usually have a normal or slightly reduced gastric acidity, although in patients with tropical sprue, and occasionally in non-tropical steatorrhoea, achlorhydria (not always histamine-refractory) may be noted quite often.

Fat Absorption

While in patients with tropical sprue the typical bulky fatty stools are obvious, it may only be necessary to determine the fat distribution in a simple sample to confirm the gross failure of absorption. In mild cases of sprue and in most cases of non-tropical steatorrhoea and coeliac disease, a single fat analysis may be inconclusive. It is then necessary to carry out a fat-balance test in which the patient is given a fixed diet containing 70 g. of fat, and the fat or fatty acid contents of the faeces are determined daily over a twelve-day test period. The first three daily totals of faeces are bulked together, and the average figure determined for fatty acids. If there is 95% absorption there is no abnormality of fat-splitting and absorption, but less than 70% indicates definite abnormality. If the fatty-acid determination indicates 80-93% fat absorption, further daily estimations must be made until the daily output of fatty acids or fats remains constant. If the value for fatty acids in the daily output is equivalent to less than 90% of the total daily fat intake, the steatorrhoea is confirmed.

Therapeutic Test

When all the preliminary and confirmatory examinations have been made the final test is the therapeutic one.

In pernicious anaemia and the agastric anaemias requiring or expected to respond to hog's stomach, liver extracts, or vitamin B₁₂ (cyanocobalamin), the appropriate dose is given. 1 to 2 ml. of liver extract intramuscularly daily for three days or 100 µg. vitamin B₁₂ subcutaneously daily for two to three days. A reticulocyte count is made daily and determinations of the haemoglobin and the red blood cell count twice weekly. No other treatment should be given during this test. If the diagnosis and treatment are correct then the reticulocyte count will rise rapidly in the course of the following four to eight days to a maximum peak of 15 to 60%, depending on the dosage and potency of the specific treatment and the initial depression of the red-cell count. At an initial level of 1,000,000 red cells per c.mm. a peak of 30 to 40% reticulocytes would be expected, while at 2,000,000 per c.mm. a peak of only 15 to 25% reticulocytes would appear. At the same time the number of red blood cells and the haemoglobin value would rise steadily and progressively to normal levels with further treatment. These results would thus confirm the diagnosis of a macrocytic hyperchromic anaemia due to the expected deficiency.

The non-Addisonian macrocytic hyperchromic anaemias do not respond to liver extracts and vitamin B₁₂. But, after a negative response in the above test, the administration of folic acid, 50 to 100 mg. parenterally for two or three doses, or of 10 to 20 mg. orally daily, will produce a similar haematological response. Failure to respond suggests an error in diagnosis, inadequate or inactive treatment, or some other complicating and concomitant disease or factor.

Conclusion

As a rule the differential diagnosis of these hyperchromic megaloblastic anaemias can be made quite readily by a full blood count, marrow biopsy, and an evaluation of the gastric secretory function.

A diagnosis of pernicious anaemia is certain if there is a macrocytic hyperchromic anaemia, with an active (hyperplastic) megaloblastic bone marrow, and an achylia gastrica, and there is a full haematological and clinical remission after adequate treatment with an active liver extract, vitamin B₁₂ parenterally, or hog's stomach orally. (Note: Folic acid must *not* be given to patients with pernicious anaemia or subacute combined degeneration of the spinal cord, as it causes the onset or worsening of the cord symptoms.) If there is additionally a history of total gastrectomy or

destruction of the gastric mucous membrane, then the pernicious anaemia is secondary to such gastric secretory deficiency.

A hyperchromic macrocytic anaemia with a megaloblastic marrow, but with a normal or reduced gastric acidity, may be seen in sprue, idiopathic steatorrhoea (non-tropical sprue), or coeliac disease. Clinically there may be a history of large bulky frequent pale stools with a variable degree of disturbance of fat absorption as shown by the fat-balance test. This type of anaemia fails to respond to vitamin B₁₂, but improves with folic acid or the less purified types of liver extract. The non-tropical sprue-like conditions may also be associated with a normoblastic marrow, in which case they will not respond to folic acid but will require iron.

A similar hyperchromic anaemia, with megaloblastic marrow, but without achylia gastrica, in a pregnant woman indicates macrocytic or megaloblastic anaemia of pregnancy. This again will respond to folic acid, but not to vitamin B₁₂. It does not require continued treatment.

