read. Every technical monograph contains material which should be of great interest to *all* zoologists, but such works are published and go to a small number of specialists, frequently with not even a review to call the attention of a wider public. The zoologist is in danger of becoming what the Greeks called *idiotes,* one who lives to himself and has no part in the larger affairs even of zoology.

It is not important to debate whether it was always so, or whether it is so elsewhere in greater degree. The evil is a real one, and should be met in such ways as Dr. Schramm indicates.

It must be said, however, that the fault is more with the zoologists themselves than with the means devised to serve them. The *Zoological Record,* which has been regularly published since 1864, should be a *sine qua non* to every zoologist, yet comparatively few use it. It has been, especially of late, as nearly perfect as a human thing may be. From it, I can learn in half an hour what species of *any* genus of animals have been described, placed in the synonymy, or referred to in important discussions, during say the last twenty years. I can learn what species have been described from Samoa or Spain; what contributions have been made to comparative physiology or anatomy, and in short anything of importance about animals, living or fossil. Personally, I subscribe to the complete volumes; but if I do not wish to do this, I can get the whole account of Protozoa for a year for three shillings, of mollusca for five shillings, of mammals for three, and so forth. Can there be a living student of mammals who will not pay 75 cents a year to have a complete index to the literature of his subject? Incredible as it may seem, there are dozens of them! The one thing the *Zoological Record* does not do, and which should be done, is to provide readable discussions of the literature, pointing out in an interesting way the nature of the advances and estimating their importance. This, however, can not be done efficiently unless the critical element is allowed to enter, unless the discussion becomes a review and not a mere abstract.

Something should be said about the card catalogue. I maintain card catalogues of my own for particular purposes, and they are invaluable. But as a means of ready reference to zoology as a whole, or any large branch of it, cards are miserably inadequate. If I were furnished the whole contents of the *Zoological Record* on cards, I could neither find time to arrange them, nor space to take care of them. Furthermore, suppose the space and assistance provided, I could not use the catalogue with the same advantage. Thus, to ascertain the nature of the references to, say Equidæ, I should have to turn over hundreds of cards. On the pages of the *Record,* my eye runs rapidly over the assembled data, and I can cover the work of a year in a few moments. If I am concerned with some genus, on the printed page I find the related and segregated genera close at hand, and at once perceive or suspect their significance for my researches. With cards, if a species is not placed in the genus I am looking up, I almost certainly miss it altogether.

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SPECIFIC TERMS FOR THE PROTEOLYTIC ACTIVITY OF ANAEROBES

IN descriptions of anærobes the term "proteolytic" is very widely used, and in classification studies this activity of the organism is of very great importance in grouping. In some schemes it is given first consideration because it is a fundamental, deep-seated physiological character. However, the term does not carry a definiteness of meaning commensurate with its importance.

For example, the Medical Research Committee (1919) in their Special Report, Series No. 39,[1] on the classification of anærobes include *C. septique* in the proteolytic group because it liquefies gelatine, while in their Special Report, Series No. 12 (1917),[2] they place

[1] Medical Research Committee. 1919 National Health Insurance. Special Report Series, No. 39. Reports of the committee upon anærobic bacteria and infections. London, pp. 182.

[2] Medical Research Committee. 1917 National Health Insurance. Special Report Series, No. 12. The classification and study of the anærobic bacteria of war wounds. London, pp. 74.

it in the non-proteolytic group on the basis of its inability to liquefy blood serum. The use of such a general term as proteolytic tends to confusion and it seemingly would have been better to have made the classification on its ability to liquefy or not liquefy gelatine or its ability to digest blood serum or not to digest it and to have used corresponding specific terms such as gelatinolytic and serolytic.

Reddish and Rettger[3] (1921) were not satisfied with the general term "proteolytic" to cover digestion of all kinds of protein and made use of this term only with some reservation. They did not designate an anærobe proteolytic on the basis of genatin-liquefying power, but reserved the term "gelatinolytic" for this property; the term "proteolytic" was used to mean the digestion of native proteins only, such as meat, egg-albumen and blood serum. They designate the breaking down of peptone as "peptolytic." It is true that gelatin and peptone are simpler than the native proteins and for that reason, perhaps, more easily attacked, so that the difference in ability of an organism to attack these without being able to digest the native protein may be one of degree and not of kind. It seems more probable, however, that it is really a difference in kind of enzyme.

It seems to the writers that specific terms should be used throughout in describing such properties of anærobes, or of any other bacteria. Since various kinds of protein are used, it might be well to use designations to fit those employed. Such terms as the following would find a place in these descriptions: sarcolytic (dissolution of flesh); peptolytic (dissolution of peptone); gelatinolytic (dissolution of gelatin); ovolytic (dissolution of egg albumen); fibrinolytic (dissolution of fibrin); etc. In no sense is the term "proteolytic" to be limited, except that it should be qualified by such of the above terms as suit the case. It might even be advisable to base classification grouping upon one or another of the specific kinds of protein used. For this purpose, meat seems to offer the greatest promise, because of the ease with which meat media can be prepared, the simplicity of the use of same, and the standard nature of the medium in anærobic work. If this were adopted, anærobes could then be designated "sarcolytic" or "non-sarcolytic," according to whether or not meat is digested. At least, such a division on the basis of specific protein attacked would be more in keeping with the scientific accuracy which is the goal in all fields of bacteriology. In medicine, the use of specific terms has been necessary to avoid complications in meaning. This should prove equally valuable in bacteriology.

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[3] Reddish, G. F., and Rettger, L. F.: 1921 Proc. Soc. Amer. Bact., 23rd Ann. Meeting, Philadelphia, 1921.

THE STANDARDIZATION OF BIOLOGICAL STAINS

SPECIAL attention of biologists is called to the fact that the work on standardization of stains is no longer being carried on by the National Research Council. It is a fixed policy of the council to take part in the stimulation and assistance of scientific projects in their initial stages, but to withdraw when such projects are well started in order to be able to respond to new desirable projects brought before it. For this reason it has now withdrawn from the work that is being done on stains, not because it is no longer interested in the project but because the work is now in a position to justify an independent existence.

With the assistance of the council, an independent commission has been formed composed of an indefinite number of the biologists who have been collaborating in the work. At present about sixty investigators are members of the commission. Its affairs are managed by an executive committee composed of H. J. Conn, J. A. Ambler, S. I. Kornhauser, F. W. Mallory and L. W. Sharp.

The present occasion is taken to call attention to an omission in a recent paper referring to this work.[1] In this paper the name of one concern specializing in biological stains was inadvertently omitted. This concern was formerly known as the H. S. Laboratories, and has just been reorganized under the name of

[1] "Present Supply of Biological Stains," SCIENCE, 56, No. 1455, pp. 562-3.