

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 Harshberger¹ 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 anthropic 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 anthropic 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.

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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

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.

germane to be of interest. It chanced 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