Next article on Clinical Pathology.—"Investigation of Haemolytic Anaemia," by Dr. John F. Wilkinson.

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RESETTLING MENTAL DEFECTIVES PSYCHOLOGICAL AND SOCIAL ASPECTS*

BY

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The type of adult female defective here discussed is determined primarily by administrative considerations. The ordinary mental deficiency colony caters for all types of defectives and can occupy a considerable proportion of the higher grades in work useful to the institution. A children's hospital such as the Fountain Hospital, which caters for 700 mentally defective children, has no such labour available, as any child who is at all trainable is in the hospital school and occupation centre. For many years, therefore, it was the custom to transfer adult "working" patients from other institutions to the Fountain Hospital to work in the wards and laundry. About 80 such patients were accommodated in the hospital itself, but in 1950 they were transferred to the newly opened annexe, South Side Home, at Streatham.

These patients came from other mental deficiency institutions. It must be stressed that they were classified as unsuitable for licence to a job in the community but possibly suitable for occupation as so-called "workers" in the Fountain Hospital, for which they would receive a small amount of pocket money—formerly sixpence a week but now a few shillings.

Material under Review

Transfers.—From 1918 to the time of writing 327 such adult patients were transferred to the Fountain Hospital. As institutions tend to keep their best workers, those sent to other hospitals are seldom of

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a high standard. Consequently a large proportion of those transferred were incompetent or emotionally disturbed defectives. As a result nearly half of these patients were in due course returned to their original or some other institution. The remaining 166, plus nine patients who came as children and remained as adult workers, form the group of 175 adult females which is discussed. During the last 10 years an experiment has been conducted to see how these patients would fare in the community. As they had not been sent out on licence by their previous hospital, the presumption had been that they were regarded as unsuitable for supervised life in the community. It seemed, therefore, rather a forlorn hope to work on this group of failures specially selected by others for their unsuitability for licence. Nevertheless the experiment was made.

Discharge Rate.—So far 140 out of the 175 have been found employment in the community, and 101 of these have already been discharged under the Mental Deficiency Acts. Of 100 consecutive patients placed on licence 73 were discharged. Even with carefully selected licence cases a discharge rate of 73% would be a high one, but, as has been pointed out, these patients were regarded as unsuitable for licence, hence their transfer to the Fountain Hospital.

What do we know about the patients in this group? The outstanding feature is that they are a very mixed sample with a wide range of attributes. Their ages range from 16 to 66; their ages at certification as defectives ranged from 3 to 39. The dates of first certification extend from 1909 to 1950. Their ages when first licensed from the Fountain Hospital varied from 17 to 59. In view of this very wide scatter there is no particular type of patient that can be regarded as characteristic of his group, but on an average patients were 20 years old when certified and were placed on licence after an average of 20 years in institutions. It is remarkable that after so long an absence from the world they have been able to survive when suddenly returned to it.

Social Factors

Of the 100 consecutive patients put on licence, of whom 73 have been discharged, 17 (17%) were illegitimate. Children born to unmarried mothers have no normal home life, and illegitimacy nearly always means separation from the mother and institutional upbringing from a very early age. Emotional and apparent mental retardation is common in such children, and one may wonder whether they would all have been certified as mental defectives if they had had a more stimulating and secure childhood. Of the 72 legitimate patients whose sibship is known the average number of siblings is seven. In this relatively small group six patients were one of 11 siblings, and there were families of 12, 13, 14, 15, 16, 17, and 18 children. In the days before family allowances such large families must have implied poverty and overcrowding. The resulting lack of supervision and early training may well have been a factor in the mental immaturity and intellectual subnormality of these patients.

Standard of Education.—Some patients had been to elementary schools but had made poor progress. The majority had gone to special schools, but others had had very little schooling at all because of truancy, bad homes, or too early certification as defectives. A large proportion were therefore almost illiterate. Some later learnt to read and write on their own; others attend L.C.C. evening classes at the South Side Home for reading and writing. It is difficult to assess the level of intelligence of these patients because several factors obscure the true picture. Inadequate opportunities for special education, the stultifying effect of many years in an institution, and the unsuitability of the Binet type of test for these patients make the usual I.Q. figure meaningless.

