

kinds of vibrato, instruments for analysis and production of all aspects of the phenomenon, a consistent terminology and graphic musical scale, statistical survey of use and abuse, the establishment of norms in voice and instruments, experimental contributions toward ideal norms of achievement, the nature of its beauty, psychophysical determination of its characteristics in hearing, explanation of some of the illusions involved, determination of the limits of tolerance and range of variability, tracing the ontogenetic and phylogenetic development, an appraisal of its contribution to the psychology of emotion and a foundation of scientific esthetics.

*The effects of American environment on immigrants and their descendants:* FRANZ BOAS. The general problem of the assimilation of alien populations can be solved only by a study of the modifications which bodily forms and functions undergo under new environment, and require long-continued observations on immigrants and their descendants. The data to be discussed were assembled during the past twenty-five years and certain conclusions may be presented as definitely determined. Every population investigated proved to be highly complex, including many distinct genetic lines. In every European population these are so varied that it is impossible to assign any one individual with certainty to any one population. With the transfer to American environment the bodily traits do not remain stable but undergo considerable changes. In some types the heads and faces of the descendants of immigrants are narrower than those of their ancestors. Their stature increases materially, while that of the immigrants themselves who came here in the course of fifty years does not partake of the general increase observed in Europe. The tempo of development of different races in the United States and West Indies is remarkably uniform. Contrary to opinions generally accepted no differences in the onset of puberty are found among Negroes and Whites, nor in different climates. Differences occur according to economic status. Nevertheless, each family has a characteristic tempo of development of the life span which is in part hereditary. The motor habits of East European and South European immigrants, as expressed by gestures, differ considerably. The question is in how far these are determined by heredity or by environment. A study of Italian gestures shows that these are symbolic, expressing definite ideas and have been transmitted from antiquity. Those of East European Jews are rarely symbolic, rather emotionally determined. The Italian moves symmetrically with a wide sweep from the shoulders, the Jews jerkily and

asymmetrically from the elbows, which are held close to the body. American gesticulation is much more lively than is generally assumed but is almost entirely either descriptive of forms or oratorical. In descendants of Italians and Jews who have left their national environment, a rapid transition to American posture and movement was observed. On the other hand, Englishmen were observed who had acquired Italian or Jewish gesture habits. The behavior of each individual depends also upon momentary setting in so far as it is influenced by that of the people with whom he converses. Occupational gestures were also observed. In regard to postures and gestures as expressions of motor habits complete assimilation may be predicted. Similar assimilation has been observed in regard to the general tempo of movement. Much has been said in regard to the frequency of mental diseases among immigrants and their descendants. Most of these data are based on statistical fallacies, due to the different age distribution among immigrants and natives. When these are allowed for, it appears that the differences between immigrants and natives are slight and that the second generation approaches the values found among natives; often it is less. In this investigation Irish, Italians and Germans were studied. It is noteworthy that the complete elimination of imbeciles among immigrants does not seem to have had an appreciable effect upon the frequency of imbecility among their descendants. The distribution of various types of crime differs much in different nationalities. A comparison has been made between the relative frequency of types of crime among immigrants and their descendants, and here also an approach to the relative frequencies of crimes in the native population has been determined. While individually, heredity is an important element in determining the form and functioning of the body, all these observations show that the pressure exerted by social environment brings it about that the behavior of whole populations tends to be moulded by the pattern of the dominating society.

*Biographical memoir of Theobald Smith:* HANS ZINSSER. (Read by title.)

*Biographical memoir of Benjamin Lincoln Robinson:* M. L. FERNALD. (Read by title.)

*Biographical memoir of George Fillmore Swain:* WILLIAM HOVGGAARD. (Read by title.)

*Biographical memoir of William Duane:* P. W. BRIDGMAN. (Read by title.)

## SCIENTIFIC EVENTS

### THE ZOOLOGICAL SOCIETY OF LONDON

THE report of the Zoological Society of London for 1935, summarized in the *London Times*, states that the society has passed through one of the most successful years of its history.

1,963,136 visitors were admitted during the year, this being the highest number since 1930 and the sixth highest since the society was founded.

The assets of the society have increased by more than £14,000 and its income by nearly £19,000 over the

figures for 1934. Although the visitors to Whipsnade were nearly 45,000 fewer than in the previous year, there were over 38,000 more than in 1933.

