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ON THE RELATIONS OF ANTHROPOLOGY AND PSYCHOLOGY[1]

IF we are to compare two objects and study their relations, we will naturally want data as to their dimensions, their composition, and their observed influence upon each other. In comparing two branches of science we should thoroughly know their scope, the intrinsic work and the tendencies of each, and their mutual interplay and cooperation. This stipulates, in the first place, a clear definition of both of the branches concerned; in the second, a good acquaintance with their workings and their possibilities; and lastly, a possession of some satisfactory measure of the field of activities of each of the two branches for direct comparison.

In considering the relations of anthropology and psychology, the conditions just named are regrettably, not all fulfillable. We are fairly clear to-day as to the definition of scope, and work done, as well as doing and to be done, in physical anthropology; but we are less clear in these respects when it comes to other subdivisions of the "science of man," and matters are even less satisfactory when we approach psychology.

In a general way, we all feel that psychology and anthropology are related. The very existence of this joint Section, as well as that of the joint committee of our two branches in the National Research Council, are sufficient proofs of this feeling, in this country at least. We all know also that anthropological studies of human activities, both in the far past and at present, the studies of language, beliefs, ceremonies, music and habits, as well as the studies upon the human and animal brain and on the sense organs and their functions, are

[1] Address of the vice-president and chairman of Section H—Anthropology, American Association for the Advancement of Science, St. Louis, December, 1919.

of direct and intense concern to psychology; while on the other hand we are equally aware of the fact that many of the studies of the psychologists, such as those on hereditary and group conditions, and on behavior of primitive peoples are of considerable interest to anthropology. But when we examine more closely into these relations, we meet with various setbacks and difficulties. We soon see, although again only in a general way, that the psychologists and anthropologists of whatever shade of color can and do exist quite independently; that they actually work to a very large extent unknown to each other; that as time goes on they associate rather less than more at the colleges and universities; that they progressively drift further apart in nomenclature, methods and other respects, and that in no important way are they really coming closer together. No one, I am sure, would claim that if every anthropologist disappeared to-day, psychology could not go on as well as it has hitherto; and no one could claim on the other hand, that anthropology could not exist without the aid of psychology.

In our institutions the two branches proceed to-day, as well known to all of us, quite independently. Our great museums all have their departments of anthropology, but none that of psychology; while in some of the colleges, in the War Department, and the Public Health Service, matters are the reverse. The publications of one of the branches are scarcely known to the workers in the other, and barring rare exceptions there is no thought of exchanges, references or mutual reviewing of literature. The terminology is divergent, instruments and methods differ; our most important international congresses and relations are wholly distinct; at our meetings we mingle only through courtesy and habit; and as has well been shown during the years of war there was no actual cooperation of the two branches in this greatest of contingencies, and but little concern in one of what the other might be doing or planning. If the anthropologist takes up the list of psychological publications such as furnished by the Psychological Index he will note that as this proceeds from year to year it progressively drops reference to anthropological publications; and the same condition is observable in the anthropological bibliographies in relation to what may be considered more strictly psychological work.

It is also known to you that for several years now increasingly strong efforts have been put forward from both sides to separate in this association anthropology from psychology and have each form its own section, efforts which now have been successful.

Bearing all this in mind we can not help asking: Is there really any relation of consequence between modern anthropology and psychology?

There is indeed such a relation; but it has never thus far been sufficiently defined and never as yet sufficiently exploited. This relation is of such a nature, that during the preliminary and earlier work in both branches it could and had to be neglected; but as psychology progresses it will grow in strength, to eventually become of importance.

I may be permitted, in the first place, to point out the areas of contact and interdigitation of the two branches.

Unfortunately, I meet here with the serious initial difficulty of defining psychology. After striking this snag in the preparation of my address, I turned to a series of the foremost representatives of your science for help, and the help did not materialize. Some of those appealed to would give no definition; others would attempt it only circumstantially, so that it was of little use for my purpose; while the rest defined or inclined to define psychology as the "science of behavior," which characterization does not seem to be sufficiently comprehensive.

I then turned to the publications given in the last few volumes of the Psychological Index and particularly the volume for 1918, which presumably is the most representative. It gives 1,585 titles. Out of these I found, so far as I could judge from the titles, 14 per cent. dealing with neurology and physiology; 28 per cent. dealing with neuropathology and psychiatry; 6.5 per cent. dealing with sociology, ethics, and philosophy; 2.5 per cent. with

religion, mysticism, and metaphysics; 3.5 per cent. of the titles were mixed and indefinite; 4 per cent. dealt with animal psychology; 36 per cent. with human psychology; and 6.5 per cent. with what approached physical and general anthropology.

I found further that the publications included in your index, and hence those in which you are interested, range from anatomy and histology of the nervous system to mathematics on the one hand and metaphysics on the other, covering practically the whole vast range of phenomena relating to the nervous system and mental activities of man and animals. This shows indefiniteness, incomplete crystallization.

As psychology advances, its field will doubtless become better differentiated, and possibly separated into a number of special subbranches. When this happens the relations of the various subdivisions of psychology and those of anthropology will be more evident and easier of precision. It will then be found that your anatomical and physiological section will have many points of contact with physical anthropology, while your sections on behavior, beliefs, habits, dreams, etc., will connect in many respects with the anthropological studies which are to-day grouped under the terms of ethnology and ethnography.

However, even such clarified relations would be of no great importance, were it not for the fact that psychology must as time passes on enlarge the scope of its activities, until no small part of these shall really become anthropological.

And here I must define anthropology. Its old definition as the "science of man" is not sufficient, being too comprehensive and too indefinite. But if you will examine the activities in any branch of anthropology, you will find that although they deal with a vast array of subjects they are all characterized by certain something distinctive, and this is the *comparative* element. Anthropology is essentially a science of comparisons. It is comparative human anatomy, physiology, psychology, sociology, linguistics, etc. And being comparative it does not deal with individuals or mere abstract averages, but with groups of mankind, whether these are social, occupational, environmental, racial, or pathological. In brief, it is the science of human variation, both in man himself and in his activities.

Let us now return to psychology. In the course of its development, psychology will unquestionably find its choicest field in group studies. It has already begun in this direction. It compares classes with classes, as during the late war; it will enter in the not far distant future into race psychology; and it will compare other definite human groups with groups, study their variations and the causes of these, study evolution, involution, and degenerations of the nervous organs of mankind as a whole—and all this will be or be very near to anthropology.

A word in conclusion. Anthropology and psychology as they are to-day, are fairly independent branches of scientific activities, with no closer actual bonds and interdependence than those that exist, for instance, between either of them and sociology, or history. But in their further development and particularly that of psychology, the two branches will approach closer together until an important part of their activities will be in the same orbit.

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THE FUNCTIONS AND IDEALS OF A NATIONAL GEOLOGICAL SURVEY. II

Kinds of Work to be Undertaken by a National Geological Survey.—There has been considerable difference of opinion as to the kinds of work that should be undertaken by a national geological survey. Shall its field be confined to what may be included under geology or shall it embrace other activities, such as topographic mapping, hydrography and hydraulic engineering, mining engineering, the classification of public lands, the collection and publication of statistics of mineral production and the mechanical arts of publication such as printing and engraving. These various lines of activity may be divided into two main classes—those that are more or less contributory to or subordinate to the publi-