DAVID B. CHISHOLM, teaching fellow in geology and mineralogy at Syracuse University for the past two years, has been appointed instructor in geology and mineralogy at Colgate University.

Dr. FLOYD DE EDS has been appointed assistant professor of pharmacology at the Stanford University Medical School.

DUGALD C. JACKSON, JR., assistant professor of electrical engineering at Duke University, has been placed in charge of the department of mechanical and electrical engineering at the new Speed Scientific School of the University of Louisiana.

PROFESSOR T. TURNER has been elected dean of the faculty of science at the University of Birmingham, in succession to Professor F. W. Burstall.

E. A. SEAGAR has been appointed to the post of lecturer in tropical sanitation and hygiene, established by the International Health Board, in the Imperial College of Tropical Agriculture, Trinidad.

DISCUSSION AND CORRESPONDENCE

THE NOMENCLATURE OF THE VITAMINES[1]

THE results of modern vitamine research seem to render certain important changes in the nomenclature imperative, and in this connection the following designations are suggested.

First of all, it seems advisable at this stage to separate the active substances, known under the name of vitamines, into two groups, one group which contains nitrogen and is unstable to the action of alkalies to be designated as vitamines, with the original spelling retained, and another group, which does not contain nitrogen and is stable to the action of alkalies, to be designated as vitasterols.

These new designations would keep before our eyes the fact that these two groups have been developed by the same thought and by the same methods of investigation and at the same time state that we deal here with two entirely different chemical groups. The work of Steenbock, Sell and Buell,[2] Takahashi[3] and Dubin and Funk[4] on cod liver oil suggests very strongly that the active substances which interest us here are entirely free from nitrogen and belong to the group of sterols, without, however, being identical with the ordinary cholesterol. It is being agreed on now that the substance curative of xerophthalmia and that one of rickets are not identical and should be called by a different name. The facts recently brought out by Steenbock[5] and Hess[6] and their collaborators that a number of oils can acquire antirachitic potency by exposing them to the ultra-violet rays, can not be construed against the existence of a specific antirachitic substance in cod liver oil, egg yolk a. s. f. The fact that even chemically pure cholesterol can be activated in the above described manner fortifies us in the assumption that these substances belong to the group of sterols. Hess, Weinstock and Helman[7] found recently the activation of cholesterol. Cholesterol thus radiated apparently failed to show any chemical changes except a better penetration of the shorter ultra-violet rays. We have been also working on the subject, before this publication appeared, and so far were unable to detect any chemical changes produced by the rays. It is, however, likely that chemical change is being produced by these means.

The recent work on reproduction and possibly lactation by Evans and Bishop,[8] Mattill and Carman[9] and Sure[10] suggests the existence of a new vitasterol, which we will designate with the letter F. This substance is also being found in the lipoid soluble fraction and possibly can be genetically connected with the hormone of the sexual gland, belonging, as it seems, also to the sterol group.

If we return now back to the vitamine group, we have here substances like vitamine B, vitamine D (promoting the growth of yeast), which according to the work of Funk and Dubin,[11] Lash Miller[12] and Eddy, Kerr and Williams[13] are composed probably yet of complexes. The vitamine C remains in this class, and we may expect here a new representative, namely, vitamine P, the antipellagra principle. The existence of the latter is strongly suggested by the work of Goldberger and Tanner,[14] in confirmation of the early hypothesis of the author regarding the cause of pellagra. Goldberger and Tanner have found this principle in yeast and have proved in the same time that the accepted thesis of the curative power of animal proteins, like casein, is due to an impurity, as was already suggested by the experimental work of

[1] From the Department of Chemical Hygiene, State School of Hygiene, Warsaw, Poland.

[2] Steenbock, Sell and Buell, *J. Biol. Chem.*, 47, 89, 1921.

[3] Takahashi, Proc. Jap. Chem. Soc. *J. Chem. Soc. Jap.*, 43, 828, 1922.

[4] Dubin and Funk, Proc. Soc. Exp. Biol. Med., 21, 139, 458, 1923–24. *J. Metab. Res.*, 4, 461, 467, 1923.

[5] Steenbock, SCIENCE, 60, 224, 1924; Steenbock, Black and Nelson. *J. Biol. Chem.*, 61, 405, 1924, 62, 209, 1924.

[6] Hess and Weinstock, *J. A. M. A.*, 83, 1845, 1924. Proc. Soc. Exp. Biol. Med., 22, 5, 1924. Hess, Weinstock and Helman, *ibid.*, 22, 76, 1924. Hess and Weinstock. *J. Biol. Chem.*, 62, 301, 1924.

