Food collects between the cheeks, and the urine and motions pass involuntarily.

The chief pathological condition in the brain is a collection of lymphocytes in the peri-vascular lymphatic channels, which cells are said to withdraw the oxygen otherwise meant for the neurons.

As to the trypanosoma itself, I hand round the four reports of the Royal Society, and the joint paper of Drs. Rose Bradford and Plimmer in the *Quarterly Journal of Microscopical Science*, the latter showing the special trypanosoma of the London sewer rat, and I here express my indebtedness to Dr. Plimmer for his trouble in giving me personally much information.

The trypanosoma has (1) a micro-nucleus; (2) a macro-nucleus; (3) an undulating membrane which all stain with erythrosin; and (4) a vacuole and a flagellum. As to the multiplication of the rat trypanosoma, that of the conjugation of two cells is one method; the micro-nuclei fuse and then divide, and the division appears to be more vigorous after conjugation. The second method appears to be analogous to that of the plasmodium, with amœboid movements. A bunch or tangle seems to be formed in which the micro- and macro-nuclei mix together, and then amœboid bodies are thrown off, from which it is not quite certain, but it is surmised that the complete trypanosoma grows. Phagocytes are seen to attack the amœboid forms, and the plasmodium may, by blocking up the vessels, produce stasis. It is interesting to note that although the multiplication of these lower organisms appears to be in a great measure by fission, they may multiply by conjugation, which appears to reinforce their vitality. The division of the *Paramœcium* was watched by Calkin until fission had taken place to seven hundred times, after which there was no further vitality to reproduce itself in this manner.

Notes on Adolescent Insanity in Dorset.

By GEORGE A. RORIE, M.B., Senior Assistant Medical Officer, Dorset County Asylum.

CONSIDERABLE attention has recently been directed by several observers to adolescent insanity and dementia præcox,

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and an increase in the numbers of these varieties, especially of dementia præcox, has been stated to occur, which means an increase in the more hopeless and demented cases. Dr. Wood, for instance, at the Annual Meeting of the Medico-Psychological Association, remarked on the increase in the number of cases of mental breakdown during the age of puberty and adolescence among persons of the upper and middle classes—the ages of which on admission he placed at from eighteen to twenty-eight years—and he suggested as a cause the greater strain of education and the worries of life during the present time. Again, at a meeting of the Section of Psychological Medicine of the British Medical Association, Dr. Robert Jones mentioned an increase of dementia præcox and a general increase of the less curable forms of insanity.

Under these circumstances it appeared to me to be an interesting investigation to ascertain what facts could be elucidated from the cases at Dorset County Asylum regarding these points, the patients admitted being mainly of the agricultural class.

A series of cases was drawn up, extending back to the year 1856, including all cases of pure adolescent insanity—that is to say, between the ages of fifteen and twenty-five on admission. It is noticeable that a large number of imbeciles and epileptics were admitted during this period of life, the state of adolescence probably being a definite exciting cause in such cases of outbursts of restlessness, excitement, and violence, which conditions rendered it necessary for them to be sent to an institution.

On examining the cases of pure adolescent insanity, one finds that they roughly divide themselves into three groups—(1) simple forms of insanity of a maniacal or melancholic type, which recover in a few months, and as a rule do not recur; (2) recurrent forms, in which the primary attack is recovered from satisfactorily, but which relapse, the recurrences taking place at intervals for many years, and even in many cases for the rest of their lives; (3) those cases which pass rapidly into hopeless dementia.

These three groups are pretty easily recognised, though cases are found connecting all three varieties with each other. The percentages of the groups from the total cases collected were about 34 *per cent.* simple, 15 *per cent.* recurrent, and 50

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per cent. of dementia among the males, and 40·2 simple, 21·2 recurrent and 38·2 of dementia among the females; it is thus seen that 50 *per cent.* of the males and nearly 40 *per cent.* of the females become practically hopeless cases, which result agrees closely with the figures given by Dr. Clouston, provided the recoveries from the recurrent cases are included.

As regards these simple cases, there is little to be said. The majority were cases of mania, though some were melancholiacs. The cases of mania show the usual characteristics of the adolescent period, and are marked by exaggerated self-consciousness, exalted ideas of self-importance, noisiness, senseless laughter, obscenity, and erotic ideas, hysteria being a common symptom on the female side. These cases usually recover in a few months. though slight relapses often occur before the final recovery.