Intelligence.—In the 100 consecutive licence cases the Binet I.Q. prior to licence ranged from 34 to 73, but experience of the world enabled most of these patients to

improve their score on this test. There was usually a gross discrepancy between the Binet and the Wechsler-Bellevue I.Q. Many patients score 20 points more on the latter test, which is a much better measure of their capacity, and some show differences of as much as 35 points. Some of our recent admissions have had I.Q.s of 100, which raises the vexed question of the relationship between intelligence and mental defect. Whatever the I.Q., these patients need experience of the normal world if they are to survive in it. In an institution they are cut off from many aspects of normal life, with a resulting atrophy of cognitive and affective functions. The first step to the rehabilitation of these defectives is to give them possessions and a locker to keep them in, clothes of their own and money to buy them with, stimulating work with adequate rewards for working, and a day off each week when they can go out on their own and exercise their initiative and broaden their experience on buses, in shops, and in cinemas.

Freedom.—For several years those patients at the South Side Home not on licence have been allowed one free day every week, when they go out, usually with another patient, but without any nurse or escort. Armed only with a card giving the hospital address and telephone number, they learn the ropes from each other and from their own experience. Some go to Brighton for the day, and, what is more, come back. It is this opportunity of freedom and experience which is the basis for successful licensing and ultimate discharge. In some institutions patients remain on licence for many years, with the constant threat of recall, and lose all hope of freedom. I believe that in general these patients appreciate their discharge and will not risk recertification. If a female is going to get herself into trouble she will do it while on licence or even in the hospital. Her opportunities are no greater if she is discharged.

Pregnancy

When dealing with female defectives the biggest single problem is the risk of pregnancy. Of the 100 consecutive patients on licence, only one, the hundredth, became pregnant while on licence. Lest it be thought that this group was singularly infertile, I should explain that before their transfer to the Fountain Hospital, and usually prior to certification, 31 of these 100 women had between them had 52 children. Many people believe that almost all of the offspring of defectives are themselves defective. It is encouraging to find that many of these children are normal, and that some, having grown up, have had their mothers discharged to their care.

It will be realized that, whatever the reason given at the time for certification of these patients, illegitimate pregnancy was the precipitating factor in a considerable proportion of the cases. Better facilities for the unmarried mother will reduce the need for certification under the Mental Deficiency Acts. Illegitimate pregnancy is not in itself a sign of mental defect. In view of the high percentage of first pregnancies conceived outside matrimony in the population as a whole, proper evidence of mental defect should be furnished when a slightly subnormal woman is in trouble.

When the large sibships of some of these patients (16, 17, 17, and 18) are remembered, it may be that their fall from grace was precipitated by an inherent fertility while other equally poorly endowed citizens avoided certification by not producing a baby.

Employment ; Marriage

These defectives have learnt to do laundry work and various jobs in a gas-mantle factory, but most have obtained domestic jobs in private houses or hospitals. Hospital jobs are the more popular, as the girls are used to institution life and get more company and better pay. As resident hospital domestics they get the full scale of £4 18s. 6d. a week, less tax, insurance, and superannuation, and a charge of 33s. for board and lodging. Some are improvident and spend their money, others have several hundred pounds in

their Post Office accounts. One girl who became a senior maid in a hospital flew to Dublin for her holiday.

The regulations state that the patient while on licence must not form attachments to members of the opposite sex. Usually such behaviour results in the recall of the patient to the institution. This is one of the most difficult problems for the superintendent who wants to give his patients a fair chance in the world but must keep at least one eye on his reputation with the authorities.

It is natural for girls working with normal domestics and earning their living on the same terms in hospitals to behave in the same way as their colleagues. They will go out together and visit dance halls, etc., and meet boys. It is very difficult for a licensed patient to announce that she is a certified mental defective and is not allowed to meet boys.

My attitude has been that if such conduct is forbidden it is usually driven underground and becomes more dangerous in its results. I have encouraged the girls to feel that we should prefer to know if they have men friends and will not automatically ban them. As a result several men have come for a talk. Sometimes the undesirable type out to take advantage of the defective girl is warned of the legal situation with regard to intercourse with a known mental defective. If the friendship seems to be a genuine one the defective's discharge is recommended so that she is free to make normal emotional attachments, and, what is more, is free to get married. If the defective is forbidden to marry she can hardly be blamed if she eventually produces an illegitimate child. Several of my patients who were discharged in good time have since married and settled down satisfactorily in their own homes. Some have produced normal, healthy children; one is proud of her twins.

