manufacturing, has been appointed director of research, Textile School, North Carolina State College.

DR. J. A. MILROY has been appointed J. C. White professor of biochemistry, at Queen's University, Belfast, Ireland, and Dr. V. D. Allison lecturer in bacteriology.

DR. PERCY BRIGL, first assistant at the institute of physiological chemistry in the University of Tübingen, has been nominated professor and director of the Institute of Agricultural Chemistry at the Agricultural Hochschule at Hohenheim.

PROFESSOR WIELAND, of Königsberg, has been offered the chair of pharmacology at the University of Frankfurt.

DISCUSSION AND CORRESPONDENCE

HEMERARCH AND FERALARCH, TWO ADDITIONAL TERMS IN ECOLOGY

IN a paper in the July, 1923, number of *Ecology*, Professor Harshberger[1] proposes a new prefix *hemer* to use in connection with practical or applied ecology.

Although many examples are given of the usefulness of the prefix—a few of which are hemerecology, hemerphysiographic, hemerbiotic, hemerfloristics and hemerrotation—an additional term, *hemerarch*, suggested itself to cover the series of successions taking place on cultivated land or elsewhere where the anthropeic factor is of almost paramount importance.

The contrast thus set up necessitated a corresponding term to designate the genetic series of natural origin. For this purpose the term *feralarch* is proposed—the first part from the Latin *fera*, wild, denoting the absence of the anthropeic factor, the second *arch*, series, as first used by Cooper.[2]

Examples of feralarch series include such xerarch series as that from open sand dunes to tree-covered ground; and such hydrarch series as that from open water to land; while hemerarch series would include such series as a study of the successions among weeds of arable land, crop rotations, etc.

FRANK C. GATES
KANSAS STATE AGRICULTURAL COLLEGE

THE EFFECT OF NOISE ON HEARING

REFERRING to the letter of Dr. G. W. Boot in SCIENCE of October 17, and especially to that of Dr. F. W. Kranz in SCIENCE of December 12, it would seem that the following observations are sufficiently germane to be of interest. It chances that your correspondent has suffered from defective hearing in both ears since boyhood. The secondary complication which seems to be immediately responsible for the impairment of hearing is the nearly complete destruction of the tympanic membrane of one ear, and its deformation in the other, with of course more or less accompanying ankylosis of the ossicles in each instance. The failure of function becomes therefore a purely mechanical matter due wholly to injury to the delicate machinery which transmits the perceptible vibrations to the receptor itself. The true auditory organ remains unimpaired.

Now my personal experience ever since I can remember to have thought about it has been that in the presence of *heavy* vibrations—on board a moving trolley car, in a power house, in an automobile, and especially on board a moving train—my hearing at once becomes sensibly more acute, often quite surprisingly so. On frequent occasions, when traveling in a Pullman car, I have heard whisperings, never intended for my ears, on the part of people in neighboring seats, which at ordinary times would have been well below my perceptive horizon, but now embarrassed me by the distinctness of the words. In such situations ordinary conversation is understood by me with the utmost ease, and I frequently find myself forced to request my seatmate to reduce his voice, the while he is just as apt to be asking me to elevate mine. During intervals when the train comes to rest, the conversation becomes immediately unintelligible to me and is best held in abeyance until the train sees fit to start up again.

More than once on board train I have participated in the identical experiment suggested by Dr. Kranz, *i.e.*, conversation with another person subject to an impediment of hearing similar to or greater in degree than my own. If the organ of Corti and the auditory nerve are unaffected the consequences have generally been the same as I have related except that the phenomena described become mutual, little adjustment to one another's peculiarities becomes necessary, and normal people usually find our conversation carried on far too quietly for them. A somewhat intuitive lip reading is a considerable aid to me in everyday life, but in such situations as these I do not have recourse to it or need it.

A similar phenomenon becomes apparent at symphony orchestra concerts. Instruments of relatively softer tone or lower pitch, which I attend with difficulty in the quieter parts of the program, I am often able to pick out with exquisite clearness against the rich tonal background of the full orchestra in fortissimo. As a consequence I always enjoy numbers for the full orchestra best. Also at such times the

[1] Harshberger, John W., "Hemerecology: the ecology of cultivated fields, parks and gardens," *Ecology*, 4: 297–306, 1923.

