of plant biochemistry at the Associated Southwestern Universities (Tsing Hua), Kunming, who will engage in research in plant biochemistry at St. John's College.

CARL B. PALMER, associate physicist for the National Advisory Committee on Aeronautics at Langley Field, presented on October 13 an illustrated lecture on "Jet Propulsion" before the V-12 and civilian students at Miami University. The lecture was under the joint auspices of the societies of Sigma Xi and Sigma Pi Sigma.

DR. CARL F. SCHMIDT, professor of pharmacology at the School of Medicine of the University of Pennsylvania, made an address on October 12 at the meeting of the American Society of Anesthetists at the New York Academy of Medicine. He spoke on "The Newer Concepts of Respiratory Control."

THE Electrochemical Society will meet in Atlantic City on April 12, 13 and 14, 1945. Three sessions are planned as follows: Electronics, Dr. M. E. Fogle, chairman; Theoretical Electrochemistry, Dr. J. F. Gall, chairman, and Corrosion, Dr. H. H. Uhlig, chairman. To insure pre-printing, manuscripts for the spring convention must reach the society not later than December 15.

APPLICATION forms are now available for the Frank B. Jewett Fellowships and may be obtained from the Frank B. Jewett Fellowship Committee, Bell Telephone Laboratories, 463 West Street, New York 14, N. Y. These fellowships are for post-doctorate research in the fundamental physical sciences, including chemistry, mathematics and physics. Each fellow will receive $3,000 and the institution where his work is done will receive $1,500. Applications should be received by the committee before January 1, 1945; announcements of awards will be made on March 1. Applicants whose present remoteness makes it appear impracticable to obtain and return an application before the closing date may apply by letter. This should contain a brief biographical statement, information as to education and previous professional work, a report of research completed or in process, a discussion of the research which the applicant proposes to pursue if appointed and the name of the institution where he would work. Names should be furnished of three or four individuals, to whom the committee might turn for references regarding his scientific qualifications and potentialities.

APPLICATIONS for research fellowships in medicine, dentistry and pharmacy in the University of Illinois are now being considered for the year beginning September 1, 1945. Appointments to these fellowships will be announced on April 1, or before. Candidates must have completed a training of not less than eight years beyond high-school graduation. The fellowships carry a stipend of $1,200 per calendar year with one month's vacation. Application blanks and further information may be secured from the Secretary of the Committee on Graduate Work in Medicine, Dentistry and Pharmacy, 1853 West Polk Street, Chicago 12, Illinois.

AT the close of the war Cornell University plans to increase to five years courses in civil, electrical and mechanical engineering leading to the bachelor's degree. Courses in chemical engineering have been since 1938 on a five-year basis.

THE sum of $5,000 for cancer research in addition to $15,000 previously given has been received by the University of Chicago from R. T. Miller, of Scottsville, N. Y., and Chicago, as a memorial to his brother, O. C. Miller.

THE Illinois Institute of Technology and the Allis-Chalmers Manufacturing Company of Milwaukee are cooperating in a plan to offer courses leading to the master's degree in electrical and mechanical engineering to ninety-five students of engineering, employees of the company. The curriculum is so planned that the average student can obtain the degree within four years, at the same time carrying on full-time employment. The project was organized at the request of Allis-Chalmers under the leadership of Dr. J. E. Hobson, director of electrical engineering at the institute and representative of the committee on graduate study. Many of these employees are men of middle age who hold responsible engineering positions and are said to welcome the opportunity to bring their knowledge of industrial developments up to date. The company pays a third of the tuition costs of each student and if the course is satisfactorily completed contributes an additional third.

DISCUSSION

UNE FAUTE DE TRANSCRIPTION, D'ORTHOGRAPHE, OU D'IMPRESSION

COMMENTS made by some authors[1] have shown that they understand that Article 19 of the International Rules of Zoological Nomenclature demands, without permitting corrections except for "mechanical errors,"

[1] J. B. Knight, *Amer. Jour. Sci.*, 239: 312–315, 1941; W. F. Rapp, Jr., SCIENCE, 99: 345; 100: 124, 1944.

that the original orthography of the names of animals must be rigidly adhered to, even when a mistake is evident. They admit no alternative to perpetuation in zoological nomenclature of certain names of the sort that Dobell[2] called "monstrous Latin parasites." Article 19 permits change of the first-printed form of the name when "an error of transcription, a *lapsus calami,* or a typographical error is evident." When the discussion that has centered around that article is read it is apparent that there has not been uniformity in understanding of its meaning. The pertinent Opinions rendered by the commissioners, acting upon their own understanding of Article 19, constitute a valuable commentary.

