREAU OF STANDARDS

DR. MOODIE'S OPISTHOTONUS

TO THE EDITOR OF SCIENCE: Professor Moodie's Study No. 3, Paleopathology, "*Opisthotonus* and Allied Phenomena among Fossil Vertebrates,"[1] aims to show that the bent back head which one sees not commonly in well preserved vertebrates is "a manifestation of spastic distress" of the creature, "suggesting a strong neurotoxic condition," and leading the author even to seek for the infecting bacteria which have given the shortly-to-be-fossilized vertebrate a cramp in the neck. This condition Dr. Moodie compares with opisthotonus in man as illustrated in Bell's painful drawing.

I wonder, nevertheless, whether it is necessary to seek so far afield for the cause of this head-bent-back position in fossils. This position, every one will admit, is an extremely common one, in fact most backboned animals show it when they are well preserved—while opisthotonus is, so far as I know, an extremely rare malady. It would trouble one to find recorded cases of it in reptiles or birds, amphibia or fishes: even in mammals collectively the percentage of deaths following opisthotonus would evidently be microscopically small. Then, too, when one of these rare cases died in cramp would it be apt long to retain that position while it floated down a stream with muscles rotting, or while it dried out of its soddenness on a bank of mud, or while deliquescently putrid it became picked more or less to pieces by all manner of sarcophagous creatures? No it seems to me that what the doctor calls "opisthotonus" is merely a physical phenomenon which causes the neck region of a macerating vertebral column to bend backward. For on the back of the column are stouter ligaments which hold the bones together: hence when the backbone eventually loosens up in the process of decomposition the bodies of the vertebræ separate earlier than the arches, thus producing the inbent column. Of course there would be no great degree of bending back in the chest region, for here the cage of ribs would long keep the back straight: nor in the lumbar region, since here the neural arches are short and there is therefore less leverage for their dorsal ligaments: nor again in the tail, for here the ligaments are far more nearly balanced in all sides of the column.

[1] *Am. Naturalist*, LII., pp. 369–394.

BASHFORD DEAN

COLUMBIA UNIVERSITY

FIELD WORK IN ARIZONA

TO THE EDITOR OF SCIENCE: At the last faculty meeting of the University of Arizona, President R. B. von Kleinsmid outlined a plan for summer-session work that was received with enthusiasm by the faculty, and may be of interest to many readers of SCIENCE. Since the climate of Tucson is not suited to the conventional campus summer-session, the university plans to carry on vacation-work in the field, in several parts of the state where the climate is more bracing or where the work would be of such a character as to make the mid-summer heat a negligible consideration. It is proposed that groups of students under the direction and leadership of professors from the University of Arizona, study: archeology through actual excavation work in the northern part of the state, geology at the Grand Canyon, biology at the Mt. Lemon camp, mining engineering at the great copper mines, etc. Such opportunities for first-hand observation and investigation in an interesting and comparatively fresh field will doubtless appeal