The sequestered cloisters of our monasteries of science are going to play a very minor part in the adopted usage of the people. There are already many Esperantos among us, scientific and otherwise, yet all unknown except to the restricted group which speaks them. It may be a comparatively simple matter to introduce a scientifically coined name for a totally new device, as telegraph, telephone, radio, etc., for people have no alternative but to accept it. People may accept a new term as a slang novelty, just as they seized greedily upon the common, low-bred word "bughouse." It is another matter, however, to make them forget or distort old, familiar usages, recommended by limited groups of society, regardless of their refinements or fitness in the last analysis.

Even the laws of simple pronunciation seem not well understood. The vernacular of the New Englander is never going to agree with the vernacular of the South Carolinian or the Kansan, etc. It is no intentional committal toward or away from purities of intonation, etc., but a variation, natural and normal to the locality somehow, based on some of the deep, mysterious physiologies of life which have not yet been very well understood. I can detect significant variations in the singing of different katydids of the same morphological species in different regions. Some have adopted a widely different "song" but in other groups there is a vernacular difference. For instance, the Oblong-winged Katydid (*Amblycorypha oblongifolia*) in New England rasps with subtly different intonations and accents from the Washington forms. E. E. Snodgrass, of the Bureau of Entomology, U. S. Department of Agriculture, has noted similar differences in the notes of the New England groups and the Washington, D. C., groups of the True Katydid (*Pterophylla camellifolia*). Bentley B. Fulton has reported similar findings with certain crickets (*Oecanthus*). Certain birds are known to sing better in some localities than others. So even the purity of the spoken King's English affords a legitimate subject for the analyzing scientific mood when need be, but one which has implications even in the "voices" and vernacular of crickets and katydids perchance. Even the purity of the spoken word is not so simple as would at first appear, for back of it all is the intricate physiology of life, mood and mode, and back of it all are the refinements of climate, food, habit, heredity, tradition and what not in the universe.

This discussion takes no stand against any one, for it is well to keep on the calm, dispassionate side, but to the writer language is a beautiful thing because it is a living, plastic, versatile function having its weal and woes in the very warp and woof of life itself, subject to no man's whims or moods, keeping its mannerisms if need be, growing others, but as resisting and as irresistible to deliberate conscious chopping and hewing as the trends of life which give it birth.

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AN EXPERIMENTUM CRUCIS IN DIABETES

THE problem of diabetes is again in a stalemate. Diet therapy and insulin have yielded their major contributions and probably have little more to offer. Before the problem of therapy can be again brought out of the blind alley in which it now stands, it must be determined whether the islet tissue of a diabetic individual is really a wrecked chemical factory, or whether it is intact. Pathologists are not agreed that the histologic changes that are commonly present adequately account for the failure of the internal function of the pancreas in diabetes. It is therefore an open question, of the first importance, to determine the functional state of the pancreas in diabetes, so far as the production of insulin is concerned. This question can be answered by determining whether the pancreas of a diabetic can be restored to normal function when transplanted into a healthy animal. The first step in the experiment would consist in making and establishing the transplant into the healthy animal. After this is accomplished it would probably be necessary to depancreatize the animal, unless the sum of insulin production of the pancreas *in situ* and that of the transplant could be effectively determined. If the transplant was now found to produce more insulin than it did in its former habitat, the experiment would indicate that in some cases of diabetes at least the loss of function is due to an environmental factor.

Although insulin is not as sensitive to chemical influence as was at first thought, it is by no means inert. Moreover, it can be inactivated *in vitro,* in ways that are not too remote from conditions that can exist in the organism. It is also well known that the glucose metabolism of a diabetic, which is a measure of his insulin production, varies with several circumstances. Such considerations, which need not be discussed in detail, make it possible that in diabetes one of two conditions may exist: (1) Either the formation of insulin by the intact islet tissue is prevented by the chemical influence of some environmental fact, through the presence of some inhibiting substance or through the absence of some chemical link in the process; (2) or the insulin produced in normal amounts is rendered useless by some other chemical condition in the organism. In any case the detailed

analysis of such possible environmental influences seems altogether too difficult technically unless and until the existence of a possible environmental factor is established as a fact.