An instance of typographical error appears in a paper by Rondani[3] where the name of the sandfly is given *Hebotomus.* That appears to be a typesetter's mistake for *Flebotomus,* even though it appears many times and no other spelling is given in that paper. In Opinion 27, the commissioners denominated "typographical error" the original author's failure to use the correct spelling of the name of a man to whom he dedicated a genus; and a case of incorrect ending of a specific name printed "accidentally, ignorantly, or inadvertently" is referred to in Opinion 60 as a *lapsus calami* or typographical error. The meaning of "typographical error" that is understood in these Opinions apparently covers what Brues[4] intended by the term, though a more precise definition seems to be desirable.

Although the Opinions deal with various kinds of orthographical matters, including incorrect spelling of patronymics and inaccurate rendering from Greek into Latin, it is only in Opinion 36 that I have found a mistake to be termed an error of transcription. That Opinion is concerned with an instance of transliteration from Greek, and in the discussion of it, as well as in the summary, transliteration is given as a word to be understood within the meaning of the term transcription in Article 19. The commission has accepted corrections in transliteration both in the Opinions and in the Official List of Generic Names. The word transcription is defined in the Oxford English Dictionary as meaning both the act or process of copying *and* transliteration. In the absence of any statement to the contrary it is probably not proper to assume that acceptance of that definition is not within the basic purpose and philosophy of Article 19, or of the conception of zoological nomenclature which that article represents.

In one Opinion (41) *lapsus calami* is the wrong spelling of a word both in its Greek and Latin form; in one (61) it is used in connection with a case of transliteration ("confusion of diphthongs," in remarks by Bather); and in another (70) it is an inadvertent inclusion in a binominal of the wrong generic name. This last use of the term *lapsus calami* does not seem to come within the scope of orthography, with which Article 19 deals, and it appears particularly inappropriate when the French wording of that article is considered.

Dobell[5] pointed out that *"lapsus calami* is an incorrect translation of "faute . . . d'orthographe," and the International Commission itself has recently published the statement (in Opinion 148, 1943) that "in any case of doubt the French text is the substantive text and the other texts are to be treated as translations." Dobell expressed agreement with the comment by Cossmann[6] in interpreting Article 19 as not only permitting but requiring correction of obvious errors in the spelling of names.

Codes of nomenclature have grown out of sets of rules and recommendations proposed chiefly in the nineteenth century, and it is interesting to examine the position of the earlier nomenclaturists with regard to changes in spelling. The report made in 1842 by Strickland and the other members of a committee of the British Association[7] recognized the right to correct erroneously written names. Agassiz recognized the desirability of correcting errors of orthography, and he made[8] a large number of emendations of generic names, among them correction of *Flebotomus* to *Phlebotomus.* The report by Dall[9] also admitted the right to correction. Formulation of the International Rules of Zoological Nomenclature was inaugurated by Chaper's report (1881) in the name of the Commission of Nomenclature of the Société Zoologique de France and Blanchard's report to the International Congress of Zoology at Paris (1889). These reports stated that "Tout barbarisme, tout mot formé en violation des règles de l'orthographe, de la grammaire, et de la composition devra être rectifié." In the Règles de la Nomenclature des Êtres organisés adopted by the Paris Congress the part about these corrections was not included. Article 41 of the rules drawn up by the International Commission of five members appointed at the Leyden Congress in 1895[10]

[2] C. Dobell, *Parasitology,* 31: 255, 1939.
[3] C. Rondani, *Ann. Soc. ent. France* (2), 1: 263, 1843.
[4] C. T. Brues, SCIENCE, 99: 427, 1944.
[5] C. Dobell, *Parasitology,* 31: 256, 1939.
[6] M. Cossmann, *Rev. crit. Paléo.,* 18: 152, 1914.
[7] *Rep. Br. Assoc.,* 1842: 105–121.
[8] L. Agassiz, "Nomenclatoris Zoologici Index Universalis," Soloduri, 1846.
[9] W. H. Dall, *Proc. Am. Ass. Adv. Sci.,* 26: 7–56, 1878.
[10] "Régles de la Nomenclature Zoologique proposées au Congrès de Cambridge par la Commission internationale," *Bull. Soc. zool. Fr.,* 22: 173–185, 1897.