[7] Hess, Weinstock and Helman, Proc. Soc. Exp. Biol. Med., 22, 227, 1925.

[8] Evans and Bishop, SCIENCE, 56, 650, 1922.

[9] Mattill and Carman, *J. Biol. Chem.*, 61, 729, 1924.

[10] Sure, *ibid.*, 62, 371, 1924.

[11] Funk and Dubin, Proc. Soc. Exp. Biol. Med., 19, 15, 1921.

[12] Lash Miller, SCIENCE, 59, 197, 1924.

[13] Eddy, Kerr and Williams, *J. Amer. Chem. Soc.*, 46, 2846, 1924.

[14] Goldberger and Tanner, U. S. Publ. Health Rep., 40, 54, 1925.

Freedman and Funk.[15] Whether we deal here with a new vitamine or with one of the already known ones, only the future study will decide. Summarizing the above the following classification is suggested:

VITAMINES	VITASTEROLS
Vitamine B, or the anti-beriberi vitamine.	Vitasterol A, or the anti-xerophthalmic vitasterol.
Vitamine C, or the anti-scorbutic vitamine.	Vitasterol E, or the anti-rachitic vitasterol.
Vitamine D, or the yeast-growth promoting vitamine.	Vitasterol F (?), or the reproduction vitasterol.
Vitamine P (?), or the antipellagra vitamine.	

It would seem that the general adoption of this provisional and unified classification would correct the chaos existing now in the literature and would in the same time meet many of the present justified criticisms. This proposed nomenclature will be suggested at the meeting of the International Union of Chemistry this year at Bucharest.

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THE POLITENESS OF AMERICAN BOTANISTS

DRS. ROSE and Stevens have found that American botanists are suffering from what they believe to be excessive politeness, and propose as a remedy the establishment of a new journal or two.[1]

The writer does not care to raise the issue as to whether American botanists are excessively polite or even moderately so; but granting the condition, the proposed cure could serve only to aggravate the situation. If botanical literature is suffering from a lack of criticism, the only possible means to correct this condition is to develop critics, not journals. However, in those branches of botanical science familiar to the writer there seems to be no tendency to follow the apparent practice of the phytopathologist, of indulging in critical remarks only "when neither the author of the paper nor the editor of the journal is present."

Although the established journals may not actively solicit criticisms, they seem willing enough to accept them for publication when offered. The truth of the matter is that the number of published articles has reached such a quantity that critical perusal is possible only for a few. Most botanists capable of offering constructive criticism are engaged in original investigations and can pause only long enough to criticize the articles in their restricted field.

If general criticism is desired it must be undertaken in the botanical sciences, as in literature, by novices just breaking in or by professionals who lack the ability to produce. Such criticism doubtless will prove to be even more worthless in botany than in literature, but if the authors feel that this sort of thing really is valuable they need not await the establishment of a medium of publication—the field is clear.

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IN the preparation of their article on "The excessive politeness of American botanists" in SCIENCE of June 26, Rose and Stevens were doubtless activated by the motive of raising the standard of American botanical publications. While there can be no argument as to the worthiness of this motive, yet there may be some question as to the most effective *modus operandi*. Their view is that the best method is free criticism in print.

Obviously discussions on the floor of scientific meetings have great value in forcing the author to defend his thesis, and in suggesting new viewpoints and lines of attack; however, published criticisms unaccompanied by additional data may prove a deterrent to progress, if not, indeed, an actual menace to the advance of science. If papers which purport to be scientific are obviously worthless or superfluous, or display gross ignorance of previous work, they can scarcely be corrected by cluttering up the literature with public reprimands intended to demolish them. The way to correct or eliminate them is by a rigid editorial censorship. The responsibility for the two papers cited as disgraceful must be attributed as much to the oversight of the editors as to the ignorance of the authors.

On the other hand, there is a type of published scientific criticism which is far more worthy of encouragement than are mere expressions of contempt or accusations of misstatement. If a paper contains data which is open to question or misinterpretations, the errors can be corrected, not by a mere statement of doubt, but only by a repetition of the experiment, observation or analysis, perhaps with more refined methods. In fact almost all scientific progress consists in a criticism of previous work in the light of new discoveries. Such criticism is constructive and worthwhile. Modern scientific literature abounds in it, whether it be American, European or Asiatic. The most conspicuous recent example that has come

[15] Freedman and Funk, *J. Metab. Res.*, 1, 457, 469, 1922.

[1] Rose, D. H., and Stevens, Neil M., "The excessive politeness of American botanists," SCIENCE, N. S., Vol. lxi, No. 1591, pp. 656–657, June 26, 1925.