The recurrent cases were also usually of a maniacal type, being excited, restless, confused, and childish—chattering nonsense—and often having fleeting delusions and hallucinations. They usually recover in a short time, but seem unable to keep well for long when away from the restraining influence of asylum life; they may be discharged, return to situations, and do fairly well for a time, but usually after a year or two return, often with the same type of attack as before, from which they may again recover. It is a question, however, whether these cases should not be included in the last group, as there is almost always hereditary predisposition to insanity, and there is often a gradual weakening of mental powers noticeable after each attack; in fact, in the worst cases, they appear to become unfit for life out of an asylum, though appearing well while in it; they suggest a much extended case of dementia. As an example may be given the case of I. C—, a woman admitted first in 1863, æt. 20, suffering from an attack of acute mania. She recovered in four months, was re-admitted two months later with a similar attack, recovered in ten mouths, and so on for thirty-three years, having ten attacks, in the last of which she died. In all these attacks she was noisy, excited, and destructive, but was worse and more depraved in habits in the latter attacks. Even during each attack there was a tendency to improve and relapse, and I have no doubt that the same thing occurred to a less extent while she was out of the asylum.

It is to the last group—the cases of rapid dementia—that I

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wish to pay most attention. These cases have been described under the names of premature dementia and dementia præcox, and under the latter name have been subdivided into three types according to the predominance of certain groups of symptoms, namely, hebephrenic, katatonic, and paranoid forms.

As regards the cases collected, the majority approximated to what is described as the hebephrenic variety, though a considerable number were katatonic, especially among the female cases, a few only relatively being paranoid; but many showed such a variety of symptoms that it would be difficult to classify them satisfactorily.

The average age was about twenty-two, the youngest male being fifteen and the youngest female sixteen on admission; but the symptoms very often extended over a considerable time previous to admission—often years,—and if a careful history is obtained may be occasionally traced back to birth. In one case, in which the mother gave a history of shock during pregnancy, the child was slow in learning to walk and talk. It was backward at school, peculiar in disposition, and ultimately developed more acute symptoms. Another example is as follows:—The patient, a female, was backward at school, would not associate with other children, had many governesses with whom she could not get on, and whom she thought cruel, was difficult to manage, and remained long in bed in the morning. As she grew older her menstruation became irregular, and from that time on she was under treatment as a "neurotic" by doctors, hypnotists, and Christian scientists; she became worse, developed delusions about her relations, was at several homes, and was finally certified as insane.

Many of these cases while in this stage land into the hands of the police before being certified, owing to assaults, vagrancy, etc., and many of the women lead the lives of prostitutes. The conditions which lead to these patients being sent to an asylum are often either attempts at suicide or attacks on friends and relations, frequently due to hallucinations of hearing or delusions of persecution.

The above examples exhibit a few of the common symptoms met with at the beginning: the confused and lost condition of mind generally, the excitement often associated with violence, the alteration of feeling towards friends and relations, and the frequent occurrence of delusions and hallucinations; a large

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proportion, both male and female, were masturbators; this habit, though often given as a cause, being in all probability a symptom, just as the frequent occurrence of "religious excitement" —often given as a cause—is no doubt a symptom. They are most pitiable cases, and it is most painful to see evidently fairly healthy young men and women in this state, especially in the stuporose cases, where they are the picture of hopeless dementia, the expression a blank, resistive, and often cataleptic, and the saliva dribbling from their mouths; this last symptom, often associated with refusal of food, being difficult to explain satisfactorily. They are also almost always dirty and wet in habits, often very destructive, usually in an aimless way. They all have the common tendency to pass rapidly into dementia, some from the very beginning, others after some months or longer of the acute stage; many showed a marked relapsing tendency, having exacerbations of the acute symptoms. Other marked symptoms and habits, such as posturing, stereotyped movements, picking sores, pulling out hair, etc., could be mentioned, but these cases have been fully described in the recent text-books.

After passing through this very troublesome wet and dirty stage, these cases, if they live, often become quiet, clean, and fairly useful dements, and appear to enjoy life to a certain extent, but many are miserable and hopeless wrecks to the end.

A remarkable feature to me was the prevalence of tubercle in these cases; some were strumous or phthisical when admitted, and though one would expect to find these cases with a liability to tubercle, I was surprised to find the tubercular death-rate so high, especially as phthisis is not a very common cause of death in this asylum. Twenty-one out of thirty-seven men died of phthisis and other tubercular diseases—one case of "marasmus" not being included—and thirty out of forty-three women, the other causes of death being mainly apoplexy, heart disease, and cancer. Turning to the cause, one finds, as one would expect, that the hereditary predisposition to insanity is a common factor, though it is not ascertained in as many cases as it should be for a variety of reasons. There appears to be no special relation as to which side—paternal or maternal —is affected.

Here it is interesting to notice that one frequently finds

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several cases occurring in the same family and coming on at much the same time of life; thus I have found five cases of two brothers being affected, four of two sisters, two of brother and sister, and in one case three sisters, all cases of imbeciles and epileptics being excluded.

