uate rank. The botanist has the same situation to meet. Of course, I believe that our 16 credits of university zoology and botany, given usually to sophomores, four or more years older than high school sophomores, is vastly more than any high school biology course.

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Gift Packages Direct to Scientists in Europe

An active interest has been shown by Americans in sending parcels directly to families of the universities and scientific laboratories in the countries formerly occupied by the Axis. A check of the records kept by the secretary of the Committee listed below shows that 485 families have been referred since November to donors from coast to coast. An estimate of the parcels already sent indicates that they number about 650 (three tons). In Holland alone some 300 families have been assigned to American families, and an estimated 450 to 500 parcels have been sent. A number of interesting and appreciative letters acknowledging receipt of the earlier parcels have been received.

The Committee has in its files 125 families in six countries (Holland, France, Belgium, Czechoslovakia, Norway, and Greece) that have not yet been assigned to anyone and about 150 others to whom many additional articles should be sent. The need for clothes (especially warm ones and shoes), bedding, notions, and food is still very great and will probably remain so through next winter.

If you can send a parcel to a professional colleague, you may obtain a name from the secretary of this Committee. The majority of the families now listed with the Committee are from Holland. Direct correspondence with these Dutch families has resulted in specific information regarding the needs of each family and the sizes of persons in the family. The information on hand for other countries is, in general, not yet so complete. In many cases it may not be possible to send all of the items mentioned by the family assigned to you, but it should be remembered that partial fulfillment of these needs is much better than no package at all. Although the things you have to send may not fit exactly the family assigned to you, our experience shows that these people are not reluctant to help their friends or neighbors by passing on any articles they themselves cannot use.

Committee members: Langhorne H. Brickwedde, Louise McD. Browne, Emilie H. Condon, Lola S. Deming, Alma R. Hamer, Mildred R. Masi, Grace H. Ruark, and Grace H. Smith.

GRACE H. SMITH, *Secretary*
National Bureau of Standards, Washington, D. C.

Histochemical Localization of Adenosinetriphosphatase

In *Science* (1946, **103**, 144), Moog and Steinbach pointed out certain limitations of the method presented in a paper by Glick and Fischer (*Science*, 1945, **102**, 429–430), entitled "The histochemical localization of adenosinetriphosphatase in plant and animal tissues." Since the method depends on the visualization of phosphate liberated enzymatically from adenosinetriphosphate (ATP), it will, of course, demonstrate the presence of any phosphatase that can act on this substrate and, in addition, any phosphatase, if also present, that can act on the products of the scission. The specificity of these enzymes, and hence the best nomenclature, has not been completely clarified as yet. However, the impression should not be given that the method in question does not have its field of application.

As Moog and Steinbach pointed out, the method will detect ATPase separate from any other phosphatase that can act on ATP when they have different cellular distributions, or when only, or predominately, the ATPase is present. The latter is the case in certain instances. For example, Glick and C. C. Lushbaugh (unpublished observations from the University of Chicago Toxicity Laboratory and Department of Pathology) found that the muscle and ganglia of the cockroach (*Periplaneta americana*) gave a positive reaction in the histochemical test with ATP and a negative reaction with glycerophosphate under the same conditions. K. P. DuBois and V. R. Potter (*J. biol. Chem.*, 1943, **150**, 185) observed that rat liver contained appreciable ATPase but had a negligible action on glycerophosphate; this work was carried out at pH 7.4, however. It might be possible to increase the field of usefulness of the method by exploiting differences in properties between ATPase and phosphomonoesterase, such as the difference in activation of the enzymes given by calcium and magnesium (DuBois and Potter).

Moog and Steinbach also emphasized the lability of ATPase in some tissues. Naturally, if the ATPase in a given tissue cannot stand the rigors involved in the preparation of paraffin sections, it would be necessary to use frozen sections and even perhaps frozen sections of unfixed tissue. That ATPase may be present in paraffin sections was indicated by the positive results obtained with cockroach tissues (Glick and Lushbaugh). The length of time required to develop a positive reaction is not critical, however, as it is well known that considerable enzyme losses can occur during histological preparation. This does not impair the validity of the qualitative histochemical test, since loss of enzyme may be compensated by employing longer digestion periods.

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Sources of Future Scientists

This letter is stimulated by the letter on the above subject by Clarence J. Gamble, M.D. (*Science*, 1946, **103**, 457).