Unfortunately this experiment can not be done on men, and spontaneous diabetes is rare in dogs. Since the chance is remote that the required animal material will be obtained in any given laboratory, it seemed wise to "broadcast" this suggestion so that the hypothesis may be tested if and when suitable dog material becomes available somewhere in the world. Owing to the great importance of such knowledge to men in general, it is suggested that all workers be prepared to avail themselves of or to turn over to colleagues any animal that would be suited for these experiments.

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TWO ADDITIONS TO THE HERPETOLOGICAL FAUNA OF RILEY COUNTY, KANSAS

SINCE two recent papers by Charles E. Burt[1] have listed the reptiles and amphibians of Riley County, Kansas, it seems worth while to call attention to two species hitherto unrecorded from this locality.

In the early fall of 1923 a specimen of the western hog-nosed snake, *Heterodon nasicus* Baird and Girard, was taken near Manhattan by a student and brought to the museum of the Kansas State Agricultural College. The specimen can not now be found, but since I examined it personally I am sure of the identification. This appears to be the easternmost Kansas record for this species.

The other new record is that of a western toad, *Bufo cognatus cognatus* (Say), which was collected July 12, 1928, five miles northeast of Manhattan not far from the Blue River. One individual, a large female, was picked up while crossing a small lane about 10:00 P. M. This locality appears to be on the eastern edge of the range of this species. Specimens of this form from Geary County, which adjoins Riley on the south, are preserved in the museum of the University of Kansas. No other records from the eastern third of the state are known to me at the present time.

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[1] "An Annotated List of the Amphibians and Reptiles of Riley County, Kansas," Occas. Papers Mus. Zool., Univ. Michigan, No. 189, 1927, pp. 1–9; and "A New Amphibian Record from Kansas, *Hyla phaeocrypta* (Cope)," SCIENCE, 1928, 67: 630–631.

SCIENTIFIC BOOKS

Études d'Histoire des Sciences Naturelles. I. *De Linné à Jussieu. Méthodes de la classification et idée de série en botanique et en zoologie (1740–1790).* Par HENRI DAUDIN (Paris, Librairie Felix Alcan), ii + 264 pp. Price 20 fr. II. *Cuvier et Lamarck. Les Classes Zoologiques et l'idée de série animale (1790–1830).* Par HENRI DAUDIN (Paris, Librairie Felix Alcan). Vol. 1, xiv + 460 pp.; vol. 2, 338 pp. 1926. Price 60 fr.

THE period of the initial systematic organization and classification of the plant and animal world is the last half of the eighteenth century. In this brief time of a half century the plant kingdom, barring the Protophyta, was fairly well classified along modern lines. The animal kingdom did not fare as well, largely because the anatomy of the invertebrates was so inadequately known. In this period two points of view were in more or less conflict: the one developed the "methodical" system, largely Aristotelian in origin, and the other the idea of seriation, which progressed from the scale idea of Bonnet to the dendritic concept of Donati. As investigation progressed the constant discovery of intermediate genera and species and the emergence of multiple liaisons for one group after another caused a marked tendency for a continuous weakening of the "methodical" concept, and it became less and less tenable as the concept of ramifying, or rather branching, series developed. The scale of being was, however, traced downward perhaps more often than upward, as in Buffon's primates.

A meticulous analysis of the work of the major contributors to systematics of this period fails to reveal any evidence, in either philosophical interpretation or in objective handling of the data of classification, that any one of them ever conceived the series as anything more than those of structural resemblances, valuable as guides to a natural system of classification. No statement of a genetic seriation or of genetic relationship emerges in this period. The data guiding their efforts to create a natural system and the very nature of their perplexities were, however, of basic value in the later contest between Cuvier and Lamarck, but transformism was not yet born.

The second work is a serious and scholarly treatise which seeks to evaluate the work of the two divergent French schools of biological interpretation represented by Cuvier and Lamarck, and thus to portray correctly the background of the transformist theory which historically preceded the Darwinian epoch in the development of evolutionary thought. Whatever was new in the theory of natural selection can be fairly assessed only when the content of French trans-