THE STUDY OF MENTAL DEFICIENCY IN RELATION TO NEUROLOGY AND PSYCHOLOGY

Up to date those who have been concerned with the medical study of mental deficiency have been occupied with problems of aetiology and classification. As to the first, this is a matter of supreme importance to sociology, for the mental defective must always be a charge on the community whether directly or indirectly, and anything that can be done to check the incidence of either primary or secondary amentia must be of use to the whole human race. Agreement, however, seems rather far to seek in the meantime, for the protagonists of the hereditary and the acquired origins of amentia attack each other both in public and private with no little heat. As to classification, this would seem to have been over-elaborated. After all, the behaviour of mental defectives varies in accordance with the degree of defectiveness and not to any appreciable extent with the particular sort of defectiveness—mongolism, microcephalism or other ism—into which they may be classified. It is of course important to recognize the cretin, who can be treated by thyroid, but efforts to cure any other type have been unavailing, and all that can be done is to enable them to adapt as perfectly as possible to the environment in which they find themselves.

With all this, however, it is common ground that all defectives suffer from an inadequate development of brain, and even the most convinced dualist is hard put to it to deny that lack of mind depends on lack of neurones. This brings us to another aspect of the study of mental defectives, namely, whether their reactions and the signs and symptoms which they develop throw any light on general problems of neurology and psychology. Such a study has not been undertaken to any great extent so far, but it would seem to be a fruitful one.

So far as neurology is concerned it has of course been recognized that amentia may be found in relationship with many well-known neurological syndromes, such as cerebral
diplegia, encephalitis, tuberous sclerosis and the like, but in such cases the amentia is probably incidental in a condition induced by trauma, infection or early degeneration. If, however, a series of cases not exhibiting any of these well-known syndromes is examined, it is found that they show considerably greater and more numerous neurological anomalies than a similar group of normals would do. These anomalies are chiefly concerned with the cephalic segments, but also apparently with sacral segments as well. If the view is held that this type of amentia, not associated with definite clinical syndromes, is more probably hereditary than acquired, the anomalies seem to correspond with the parts of the neural groove which close latest and the structures subsequently developing from these parts. Viewed from this developmental standpoint, anomalies which at first sight seem to have no connexion with each other partake of a new cohesion, become more easily comprehensible, and moreover give us a hint that some of the neurological problems met with in practice which are so difficult to explain unless we postulate multiple lesions of somewhat imaginary derivation may be due to such failures of development. In other words, the functions which are absent and which we think have been lost as the result of some disease process were perhaps never there.

Again, a colony of mental defective is, after all, merely a collection of individuals quite as much liable to intercurrent disease as are other collections of individuals, or even more so. They are prone to the more common neurological disorders, such as encephalitis, disseminated sclerosis or parasyphilis, while such rare conditions as Wilson’s disease or myasthenia gravis are met with from time to time. A study of such diseases affecting persons with imperfectly developed neurones cannot but be interesting and instructive.

To turn to psychology, the mental defective is classified so far as intelligence is concerned according to mental age; and those who have seen Professor Pawlow’s film cannot but have been struck by the extraordinary similarity of general behaviour between the 21-year-old idiot and the 18-months-old baby. But it is claimed that the mental age of the chimpanzee corresponds to that of the three-year-old child. Thanks to the introduction of the Merrill Palmer tests it is now possible to apply standardized mental tests from the mental age of 18 months upwards; it would appear that there is sufficiently significant correlation between the Merrill Palmer scale and the Binet scale, at ages at which their reliable application overlaps,
to afford us a grading from idiocy upwards to normality. But, as has been said, the chimpanzee at any rate in certain respects comes within this serial scale, so that it would seem not unreasonable to regard the mental defective as the psychological 'missing link' between the anthropoid and man. Certain experiments, such as the delayed reaction and puzzle-box tests, used by comparative psychologists on anthropoids, have been applied to mental defectives with interesting results. It would appear that in the realm of spatial discrimination and configuration, which according to Mourgue is the psychological basis of language and other higher psychological functions, the low-grade mental defective does not compare particularly favourably with the chimpanzee. It was found that the environmental configurations are not adequately organized into mental or phenomenal configurations, or are not apprehended as such, and that in consequence the adaptation of the individual's behaviour to environmental stimuli is definitely inefficient. Again, with the puzzle-box tests the results showed a definite similarity to those obtained by analogous experiments with animals, especially the anthropoids. Most of the defectives did not rise above the general trial-and-error method reinforced by a capacity to learn, which is the way in which experimental animals tackle the problem. If, therefore, we have here a more or less continuous grade from the animal world to the high-grade European, at any rate in respect of certain important and fundamental psychological functions, this opens up a field which may help to solve several problems of mental activity which are at present obscure.

In the realm of psychiatry, equally interesting problems are presented. If amentia is due to a state in which a proper development of the cortical neurones has never taken place, and dementia is one in which these are in the process of falling out through premature death, then a comparison of the behaviour of aments and dements should be a matter of considerable interest and importance.

Again, as has been said, mental defectives are equally subject to ordinary disease-processes as are other members of the community, but they also exhibit the functional psychotic reactions of schizophrenia, cyclothymia and paranoia. These are not, so far as we can judge, associated with any demonstrable lesion of the central nervous system, and even their psychopathology is by no means clear in spite of the ingenious explanations of the various analytic schools. Hence the careful study of these reactions in persons who have an imperfect
nervous system must be of interest both in respect of how the amentia affects these reactions and how the reactions affect the amentia.

It would, therefore, seem worth while for those who are interested in the many unsolved problems concerned with brain and mind to consider mental defect as a field well worth ploughing; in this respect at any rate it is possible that the unfortunate defective, whose advent into the world we do not seem to be able to prevent, may turn out to be of greater use than at first seems possible.
Editorial: The Study of Mental Deficiency in Relation to Neurology and Psychology

*J Neurol Psychopathol* 1934 s1-14: 257-260
doi: 10.1136/jnnp.s1-14.55.257

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