reads: "Toute faute grammaticale doit être rectifiée." This report was to have been presented to the Cambridge Congress in 1898, but it was not received, and a new report was later prepared by a commission enlarged to 15 members. When the Rules were published in the proceedings of the Berlin Congress of 1901 the article about orthography had been changed for one worded in much the same form as Article 19 of the present code. In its French wording the article of the Berlin Congress reads: "L'orthographe originelle d'un nom doit être conservée telle que son auteur l'a donnée, à moins qu'il ne soit évident que ce nom renferme une faute de transcription, d'orthographe ou d'impression."

The Code of Nomenclature adopted by the American Ornithologists' Union[11] deals with the subject of orthography in a very definite way. It is stated that the words used as names of genera and subgenera are of no definite construction, and are not to be rejected for faulty construction; and it is remarked that all that relates to grammatical and philological proprieties is not necessarily pertinent to zoological nomenclature. Variants of names resulting from emendation by "purists" are considered untenable, and a canon of the A. O. U. Code directs that the original orthography of a name is to be rigidly preserved unless a typographical error is evident, and with the exception that certain changes may be made in the termination of specific names. This rigid position is that taken by those who have expressed the first point of view considered in this article. But whereas this position has firm support, if not a source, in the A. O. U. Code, and in other sets of regulations adopted by limited groups of zoologists, its proponents often state or imply that the International Rules of Zoological Nomenclature constitute their authority. Whether or not that is now so is a question for the International Commission to decide; careful study of the record does not, it seems to me, sustain the interpretation.

Strict application of priority in orthography, good or bad, without regard to any philological or other consideration, could result in changes in the customary spelling of such names as *Ancylostoma* (originally *Agchylostoma,* but now placed in emended form in the Official List of Generic Names); *Trichomonas* (originally *Tricomonas,* but favored by the Commission in emended form); *Amoeba* (originally *Amiba*); *Chlamydomonas* (originally *Chlamidomonas*); *Condylostoma* (originally *Kondyliostoma*); *Haplosporidium* (originally *Aplosporidium*); *Strombidium* (*Strombidion* having page priority in the original publication); *Liponyssus* (originally *Liponissus*); and, one may add, *Phlebotomus* (originally *Flebotomus*).

Would it be unreasonable to consider that, in following the recommendations under Article 8, a and b of the International Rules of Zoological Nomenclature, the Greek substantives or compound Greek words that we are authorized to take as generic names *are* those names? Then the necessary transliteration from the Greek alphabet to the Latin alphabet may be regarded as a second step, which follows selection of the original. If in that step an error of transcripiton (*seu* transliteration) is made, resulting in something that does not correspond to the original word, restoration of the original is appropriate to the most rigid insistence on priority. It must be plainly evident in the original publication what the original word is; that may be stated, but if not, in such cases as φλεβοτόμος it is also sufficiently clear. If a Latin word, a patronymic or a geographical name is selected, and an error is made in copying that word, it seems obvious that it is an error of transcription.

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[11] New York, Amer. Ornith. Union, 1908.

INCREASED CONTACT OF YOUNGER AND OLDER INVESTIGATORS IN RESEARCH LABORATORIES

DR. SEASHORE'S[1] timely proposal that more extensive facilities be made available to retired scientists is to be applauded. One aspect or rather one possible outgrowth of such a program deserves emphasis. Even if the older investigators continue their work, much is lost if they are no longer in contact with students. In many research institutions where increasing numbers of scientists might gather to continue their work, there is no student body. When there are no young investigators to pick up and carry on the numerous possibilities that develop from each established researcher's work, many ideas and techniques are lost.

From the point of view of the beginning investigator, the loss of contact with specialists is real and personal. More than ever, with the increasing complexity of special lines of investigation, students will want to amass a repertory of techniques before launching upon their own independent researches. Others, at some point in their work, will find a need for a new approach, whether it be via different methods or different ideas. There is an enormous loss of efficiency if each must seek out for himself what fragments he can by a laborious search of the literature or an occasional inquiry by letter. This is time-consuming

[1] SCIENCE, 100: 218, 1944.