THE AFTER-HISTORY OF SOME CASES OF EPIDEMIC ENCEPHALITIS, WITH ESPECIAL REFERENCE TO CHANGES IN CONDUCT.

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During the past two or three years attention has been drawn to the behaviour of a number of children in the elementary schools who have shown peculiar disturbances of conduct after absence from febrile illnesses which were very vaguely described by the parents, the chief feature being alleged long periods of unconsciousness or somnolence. On inquiry some of these cases proved to be those of children who had suffered from encephalitis lethargica; the names of these were recorded on a card index, reports being obtained at intervals so long as they remained at school. There has naturally been considerable wastage, but up to the present more or less continuous records of forty-four children have been obtained. In some of the cases the condition had been notified at the time of the original illness, in others the diagnosis had been made either at hospital or at a school medical examination some time later. The symptoms to which attention was drawn from the school were either unusual sleepiness, marked irritability or misbehaviour, or a falling off in educational ability.

In the majority of cases the initial illness was characterized by fever and some degree of lethargy; in about one-third of the cases there were definite physical symptoms such as partial paralysis, choreiform movements, tremors of the hand, or tics; and in a somewhat larger proportion there had been at one time a squint or diplopia. So far as a general description can be given, the children, at any rate on the occasion of the first school examinations, showed a combination of apathy with momentary irritability, a heightened sensibility to all environmental stresses, and a greater degree of suggestibility. There was a rapid onset of mental fatigue and inattention, so that a marked failure was observed in all tests requiring planning and concentration or exercise of self-criticism. In a certain number of the children neurotic symptoms were superadded to a genuine, though usually slight, physical disability.

The only feature of note in the mildest instances was the diminished power or will for attention in school, with a consequent falling off in school work. It was noticed that the attention returned earliest for
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interesting lessons. In others there was also a certain amount of falling asleep in school, but in these it was often found that the child was restless and had difficulty in getting to sleep at night, so that part of the sleepiness in school may have been of a physiological nature. In the course of time this has passed off, the child first keeping awake for interesting lessons and going to sleep for the longest time during such lessons as arithmetic. The intellectual condition as estimated by school work and tests has largely recovered, in the majority of cases, though the rate and extent of the recovery seems to have varied with the age at the time of the initial illness, the youngest cases being the slowest to recover. In some the mental state, educationally at any rate, amounts to 'mental deficiency,' though it is scarcely possible even yet to express a certain opinion as to the permanence of the condition.

A somewhat more severe condition is illustrated by the case of a little girl of ten, concerning whom the head mistress wrote that she had a peculiar temperament and tendencies. She had been very ill with 'sleepy sickness,' and when she returned to school she used to fall asleep every morning and afternoon. Three years later she was reported as having been for some months a source of difficulty to all her teachers, seemed to have no moral sense, took school material and even money, could not speak the truth, was spiteful to others, and wished to go her own way in all respects. When spoken to she simply went to sleep, and on one occasion when sent to the head mistress to be reprimanded was found by her asleep outside her door. This description by an experienced mistress fits many cases and indicates the most salient features of their behaviour, namely, an egocentricity as marked as that of a very young child, coupled with a far greater power of taking refuge from unpleasant environments by a withdrawal of consciousness. Most of these, so long as they are not crossed, are described as lovable children, but with no power of self-control. They seem to have lost all power of weighing up a situation, and react at once by violence or screams. They express great contrition for their actions, but repeat the behaviour very shortly after. At this stage it is clear that remonstrances and punishment have no effect, yet after a time they are more appreciative of punishment and are less ready to misbehave when an instant retribution is probable. The difficulty is that this phase is often overlooked, especially by the parents, so that the children discover that by screams or struggles they can gain their desired ends. Once this discovery is made the convalescent child, like the normal infant, takes full advantage of his opportunities.

A good example of this was shown by a boy of twelve, who after encephalitis displayed behaviour disturbance, misconducting himself violently so that he could not be kept at school, although his responses to intelligence tests were above the average for his age, and his work,
when he chose, could be very good. He preyed on the neighbourhood, being let off several times on account of ill-health, but was at last charged and sent to an industrial school. Once there he resumed his tactics with a brief success, but on being told by the superintendent, on medical advice, that he was not immune from corporal punishment, he behaved well until sent on a fruit-picking expedition which he disliked, when he threatened to commit suicide. By this he achieved his immediate end in being sent back to the school, but lost various privileges, and finally realized that the threats were to his own detriment. He improved sufficiently to enter the army as a band boy, where he did well for over a year, but, on again meeting some petty difficulties, he took to pilfering and was discharged. The effect of the discharge, which he evidently did not intend to secure, again steadied him, and he has been satisfactorily reported upon for the last few months. He expresses himself as unable to stand small worries, and admits he then loses all control at once, or that he does not attempt very seriously to control himself. This inability to withstand petty worries has been pointed out by sufferers of a better social class, who say they can no longer overlook matters that they formerly took as a matter of course. The type of reaction in many ways resembles the peevishness shown by many normal persons who are convalescent from some slight febrile illness, or even while they are suffering from a common cold, and probably indicates individual temperamental traits showing up when the acquired habits of inhibition are removed.

