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Neglected Human Genetics.

FOR millenniums in India the individual has been subjugated to the race in its smaller form of the family. Here there is a traditional feeling for the physical unity between descendants of a remote ancestor, which manifests itself in, what to a Westerner would be, an intolerable right of doddering aunts, uncles and other ancients to interfere in the affairs of the younger members of the family. Lately individualism has become the fashion among some educated Indians; and the sentimental occidental attitude of horror towards death through disease or parturition seems to be gaining adherents among politicians as well as among physicians. The doctrine of metempsychosis may occasionally have produced callousness and hopelessness in the face of physical disability, mental disorders and penury; but it is based upon a belief in man's ability to help himself and eventually to improve his lot. For this reason it is more satisfying to reason than some other attempts to account for the inequality of men. But the great advantage to the race of this working hypothesis is the fact that it gave free rein to Natural Selection.

It is evident that a highly gifted and superior strain of men migrated into India in pre-historic times. They may have come in two main infiltrations both before and after the Vedic period, and they brought some of the best hereditary factors or genes that have appeared in the human race. These men built up a society regulated by a series of well-reasoned working hypotheses. They put the preservation of their genic heritage, and the good of the race before the convenience of the individual.

India is now at a most critical point in her racial history, when certain people wish to rush into an uncontrolled sentimental humanitarianism and haphazard practice of birth control.

Women are listening to the siren song of the birth controllers who promise them (1) more strength, leisure and time to develop their own individuality; (2) fewer and better children. Opponents of this movement can point out that the actual results may be (1) self-indulgence and the bridge-playing female wasters now so prevalent in the West; (2) the circumvention of natural selection by which the best survive and the weaklings die off. Even in the most gifted

families there are undesirables. The recombinations of genes in sexual reproduction are fortuitous, therefore the more children the couple have, the more chances there will be for valuable combinations to appear. If we know that our germ-plasm is tainted with undesirable recessive genes, such as congenital blindness or feeble-mindedness, then we are justified in refusing to risk the perpetuation of these traits. The practice of birth control may therefore be regarded as a recognition of past undesirability among one's ancestors; or a tacit acknowledgment of the probable inferiority of one's own children, with the consequent fear that they will be unable to compete with others.

Those who deplore the fact that India has a higher infant and maternal mortality rate than some Western countries, should consider the question from the viewpoint of the race. The kindly idealism of Christianity has little support in the material world, for it would propose that "all men are created equal". The politicians know that this is false, for are they not leaders who tower above their poor silly fellows, and who will protect these little ones from the wiles of the gifted and unscrupulous? The politicians should spare time to glance at the "Eugenics Review", and at the writings of leading geneticists and anthropologists of the West. They would discover that men acquainted with the laws of inheritance are of the opinion that a high birth and infant mortality rate may benefit a nation, while the reverse may poison a race. Because the rate of propagation in the West has recently been inversely proportional to the mental status of the individual parents, we are already witnessing a rapid increase in stupidity and obtuseness; not to mention what has been called "the triumph of the boob" in large areas in Europe as well as in the American public school system.¹ Evolutionists suggest that because the human mind has at last appeared upon the scene, things are more hopeful. They eagerly anticipate that man will henceforward control his own destiny and perhaps circumvent degeneration, which has been the outcome of all rapidly evolved lines in the past. We have already lost sixteen teeth as compared with most other mammals, and our dentition continues to retrogress. Our bodies bear many resemblances to those of embryo anthropoid apes. More and more frequently the

tissues in some of us shake off the discipline of the organized body and revert to the embryonic condition of rapid cell division. This tendency is manifested in cancer, and research has shown that it runs in families, that it is probably inherited. Yet what steps have been taken to sort out the tainted stocks to prevent them from propagating or from tainting other healthy stocks?

What reliable data have we on the effects of hybridization in India? Human groups are all inter-fertile and therefore differ only in minor genetic factors, and are maintained solely by isolation. There is a wide variation in almost every characteristic in any local group. It might be better to encourage the mating of superiors from different races than to allow a high grade individual to mix his genes with those of a low grade individual of his own race. The alleged maladjustments of hybrid populations are at present largely sociological rather than biological.

