

and compare favorably with the studies made in Lake Erie, and in fact show a much larger population per unit area in some cases.

No actual figures of the Lake Erie population are given, but the graph on page 84 shows that few of the areas exceed 1,000 individuals. In Lake Winnebago the greatest number of individuals was found between 2-6 meters in depth and in Oneida Lake between one and two meters. In Lake Erie the maximum population was found in the shallow areas bordering the shores, as has been noted in all lakes studied quantitatively. The vegetation population in Lake Winnebago varies enormously. While the average shows only 4,400 individuals per square meter, there are favorable localities where the population will run as high as 15,000 or 20,000 per square meter, especially in some of the sedge habitats.

It is to be regretted that the unit areas of the Lake Erie paper were not made in square meters instead of square yards, because most studies of this nature have been made with the metric measurements, and while the two units are approximately the same there is still enough difference to make it difficult to compare results accurately.

Lake Winnebago is in many respects similar to Lake Erie in its physical as well as its population make-up. Many species and races of naiades are identical and are found only in these two localities. With the exception of the vegetation areas, the population per square meter is greater in Lake Winnebago than it is in Lake Erie. The population per square yard of the shelving rock shore of Lake Erie is paralleled in the Wabash River at New Harmony, Indiana, Thomas Say's historic collecting locality, where the under side of a flat rock averaging a square

foot in area will often be so thickly covered with mollusks (*Pleuroceridae* and *Somatogyrus*) that every fraction of an inch is occupied. A count of one such rock gave more than 1,500 individuals. A square meter in several places at this locality will contain in excess of 10,000 mollusks.

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NOMENCLATURE OF THE ELECTRON

DR. ANDERSON'S recent discovery of the positive analog of the long known negative electron has raised an important question of nomenclature. The word electron was originally devoid of significance regarding polarity. But the custom of using it as a specific term for the negative unit has acquired considerable prestige. This custom might continue unchanged if Professor Herbert Dingle's suggestion of "Oreston" as the name of the new positive unit were adopted. The suggestion has considerable merit for that reason as well as because of its mythological significance.

Nevertheless, the writer is inclined to protest against its adoption and to plead for Dr. Anderson's terms "positron" and "negatron." The basis for the plea is simple but nonetheless weighty, to one who is concerned with elementary instruction; namely, that the latter terms are obviously descriptive of the principal properties of the two units. In consequence, the student's learning of terms and definitions would be simplified and brought closer to reality.

The term "electron" may then be used in its original generic meaning, without reference to the specific charge that the particle might have.

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SPECIAL CORRESPONDENCE

THE SECOND PSYCHOLOGICAL EXPEDITION TO CENTRAL ASIA

THE second psychological expedition to central Asia which took place in the summer of 1932 had for its aim extension of researches which were undertaken by the first expedition in 1931. The fundamental aim was the study of those peculiarities of the psyche which are the result of various historical conditions and to trace out the fundamental laws in development of psychological processes. In this respect central Asia is of exceptional interest on account of the residuals of primitive economic conditions which are now undergoing tremendous industrial, political and cultural transformation. This change gives opportunity not only for the studying of the peculiarities of psychological processes under various conditions,

but also, what is more important, the very dynamics of the transition from the more elementary psychological laws to the more complex processes. Just as in the first expedition the study was undertaken in the region of Uzbekistan, in which were specially chosen the more primitive Kishlaks districts as far as their economic, cultural and social conditions were concerned, such as the Kishlaks of Shahimardan and Jordan and the grazing kirgiz lands in the Altai Mountains, as contrasted with the Kishlaks of Palman with a thorough collectivization, well-developed cultural work and high industrial organization.

In contradistinction to the first expedition not only the adults were studied, but also the Kishlak youth on whom the cultural changes must have made a special impression.

The expedition was organized by the State Psycho-

logical Institute of Moscow, the Psychological Section of the Ukrainian Psychoneurological Academy of Kharkov and the Department of Education of the Uzbek Pedagogical Academy. The expedition was also backed by People's Commissariat of Education of the Uzbek Socialist Soviet Republic and the Government of Uzbekistan.

The immediate aim of the expedition consisted in the further study of the system of thinking which is characteristic of primitive societies, the development of the psychological functions in their thinking and to point out those changes which this thinking undergoes in social and cultural transformation connected with socialistic growth. In the account of the first expedition it was shown that in the primitive community life one finds a specific system of thinking which is characterized by its own structure and by a different rôle which speech takes in it. A fact was noted that the main function of this thinking is not the formation of abstract connection and relationship between symbols, but reproduction of whole situations, whole complexes closely connected with specific life experiences; it was pointed out that separate psychological operations, such as memory, comparison, generalization and abstraction, are formed in this type of thinking quite differently, and that with the change of economic conditions this situational or complicated thinking very quickly becomes changed, giving place to other more complex forms of thought. It was the aim of the second expedition to study in more detail the characteristics of the structure of the "situational" thinking and its various functions as well as a study of those paths along which the transformation of the situational thinking takes place by the development of thought into concepts under the influence of such new molding forces as collectivization, cultural development, literature, etc. In this field the following problems were undertaken:

(1) Professor A. R. Luria, in cooperation with Bagautdinov, "The Structure of Situational Thinking and the Lines of its Modifications."

(2) Professor Kurt Koffka, together with G. Ashrafy, "Investigation of Perception in Various Historical Cultural Phases."

(3) Professor P. Leventueff, together with Assistant Mangushova, "Investigation of Causative Thinking and its Historical Development."

(4) Docent F. H. Shemyakin, together with Assistant Nugmonov, "The Understanding of Symbols in Situational Thinking."

(5) Assistant E. N. Mordkovich, "The Understanding of a Poster and its Meaning in Situational Thinking."

(6) Docent A. A. Ussmanov, together with E. H. Mordkovich, "Operations of Counting in Complex Thinking."

The material obtained in the two psychological expeditions to central Asia established certain peculiarities in the structure of thinking and the special psychological process at various stages of cultural historical development. It outlined those lines along which we have the development of psychological processes in a changing environment largely characterized by ever-increasing economic and industrial complexities. Further work in the analysis of this material, as well as a comparison of experiments in the villages as contrasted with the factory, would go on in a special division devoted, in the Moscow Psychological Institute, to the study of development of the psyche. The control investigation of structure of thinking in the disintegration of psychological processes would be concentrated in the division of normal and pathological psychology of the Psychological Sector of the Ukrainian Psychoneurological Academy in Kharkov. The further work in the study of the development of thought in the Uzbek child would be conducted by the pedagogical faculty of the Uzbek State Pedagogical Academy in Samarkand. The works of the first and second psychological expedition will be ready for press and prepared for publication by Professor Luria within the next year. A more complete account of this expedition is appearing in the forthcoming issues of the *Journal of Genetic Psychology* and the *British Journal of Psychology*.

A. LURIA¹

SCIENTIFIC APPARATUS AND LABORATORY METHODS

THE MEASUREMENT OF SKIN COLOR

THERE is great need for a portable mechanism with which the color of opaque objects may be accurately determined. The writer has been interested for some time in estimation of the color of human skin. Many of the reports in the literature relating to human skin color are those of the students of race and those of the investigators of climatic effects. Irreplaceable data have been collected by these workers through use of mechanisms based upon the principle of the

color top (or wheel) or upon comparative color scales of porcelain or paper. Many of these devices have the advantages of simplicity in use and easy portability. They are, however, open to certain criticisms, especially those of the errors possible in any subjective method and those relating to an uncontrolled and variable light source.

The medical literature of the last few years indi-

¹ Translated from Russian by J. Kasanin and F. L. Wells.