If ultimate success on licence is to be achieved those responsible for the welfare of this type of patient must be willing to risk several apparent failures with each case. One must persevere in finding alternative jobs until the patient has learnt to adjust herself to outside employment. If failure in the first job on licence is followed by recall and a further period in the institution, the patient has to re-adjust herself to a different mode of life, and will later be no better able to cope with the world after an interval away from it.

Learning comes by experience, and the maturation which is so evidently delayed in many of these patients will not occur simply with the passage of time spent in an institution. To develop towards normality the individual must experience and be able to respond to the formative stimuli of the ordinary world. Living is itself a conditioned response.

Certification

A scrutiny of the medical certificates which originally formed the basis for the detention of these patients makes one wonder if enough care was given in some cases to the evidence on which the diagnosis of mental defect was based. A practical difficulty in the borderline cases is that there are still so few alternatives to detention in a mental deficiency institution once a social problem case has come to the notice of the authorities. There is as yet no method of providing training and supervision on a voluntary basis comparable to the voluntary status under the Mental Treatment Act or the even freer access to neurosis centres.

Hostels

A considerable proportion of the patients in this experiment welcomed help and guidance if it was offered freely, but rebelled against coercion. This is shown by the behaviour of those who would run away from South Side Home while under a detention order, but who wanted to come back and live there temporarily if they were out of a job after their discharge. There is a need for a special hostel to help patients who have been discharged. If such hostels could be developed they would be available also for those who need help on a voluntary basis if they are to avoid certification.

Such hostels would work in close co-operation with, but distinct from, the mental deficiency institution and share the same team of social worker, psychologist, and psychiatrist to ensure continuity of supervision and follow-up. They could deal with the psychological and social aspects of the resettling of defectives more effectively than can the large institution designed for custodial care.

Conclusions

Mental deficiency practice has consolidated within the framework and experience of an Act designed 40 years ago in very different social circumstances. This has resulted in a wastage of human capabilities which I believe can, in more favourable circumstances, be developed and utilized to better advantage both to the individual and to the community. Mental deficiency of the so-called feeble-minded category is in many cases not a clear-cut clinical entity of an irreversible nature. Too often, as I have tried to show, it is the diagnosis which has created the disease.

THE CONCEPT OF RACE

A conference on "The Concept of Race" was held in London on May 15 under the auspices of the Medical Association for the Prevention of War. The discussion was opened by Professor L. S. PENROSE, F.R.S., who spoke of the mental and psychological characteristics of populations. He deprecated the way in which conclusions in this field were still so often based on impressions, as, for example, that the Chinese were "cunning and impassive," the Irish "bellicose," and the Germans "sentimental and ruthless." These traditional characterizations were not supported by scientific evidence.

So far as the evidence of psychiatry went, the types of mental disorders prevalent in different parts of the world were the same. According to a U.S. Army survey, levels of intelligence were highest in men of West European and Japanese origin, lower in people of Eastern European origin, and lowest in Negroes. In fact, there was great variation between the residents of different States, and the Negroes of New York and Pennsylvania ranked higher than Whites from Mississippi, Kentucky, and Alabama. Where differences were found, they might be either hereditary or environmental in origin; they did not necessarily imply that one group was inferior to another.

Dr. N. A. BARNICOT said that individual variation within groups was usually greater than the differences between groups. It was impossible to group individuals biologically according to geography, nationality, or religion. For example, judged by skin colour the African and Australian natives were similar and were distinguished from the European; judged by MN blood groups the European and African were similar and were distinguished from the Australian; judged by the sickle-cell trait the European and Australian were similar and were distinguished from the African.

There was evidence that characteristics which had been thought to be fixed could be altered by the environment—for example, the basal metabolic rate of Eskimos—and what was at one time regarded as a genetic weakness might have had a real adaptive value. The inheritance of one factor for the sickle-cell trait had been shown to give protection against malignant malaria.

Mr. S. SACHS discussed the social differences between races, and Dr. D. G. LEYS examined the question of whether there was any scientific justification for the separation of society into strata. Doctors, he said, had an opportunity to counter the tendency towards racial embitterment by helping to ascertain and spread knowledge about the biological truths behind the concept of race.