Another type is shown by a boy who suffered from an attack of encephalitis of an abortive character. Previous to this he had behaved well at school, and had gained a prize, but after his illness he proved intractable. His physical condition showed a slight degree of right-sided paralysis which really interfered very little with his efficiency, but, being laughed at by his relatives, and probably by his school companions, for clumsiness, he first became very moody and irritable, and then developed a marked right hemiplegia which for the time completely incapacitated him—an example of a 'functional' addition to a previously existing organic lesion. Ordinarily the affected limb appeared completely spastic, but at times, when particularly interested, he made some use of it, in which case there was a marked intention-tremor. His determination that the limb was useless was unaffected by the discovery that he sometimes used it. At the age of ten, after his illness, he showed a mental age of ten on the Binet-Simon tests, and one of rather better than eleven on Healy tests, so that there was little or no intellectual impairment; he could do school tasks at the time of examination, but was unwilling to work more than brief periods. His conduct showed a steady increase in unreasonableness and violence, and there was an obvious conflict with his family. Sent away to fresh
surroundings in the country, he improved steadily, and is now well reported on, but it is doubtful if he can be left with any one who does not understand his peculiarities.

Another improving case is that of a boy, aged sixteen, who suffered from encephalitis at the age of twelve. There was a history of marked fidgetiness, diplopia and, for a time, choreiform movements, restlessness at night and sleepiness in the daytime, together with a marked deterioration in attainments. On examination it was evident that his attention readily flagged; his mental age on Binet tests was eleven, and on Porteous maze tests fourteen, while his educational responses were only equal to Standard IV., which was much below his previous level. While under observation he proved a difficult lad to handle, and there was some evidence of conflict with his family, but his conduct was never of a seriously reprehensible character. Boarded out in the country, he improved steadily; reports at intervals of a year have all been satisfactory, and he is now undertaking light employment. This fortunate result is probably due to the fact that he was removed from his surroundings before too deep a state of rebellion had been aroused.

Similar treatment was tried on a lad of eleven who, after an attack of encephalitis, had shown violent conduct, being spiteful to others and inclined to hit out with any object that came to hand. Intellectually he was up to his age, but quite uncontrolled. After a change he improved somewhat, but directly on his return to home and school he showed further signs of violent temper, hitting other boys with sticks, kicking a baby a year old, and resenting all interference. Some attempt had been made to investigate his mental processes, but his attention had never been fixed sufficiently, so that it appears to have been abandoned. At present, some three to four years after the onset, he requires the control of a young child and cannot be trusted alone, but there is no evidence of retardation in his responses to tests, which advance pari passu with his age.

The youngest child observed had suffered in the second year of life from encephalitis, during which he had lain lethargic for three weeks and had become dirty and vicious, with a frequent exhibition of coprophagia, although previously he had been a bright baby. When seen at the age of four and a half his mental age score was 2.75, and there was a history of improved behaviour; at the age of five and a half the score was about 3.5. It would seem, therefore, that the arrest of development was only partial, but as the gain in the last year was only about half that of the normal child, there is reason to fear the impairment of intellect may be such as to necessitate a special school education.

An example in which the impairment chiefly affected educational aptitudes is that of a girl attacked by encephalitis at the age of eleven in 1920. She had lethargy, diplopia and some facial paralysis. When
seen in June, 1921, her score on tests was about a year behind; she could do reading and calculation, though not so well as previously; she found composition and poetry very difficult, but could keep up to the standard in history and geography. The teacher reported that whereas formerly she had been a very bright child, she was now very dull. There was no restlessness or difficulty in sleeping at night. In November, 1921, she was found to have made normal intellectual progress, but was further behind scholastically; she had occasional periods of lethargy in the daytime, with attacks of irritability and lack of interest. In February, 1923, she was reported as not nearly so irritable and to be making moderate progress in school, particularly in manual occupations. Later in the year it was said that her conduct had much improved; her progress was fair, so that she did the ordinary work for her age; she was brighter and exhibited more interest, but her concentration was erratic. She seems to be making a good recovery.

On the whole, the majority of the school cases have made favourable progress, the order being, first, an improvement in the general physical condition, the squint and diplopia disappearing within one to two years from the onset; secondly, a recovery of power of attention spread over a longer period; and lastly, and much more slowly, an improvement in the power of inhibition and a diminution of irritability. Misconduct has shown itself chiefly in the form of violent behaviour and wilful damage, in certain cases in repeated and deliberate pilfering, but no cases of sexual misconduct have come to notice. In practically all it may be said that the children have found lying a very present help in time of trouble, and the lies have often been of an unnecessary character, which would inevitably be detected. In general, the type of behaviour is that of the spoiled child of six or seven; even with careful management the re-establishment of normal behaviour has been slow and more troublesome than in younger children, while in very many the future has been gravely imperilled by alternate undue petting and unreasonable punishment, which has produced a secondary spirit of rebellion, rationalized by the subject as entirely due to the cruel behaviour of companions or parents. Owing to the impairment of attention set up by the original illness, the subsequent psychoneurosis is very difficult to dislodge.

Ordinarily, the cases showing most conduct disturbances have exhibited the fewest physical signs, but in at least two a progressive degeneration in the direction of the Parkinsonian syndrome has been evident after a time.

So far as the effects of treatment could be observed the most important feature has been the benefit following removal to a fresh
environment, away from all fuss. Success has been obtained both in residential schools and by boarding out in private families; but great difficulties attend the provision of such care, since neither schools nor foster-parents seem disposed to undertake a second case after their initial experience.
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