Professor E. A. Hooton of Harvard University has warned us that "we must cease to delude ourselves with the belief that education, religion or other social amelioration can transform base metal into gold. Intelligent artificial selection should replace natural selection."

Who is to judge which hereditary lines are worth perpetuating and which are not? This must not be left to the individual for, as the old Chinese proverb says, "the great man never feels great, and the small man never feels small". The superior groups will realise their own weaknesses and the inferiors will compensate themselves for their own lack with illusions of importance.

Before we can bring genetical knowledge to aid the future of the human race, we must know what hereditary material is available. We must take stock of our genes, and the only way to do so is by intensive anthropometric surveys and blood grouping. Invaluable data are available among India's large families and endogamous communities. Such a stock-taking is urgently needed in this country before the new influences mentioned early have gained control.

India does not need more chairs of anthropology, with their concomitant lectures and theoretical examinations. We need more reliable data, and individual states and districts could and should set about collecting them as soon as possible. The following is a tentative plan for an anthropological survey of a limited area, such as, Malabar, Mysore or Travancore, by local science graduates,

¹ Riddle, O., 'Confusion of Tongues,' *Science*, 17th Jan. 1936.

the cost of which would not be more than that of a single professorship.

Anthropometric instruments have now been perfected, and because of the simple mendelian inheritance of the human blood groups, these give valuable indications of human relationships and migrations. It should be possible to find two reliable unemployed science graduates, one man and one woman residing in each of five or six centres scattered over the district to be surveyed. These ten or twelve people should meet at the nearest university for an intensive course of training of perhaps eight weeks, similar to an American University Summer Session. Here they would take courses in genetics and gross anatomy, and be trained in the use of the instruments, in blood testing methods and in anthropological photography by an expert with sound biological training. Then they could return to their homes and gather data from the community within reach for ten or twelve months. The data would be returned to the expert for statistical treatment and analysis, and

would provide an invaluable record of human traits in different communities and geographic groups. They would be valuable to the sociologists and public health authorities as well as to the geneticist and anthropologist. There are indications that blood group types are correlated with susceptibility and resistance to certain diseases. The effects of balanced and deficient diets are revealed in the proportions of the bones of the face and pelvis. Thus the anthropological data would be of use to research workers in nutrition.

The proposed scheme would also provide, at least temporary occupation for some unemployed graduates of both sexes. The experience they would acquire would be of help to them in finding permanent positions afterwards.

Such an undertaking would reflect credit on any institution or individual who sponsored it, and should appeal to wealthy laymen of different communities who might be induced to contribute towards the cost of the survey.

Nutrition, International and National.

By W. R. Aykroyd, M.D.,

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DURING the last year the subject of nutrition has received considerable attention from the League of Nations and the related organisation, the International Labour Office. As a result of international discussions, comprehensive schemes for the study and attack of the problem have been formulated, which are likely to have a considerable influence in the spheres of economics, agriculture, and public health.

In the Report of the Director of the I.L.O. to the Nineteenth Session of the International Labour Conference (June 1935), we find the following passage:—

“ Though there is still considerable controversy among physiologists as to the minimum needs for healthy subsistence and as to the rations of calories, proteins, mineral salts and vitamins required in different climatic conditions, it is not open to dispute that large masses of people are at present under-fed or wrongly fed. . . . Every country is faced by a problem of this kind, but its exploration is only just beginning. It may be compared with the problem of medical treatment and maternity care, for which

much has already been done wherever a sound system of health insurance has been established. . . . If the cure and prevention of disease is a communal affair, housing and feeding, which are the primary requisites of healthy living, are hardly less so. They were certainly not excluded from the purview of the International Labour Organisation by the Preamble to the Constitution, which lays down the ‘provision of an adequate living wage’ as one of its objectives and declares it urgent to improve conditions of labour involving hardship and privation”.

“ Looked at from another angle, it is evident that a higher and more variegated standard of food consumption would go far to solve the problem of agricultural over-production. . . . ”

“ This question of consumption is not only national but international in its scope. If it is agreed that the only real solution of the problem of economic balance is not through scaling down production but in levelling up consumption, then it follows that the best hope of finding a way out of the present troubles is to raise the standards of the