In view of this flourishing condition expenditure on several structural additions to the Zoo has been sanctioned. Work has begun on a studio of animal art, part of the cost of which will be met by grants from the London County Council and the Middlesex County Council. A strip of Regent's Park adjoining the gardens has been granted to the society by the First Commissioner of Works, and this is to be utilized for the creation of a special children's zoo. It is hoped that both these new features will be ready during the early summer. A modernization of the middle part of the gardens, including a new elephant and rhinoceros house, is also contemplated, and it is intended that this shall be completed in 1937.

That the health of the animals has been well maintained is shown, according to the *Times*, by the fact that the death rate among mammals was the lowest recorded during the last 10 years. There has been an unusually large number of notable exhibits during the year including an okapi, presented by the King of the Belgians to the (then) Prince of Wales and given by him to the society. Other outstanding additions to the menagerie were West Indian manatees, Komodo dragons and blood-sucking vampire bats.

In scientific research the work of Dr. H. Honigman on the principles underlying the feeding of animals in the gardens and of Dr. S. Zuckerman on social behavior in apes is stated to be of great interest.

A new and more readable edition of the garden guide has been issued. Its form and illustrations are greatly improved. It includes articles by Dr. Julian Huxley, secretary of the society, on animal classification and animal adaptations.

#### STANDARDS FOR HYDROLOGIC DATA

AGREEMENT on common standards and specifications for hydrologic data arrived at among representatives of different government agencies and prominent hydrologists outside of government service is shown in a 45-page Report of Recommendations recently made public by Harold L. Ickes, chairman of the National Resources Committee. The report was made by a Special Advisory Committee to the Water Resources Committee of the National Resources organization, and brings into agreement the viewpoints of the producer and the user of such data.

The special committee, appointed in April of this year, consisted of Thorndike Saville, *chairman*, professor of hydraulic and sanitary engineering and associate dean, New York University; Donald M. Baker, consulting civil engineer, Los Angeles; H. K. Barrows, professor of civil engineering, Massachusetts Institute

of Technology; J. P. Dean, captain, Corps of Engineers, U. S. Army, New Orleans; Willis R. Gregg, chief of the U. S. Weather Bureau, Washington, D. C.; N. C. Grover, chief hydraulic engineer, U. S. Geological Survey, Washington, D. C.; W. W. Horner, consulting civil engineer, St. Louis; Joseph Jacobs, consulting civil engineer, Seattle; Royce J. Tipton, consulting civil engineer, Denver, and Robert E. Horton, of Voorheesville, N. Y., and Adolph Meyer, of Minneapolis, consulting hydrologists, who served as special consultants to the committee. The following statement is made:

The immediate urge and dominant thought governing the preparation of this report have been the provision of dependable hydrologic data by means of work relief projects. The committee has departed somewhat from the strict letter of its instructions, and has ventured to recommend certain procedures affecting the collection and publication of basic data by the regular government agencies. Inasmuch as most of such agencies were represented on the committee, the unanimity of thought as expressed in the recommendations contained in the report is highly gratifying. It is hoped that this study may have indicated a practicable procedure by which ultimate values in water resources may be effectively promoted.

The recommendations relate chiefly to the minimum standards regarded as compatible with the reliability and accuracy necessary for safe and economic design. It is insisted that more enunciation of standards is insufficient to insure satisfactory collection and publication of basic data. The fundamental premise that the technique of producing significant and dependable hydrologic data can not be imparted to inexperienced workers by means of a manual and that it can be developed only under the supervision of experienced technicians, is strongly emphasized.

The recommendations include specifications for personnel and terminology, standards for collection and compilation of data on precipitation, snow surveys, surface waters, ground water, evaporation, quality of water, suggestions with respect to special projects and recommendations for procedure surveys under the Works Progress Administration.

#### EXPLORATIONS SPONSORED BY THE SMITHSONIAN INSTITUTION

THE annual report of explorations of the Smithsonian Institution contains accounts of fifteen expeditions in the United States, Alaska, Canada, Greenland, South and Central America and Asia.

These expeditions resulted in many additions to the Smithsonian collections in natural history, anthropology and geology, which include fossil bones of little-known species of dinosaurs and a complete articulated skeleton of the *Coryphodon*, found in Mon-