The exciting causes stated most often among the male cases are over-study, religion, accidents, and after fevers, and among females, religion, worry, and after fevers; but there is little doubt that religion, masturbation, and hysteria are symptoms of the disease referable to this period of life. Everything points in these cases to their being developmental, that there is a fault somewhere from the beginning; the frequent history of hereditary insanity or phthisis in the family, the stigmata often met with, the occurrence of several cases in one family, the gradual development—often dating back to birth,—the period of onset, the progressive degeneration, and the prevalence of tubercle all lead one to believe that they are developmentally weak, and whether any other exciting cause, such as those given, be necessary or not is a question. It is possible that the extra strain of over-study, exhaustion from disease or the shock of accident may help to determine the attack, but to me it seems unnecessary. As an observer has stated, it appears as if mental vitality was provided sufficient only for childhood and early youth and not enough for the whole existence; there is evidently an all-round degeneration on the part of the patient. As regards the question of increase, I find that there has been a definite though irregular increase in the proportion of these cases admitted during the last ten or twelve years, some years being more marked than others. The recovery rate in these adolescent cases remains much the same, though it appears rather smaller during recent years than thirty years previously; the explanation of this is a matter one cannot discuss at present, and is an important social question.

Discussion

At the meeting of the South-Western Division at the County Asylum, Wooton, Gloucester, on November 3rd, 1903.

Dr. Soutar thought that members would agree with him that they had listened to an extremely interesting and instructive paper, and he was glad to find that clinical subjects were again coming into vogue. Dr. Rorie's paper showed that the great mine of clinical research was not yet exhausted. Whether the type of insanity they were considering should be called adolescent insanity or spoken of merely as insanity occurring during the period of adolescence he was not prepared to say. Broadly speaking, the cases which were classed as adolescent were those

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which occurred between the ages of eighteen and twenty-five, but between these and cases which occurred at a later date it was often very difficult to recognise any particular difference. It was convenient, however, to classify those occurring in the earlier period, when by far the larger number broke down, as cases of adolescent insanity. He agreed that the great cause was heredity. He might be under a misapprehension in taking Dr. Rorie to say that masturbation was to be looked upon simply as an indication of the mental condition; he (Dr. Soutar) thought that it must be regarded as an important contributing cause in many cases of adolescent insanity. From his experience he thought they could distinguish two definite classes among these adolescent patients: those in whom masturbation was occasional and merely one manifestation of a general loss of self-control, and those who were by habit inveterate masturbators. It was the latter class who very soon fell into the third group mentioned by Dr. Rorie. Amongst these adolescent patients there were many in whom feeble circulation was a marked characteristic. In the treatment of such cases he had found advantage, he thought, from the administration of strophanthus and belladonna in full doses. He did not argue that the patients owed their recovery to the use of these drugs alone, but merely that the drugs, in conjunction with the other agencies usually employed in the treatment of such cases, contributed to their recovery.

Dr. AVELINE said that an interesting point in Dr. Rorie's paper was the increased number of these cases. They heard so much of the alleged increase of insanity that he thought the point worthy of investigation. When one looked through the list of patients in asylums, one found that many were admitted at an early age, and remained to swell the proportion of the chronic dements.

Dr. MACDONALD said that the point referred to by Dr. Aveline was perhaps the most important, namely, was there any increase of this class of case? If they tried to answer the question from published facts, there could be no doubt there had been an increase. Dr. Rorie's paper was a valuable contribution on an important matter, and one which was likely to become more so as the public awoke to the increasing scourge of over-crowding in many of our cities.

Dr. STEWART said the subject of the increase of insanity was one which had engaged his attention for a great length of time. The cases to which Dr. Rorie alluded had increased for two reasons, according to his (Dr. Stewart's) view. One was that the training which the young people of the present day received tended to precocity. The second reason was that the desire for wealth at the present time and the wish to live up to a higher standard of comfort were much greater than obtained forty or fifty years ago.

The CHAIRMAN thought that the present system of education was largely responsible for the filling of asylums with young patients. The old system of obedience to parents appeared to be quite upset, and children were brought up now-a-days to think that they knew more than their parents. He believed that the license and liberty permitted to girls and boys in the present age had proceeded to such an extent that when they encountered the first sharp shock of opposition they were not equal to it and broke down. He agreed also that a neurotic heredity constituted a predisposition to insanity.

Dr. RORIE, in replying to the discussion, said that he had tried various cardiac and other tonics, but not strophanthus. As regarded causation, he did not suggest any special mental strain, and in his paper had alluded to the cases being mainly agricultural as distinct from those occurring in the urban districts.

The Relation of Hysteria to Insanity. By F. W. EDRIDGE-GREEN, M.D., F.R.C.S.

THERE are probably few conditions which are more difficult to define than hysteria. It is unsatisfactory to make any

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