

down to the time of the invention of the phonograph, and somewhat beyond that time. One Joseph Faber began to work on an idea of this sort in 1815, and in 1841 had the machine so far finished that it was exhibited to the king of Bavaria, as stated in an article from the *London Times* of February 12, 1880, which is now lying before me. This machine was exhibited in America in the seventies and eighties and I heard it talk and ask and answer questions put by the audience. Its speech was very mechanical, without inflection or emphasis. It was worked by an attendant with a keyboard and bellows. An ivory reed whose pitch could be varied formed the vocal chords. The cavity of the mouth could be changed in shape and size by the keys of the keyboard. A tongue and lips of rubber formed the consonants. A windmill in the throat rolled the R's and a tube was attached to the nose when it spoke French! It could also speak German and English. It is not probable that any one had thought of a phonograph in the sense in which we use the term as early as 1772. Knowledge of electricity was not sufficiently advanced at that time.

W. C. PECKHAM

QUOTATIONS

THE PHYSIQUE OF RECRUITS

IN the summer of 1916 the Board of Scientific Studies was established under the ægis of the Royal Society to serve as a means of placing knowledge in the possession of scientific and technical societies at the disposal of government departments. At the first general meeting of this board in July, 1916, the urgency of a physical survey of the nation, to discover whether or not there existed definite evidence of physical deterioration, was discussed. Emphasis was laid by various speakers on the fact that an Interdepartmental Committee had reported in 1904 that such a survey was necessary. Nothing, however, had been done. The mobilization of a national army had provided an opportunity, as well as a need, for such a survey.

The Board of Scientific Studies requested the Royal Anthropological Institute to report

on the desirability and possibility of such a survey. The institute having reported that such a survey was both desirable and possible, the board formed an Anthropological Survey Sub-committee to consider the manner in which such an investigation could best be carried out. This sub-committee has not yet reported to the Board of Scientific Studies, but we understand that it is seeking for the means of carrying out such a survey through the government departments which have directly to do with the health and physique of the nation: the Recruiting Authority—now the Ministry of National Service—the Local Government Board and the Board of Education. Representatives of these departments have joined the Anthropological Survey Sub-committee, and it is hoped that a practical scheme may be formulated at an early date.

Meanwhile American anthropologists have stolen a march on their British colleagues. When the United States entered the war the National Research Council was at once created to serve the same purpose as our Board of Scientific Studies. Its Anthropological Committee, formed to advise in the selection, standardization and examination of recruits, has already issued its report and recommendations. It proposes that six of the sixteen great concentration camps should be selected for an anthropological survey—two in the Eastern, two in the Middle, and two in the Western States—and that special men who had been trained to use exactly the same anthropometrical methods at the National Museum at Washington, should be dispatched to carry out a survey of the men in the selected camps. The points for investigation have been reduced to a minimum, namely, standing and sitting heights, three dimensions of the head, two of the face, two of the chest, with precise records of the color of skin, eyes and hair. The statistical staff of the Prudential Insurance Company of America has undertaken to deal with the data collected, while the Smithsonian Institution will facilitate the publication of results.

Although the intentions of the British committee are more wide-reaching and aim at as-

certaining the condition of all elements in the population, it is to be hoped that the observations taken in Britain and America will be capable of direct comparison—for, beyond doubt, the bulk of the population of the United States has a British ancestry.

SCIENTIFIC BOOKS

Mental Conflicts and Misconduct. By WILLIAM HEALY. Boston, Little, Brown & Company, 1917. Pp. 330.

Like earlier studies from the psychopathic institute attached to the Chicago Juvenile Court, this work emphasizes the need of painstaking inquiry into the experience and inner life of the individual delinquent, if the treatment given him is to be in any sense remedial. The present book illustrates the author's method of "mental analysis," a process somewhat akin to the "psychoanalysis" of Freud, though not making the same pretensions to penetrate to the very depths of the individual's make-up, and not operating with dreams, symbols or association tests, but by a straightforward conversational approach, in which the subject is sympathetically asked to tell "if anything is worrying him." This line of approach is especially indicated when the subject shows signs of an "inner urge" towards misdoing, without deriving any material benefit, but only painful consequences, from his misdoing. In such cases, there is reason to suspect a "mental conflict," which may be discovered by the analysis and then cleared up by proper handling, with the happy result that the misconduct ceases.

The mental conflict discovered by analysis is often of the following stamp. A young child, previously a good child, and often of good intelligence and from a good home, is incited by some bad boy or girl or older person to sex practices, and very often at the same time to stealing or truancy. The child rejects the sex practices, though often obsessed by the thought of them or by the bad words used in connection with them, but begins to steal or run away from home. The author interprets this to mean that an "inner urge,"

primarily directed towards sex behavior but prevented from finding an outlet there, escapes through the channel of stealing, etc., which has become accidentally associated in the child's mind with the sex matter. From such causes, quite a career of delinquency may be entered upon by children who are fundamentally normal and healthy-minded.

As judged from a series of two thousand juvenile recidivists, the per cent. of cases of delinquency in which mental conflict of this general type enters as a causative factor is about seven—more rather than less. It is not the "rough" type of juvenile offender that is here in question, nor the mentally defective. Usually the cases show good mentality and good social qualities. They are not moody and "shut-in," nor egocentric, nor, indeed, of any peculiar mental or temperamental type (unless, as is possible from the tests given, the imagery or mental representation of these individuals is unusually active and vivid). Heredity does not appear as an important factor; but it is rather the social or mental environment of the child that generates the conflict. Specially important in this regard is the lack of confidential relations between the child and his parents, leading the child to keep his difficulties to himself, when a frank discussion of them with a sympathetic adult would resolve the conflict.

The treatment appropriate to this species of delinquents is by no means punishment—an entirely superficial and notably unsuccessful reaction—but, first of all, mental analysis directed to discovering the genesis of the misconduct, and then "reeducation," including the giving of suitable information and the development of an intelligent attitude towards the causes of conflict; further, the establishment of confidential relations between the delinquent child and an adult adviser, and often the removal of features of the environment that suggest misconduct.

Psychologically, the author's case-material is of great interest, and the interpretation given, in terms of mental conflict, is likewise of considerable interest, though it does not