While undoubtedly it would be desirable for future scientists to be recruited as largely as possible from the descendants of other scientists, I do not think that it can be shown at any time in the history of civilization that scientists have been recruited chiefly from such stock. It is even true that in other fields of activity they usually have not left families containing nearly as many children as those from the population to which their fathers belonged. Is it not generally true that, in any population, those who have devoted a major portion of their time

during youth to acquiring special knowledge or skill in any line have had smaller families than those who have devoted less of their time in special preparation?

At the present time if a young man devotes his energies exclusively to preparation for future work until he has acquired a Doctor's degree from some institution of learning, he is not very likely to have reached that stage earlier than 25 years of age, and if he has been obliged to support himself or any others during that period, he cannot have become a specialist of note until a considerably greater age has been reached. This necessarily means that people who devote their time to preparation are not able to assume the responsibility of raising families of children. If such a man marries a woman approximately his own age, it is not at all likely that they will raise more than two or at most three children to maturity, and if any children are born to them who do not survive, the percentage must necessarily be somewhere about what is recorded in the report of Dr. Bush.

Obviously it is because the population at large, including those individuals who do not devote the major portion of their youth to special preparation, is able because of economic conditions to raise larger numbers of children to maturity, and to give them the proper heredity factors to enable some to become scientists and to provide the means for supporting them during the educational period, that the number of trained scientific people not only has been maintained but has been increased very greatly during the memory of the older persons now living. Admittedly, there are disadvantages to the postponement of the assumption of family duties which not only reduce the number of people able to acquire special training but also cause many who would like to acquire proficiency as scientific workers to fall by the wayside. It does not seem possible to recruit research workers chiefly from the descendants of other scientific research workers unless the means of support during the educational period is subsidized to such an extent as to permit students to assume family obligations of their own choosing. It is doubtful whether such a course would advance science materially, and it is not at all likely to be adopted by democratic communities.

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Anent "Blood Relationship"

The struggle to shape a proper terminology for use in social science is unending, and the difficulties to be surmounted rear greater obstacles than those confronting the physical scientist. Creation of a new terminology for a newly discovered phenomenon is a relatively easy matter for the physical scientist, who is penetrating new fields where no preconceived terminology has run ahead of him. He creates neologisms, usually from Latin or Greek roots, and more often than not with linguistically fantastic results. By those means he shapes a semantic tool that has a clear and sharp meaning for himself and his professional colleagues, and he little cares how it tortures the tongue of the layman or whether it has meaning to the uninitiate. Happily for the physical scientist, this merely increases his prestige and further awes the layman.

It is otherwise in the lot of the social scientist. His terminological struggles result from the attempt to bring clarity and precision into the language of human relationships—a body of phenomena with which men have been familiar for quite some period of time, if not scientifically informed thereon. Therefore, the layman looks with suspicion and sometimes with hostility toward the social scientist, who uses new terms to deal with what he, the layman, thinks are old and familiar facts. There must be something subversive in a movement that cloaks the "commonplace" in ununderstandable language. In this the layman is right, but not in the way he thinks he is. The purpose of the social scientist is to destroy the inaccuracies of thought which underlie inadequate popular conceptions in the field of social relations.

When the social scientist introduces a new term for an old, familiar, popular label, he does so because the popular term carries such a freight of error and cluttering emotional baggage that it is beyond easy salvage and should best be scuttled. "The meaning of a word lies in the action it produces."

During the recent war the American Red Cross felt it was necessary to segregate negro blood from white in "blood bank" collections and the processing of plasma. This was done, even though the Red Cross was itself aware of the fact that racial traits are carried in the germ plasm and not in the blood. It felt compelled to do so because of the popular belief that hereditary traits are "in the blood." This action of the Red Cross, as we all know, involved it in a tempest of controversy, aligned it with a false and undemocratic position, and created additional work in the extra handling and classification of negro blood and plasma. Fortunately, when it came to saving lives through the use of the plasma, the Army medical corpsmen (or at least some units of them in some areas of action) ignored the racial classifications which the Red Cross had so painstakingly maintained. They paid attention only to the blood-type classifications, thus limiting their selectivity to the needs of scientific fact and properly ignoring the consequences of popular error.

We scientists are in no position to criticize the action of the Red Cross, since we have consistently contributed to popular misconception and are continuing to do so at this very moment.

Like any thoughtless person, we speak of "blood relationship." Anthropologists, of all scientists, are most guilty! In all our discussions of kinship (a subject of consuming interest to anthropologists) we regularly use the term "blood relationship group." The terms "consanguine family," "consanguinity," "consanguine relatives," are all in constant use along with the synonym, "blood relatives." It is not necessary to cite cases. One can pick up any current book or monograph in