[2] Cooper, Wm. S., "The climax forest of Isle Royale, Lake Superior, and its development," *Bot. Gaz.*, 55: 1–44, 115–140, 189–235, 1913.

whisperings and program-rustlings of those about me become sharply evident and very distracting.

What the true explanation for all this may be I can not presume to state, but it has seemed reasonable to me to believe that heavy vibrations occurring in force and in more or less regular succession or practical continuity tend to jar the stiffened transmission mechanism into a vibration or state of sensitivity of its own, when it is able to pick up and conduct those lesser vibrations of a higher pitch which alone would be quite incapable of activating it. Conversely, where the auditory receptor mechanism itself is involved in injury, such phenomena could hardly be expected to occur.

Doubtless pretty much all of what I record is commonplace enough in the appropriate literature and certainly in the experience of those similarly afflicted, but the flat statement by one of your correspondents that reports of this type are fallacious and the uncertainty evident in some of the replies thereto induce me to offer these few notes of a directly empirical nature with an apology for the unavoidable personal element.

B.

ON STUDENT MISINFORMATION

IN connection with the examples of student misinformation in SCIENCE for December 19, 1924, some experiences of my own may be of interest. The perpetrators in each case were college graduates.

In discussing an old case in which the report said, "Plea *son assault demesne,*" I asked a student, "What does that plea mean?" He looked at it and replied, "I did not look up that Latin phrase." When I asked, "Are you sure it is Latin," he answered, after another look, "I did not look up that Anglo-Saxon phrase."

A type of case often referred to considers how far one who stands in no relation to another may be bound legally in an emergency to act as a good Samaritan. After these cases had been discussed repeatedly, a student came to me with his note book and explained that in reviewing he found many references to the "good Sarmatian cases"—would I be good enough to tell him what these "good Sarmatian cases" were?

Another much discussed case involved an agreement to build a silo. As to this a student wrote: "I do not know what a silo is—but I will assume it is some kind of barn."

So long as "making acquaintances," and "contacts," and extra-curriculum "activities" are the realities of student life, and the work of lecture room and laboratory is a mere ritual—in the words of Terence Mulvaney "an impartinint and shuparfluous necissity"—we must continue to expect these things.

ROSCOE POUND

HARVARD UNIVERSITY

IN regard to the discussion in your recent issues on student "howlers," is it not well to remember that a course in science or any other subject is a game between the students and the instructor? It is an unfair game also, for the instructor makes the rules, plays on one side and then acts as referee, umpire and score-keeper. Naturally, students feel somewhat at a disadvantage, and we can hardly expect them to take a vital interest, nor should we expect that they will refrain from devious practices to beat a game rigged against them. These comments apply equally whether the lecture or laboratory system is used. To the student the excessive authority and arbitrary power of the teacher seems a bar to ordinary intercourse or common interest. If the teacher is interested in a subject, that subject is *ipso facto* abhorrent to the student. Successful teaching is a matter of personality by which the teacher overcomes with the force of his enthusiasm and mental energy the natural disadvantages of his position. Successful teachers tend to overemphasize the particular devices, stratagems and systems by which they have at various times stimulated real thought in reluctant minds. The unsuccessful also rely on some system or systems as if they were fetiches by which the spirit of scholarship might be invoked. Yet, if we will honestly review our recollections of our own teachers, we will realize that those who taught us most were those whose personalities were to us the most impressive. The great teachers need no system; the others should be eclectic, for they can make up for deficiencies in personality by the use of many devices and by an occasional change of pace.

KIRK BRYAN

U. S. GEOLOGICAL SURVEY,
WASHINGTON, D. C.

ANTHROPOLOGICAL STUDIES ON THE NATIVES OF THE YENISEI RIVER

PROFESSOR VASSILIJ IVANOVIČ ANUČIN, of the University of Kazan, Russia, writes as follows:

During my 1905–1909 expedition to the Yenisei Ostiaks I gathered immense scientific material, which so far I have not been able to publish or even fully prepare for publication, due to our financial conditions. The material is partly linguistic, partly ethnological. The people studied are disappearing. In 1907 they still numbered 900 individuals; in 1923 there remained less than 100. Moreover, I have recently learned that this remnant has now practically lost its special ethnic character. I am the only one who has thoroughly studied them and espe-