

The Work of the Eugenics Record Office.*

BY DR. CHARLES B. DAVENPORT.

The Eugenics Record Office is a section of the Department of Genetics of the Carnegie Institution of Washington. The Institution was organized in 1902 to provide funds for research. It is not within the provisions of its charter to undertake instruction and propaganda. Consequently the work of the Eugenics Record Office is confined to research, interpreted broadly.

The association of the Eugenics Record Office with the Department of Genetics ensures that the investigations undertaken by the Eugenics Record Office shall be primarily on human genetics. The association with the other section of the Department of Genetics, namely, the Station for Experimental Evolution, makes it possible that in the same department there shall be conducted, on the one hand, statistical studies on the results of human matings, and, on the other hand, experimental studies on heredity with controlled matings of the lower mammals. Since man is genetically only a mammal it is believed that the experimental results will throw great light upon the interpretation of the results of human matings.

The Department of Genetics is organized as follows. The director has as lieutenants in immediate charge of the two sections, two assistant directors, who look after a considerable part of the correspondence and business of the respective sections. There are also certain services in the Department common to the two sections, such as the service of biometry, of art, of library, of finance and of care of buildings and grounds. The divisions of work of the Eugenics Record Office consist, first, of research, chiefly in the field of cagonic and aristogenic families; second, special researches on heredity of physical and mental traits. At present studies upon the racial values of immigrant stocks in the United States are being made. The Eugenics Record Office trains eugenical field workers to make special observations in the field and report them to the Office. To train such field workers it maintains during the summer a training corps the members of which attend clinics and make laboratory studies. Another sub-division of the Office is concerned with general correspondence, together with the collecting of records. The division of archives is concerned with the filing and indexing of records collected. A library abstractor provides for the files abstracts of current publications on human heredity and helps work up the literature of particular subjects.

In the Station for Experimental Evolution there is being carried on work with mammals, including a study of tumors, of mutants in mice, of fecundity. Another group of investigators is studying the evolution of the chromosomes in insects and still another group the mutations of the chromosome complex in the Jimson Weed, *Datura*. Another group

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is concerned with the genetics of certain aquatic organisms (especially *Daphnia*). Another group is engaged in bio-chemical researches upon sex in pigeons and the influence exerted upon it by the bio-chemical processes of the body. Finally there is a histological laboratory which makes examinations of the material that is being studied by other investigators. Though the work of the Department seems to range thus widely from *Datura* and *Entomostraca* to man, yet it is united by the one theme of studies of the genetical constitution of the organism, its mechanism and its processes.

The current work of the Eugenics Record Office consists first of a study of certain families. Dr. Arthur H. Estabrook has, for many years, been studying cacogenic and unsocial families in the field. He has continued the famous Jukes family through an additional 40 years, from the time when Dugdale made his studies. He has just completed a study of the Ishmaels, a nomadic group of the Central United States, probably descended in part from convicts sent to America from England in the 18th century. Dr. Estabrook is now undertaking a study of the mountaineers of the Southern Appalachian Mountains in the Virginias and Carolinas. In the aristogenic side, an extensive study is under way by Dr. Banker on the famous group of families of Eastern Massachusetts in and about Boston. This study he is making in co-operation with the group itself and with the use of extensive records.

The results of the enormous immigration unto the United States, amounting, in some years, to over a million persons has led Congress to a more careful consideration of the working out of the American immigration laws, and, for the present, to a quantitative restriction of this immigration. Dr. H. H. Laughlin, assistant director of the Eugenics Record Office, has been appointed an expert agent of the Committee of Immigration of the House of Representatives and has gathered extensive statistical information concerning the relative proportion of different immigrant peoples who have become the subject of State and Federal care since their arrival into the United States. This analysis justifies the opinion which has long been held as a result of superficial observations that the races of South Eastern Europe are less able to adopt the Anglo-Saxon mores, which are the basis of our constitution and laws, than are the peoples of North Western Europe. Dr. Laughlin has also been engaged for some years in analyzing the different sterilization laws which have been passed by a quarter of the States of the Union. He has traced the origin and development of these laws; the fate in those states in which they have been declared unconstitutional and the operations which have been performed in those states in which the law is effective. He has also drawn up a model law, taking cognizance of the legal objections which have been raised to the sterilization laws where the legislation has been declared unconstitutional.

A brief reference may be made to the studies on special traits. Some years ago the Office made a series of studies on inheritance of mental and temperamental defects and upon such traits as nomadism, violent temper and epilepsy. Recently an analysis has been made of the hereditary elements in stature and in body build. Stature has long been the subject of studies in heredity, including a most important

one by Galton. The trait has been regarded as one that could be analysed only by biometric methods but a further analysis has shown that the trait can be analysed also by the Mendelian methods, only that inheritance is complicated by the presence of many factors which work together to produce the result of the adult stature. Similarly bodily proportions, especially weight or breadth of body in relation to height, can be shown to depend upon three or more factors. When all are present and working together they result in heavy build. When they are absent the body is slender. The study of body build is complicated by the fact that build undergoes a physiological change during development, inasmuch as children at birth have, on the average, the maximum build but this declines rapidly in boys to the age of 13 years and then rises gradually to the age of 50, though it never attains, on the average, the proportions of infancy. The study of heredity of build has to be made especially upon adults but even with adults the results are complicated, inasmuch as the build of the individuals in certain families undergoes frequent fluctuations, even in health. Finally the study is complicated by the circumstance that adult build is much influenced by external conditions, such as over-feeding and lack of exercise. However, the results of over-feeding and lack of exercise are not at all independent of but, on the contrary, closely tied up with the constitutional factors. There are certain families in which the individuals, even if overfed, remain slender and other families of which the individuals tend to put on flesh and have constantly to diet and to engage in special exercise in order to reduce the accumulations of fat. The studies of skin color in negro white crosses and inheritance of stature and body build have shown that traits which were long believed to be only capable of biometric analysis can really be analysed by modern genetical methods and it seems probable that, as has been repeatedly pointed out by statisticians, the difference between particulate and blended inheritance is only a difference in the number of factors involved.

Other studies that are being made, or have been recently made, by visitors to the Eugenics Record Office include the study of the constitutional factors in susceptibility to tuberculosis, studied by Dr. Albert Govaerts of Brussels. Dr. Govaerts has shown that the contact theory is insufficient to explain the high incidence of tuberculosis in particular families and that it is necessary to assume the presence of constitutional factors of resistance. Similarly studies are being made upon the correlation of physical and mental development, as illustrated by the bodily proportions of the feeble-minded, as compared with those of normal intelligence.

Thus the work of the Eugenics Record Office is seen to be exclusively research. It abstains from undertaking methodical instruction and refrains from participating in propaganda. In so doing it does not for one moment imply that such operations are not of great utility but it is believed that there should be a division of labor and that those who have the funds and trained personnel for research should devote their best energies to that branch of eugenics and those who are in a position to disseminate the information obtained and to influence legislation may perform a valuable service in this fashion.