

Early mental disease.

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Publication/Creation

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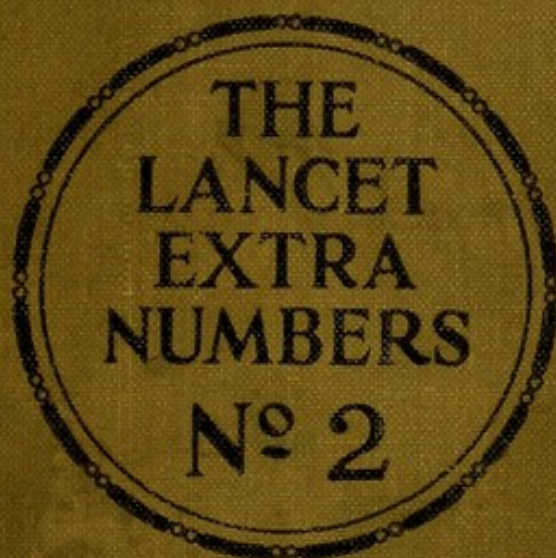
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EARLY·MENTAL DISEASE



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FOREWORD

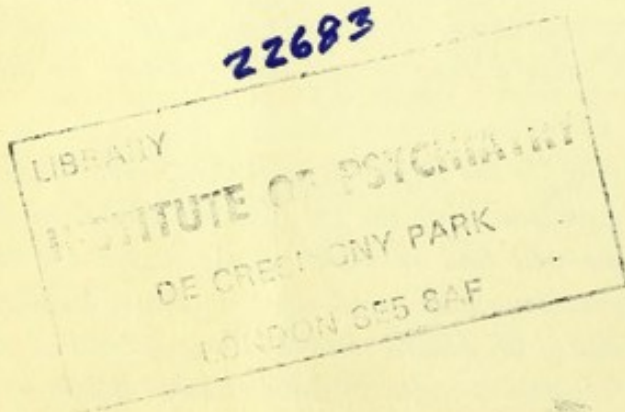
THE most important thing for the practitioner, for whom this work is especially constructed, is to know the signs and symptoms of mental defect or disorder at the earliest possible moment in infancy, childhood, or adolescence. The public is beginning to recognise that one of the greatest services the medical profession can render to the individual and to the State is the prevention of mental as well as bodily disease. The family practitioner, when of long standing, will have opportunities, denied to all others, of ascertaining the latent hereditary potentialities of character derived from the parental stocks, which come into being with the fertilisation of the ovum when the life of the individual begins. He will have knowledge of prenatal and natal conditions that may arise, and opportunities of observing the evolution of postnatal bodily and mental conditions of infancy, childhood, puberty, and adolescence. He will therefore be in a position to gauge the importance of heredity and of home and school influences, and the chances and opportunities—for good and evil—for the development, not only of the physique but of the emotional, intellectual, moral, and æsthetic characters of the individual ; these together make up the ego and serve to differentiate the personality of the subject from that of all other individuals. He can, by his advice and wise counsel to parents, guardians, and teachers, direct in the right way the upbringing of the individual from infancy to adolescence with the view to the evolution of the good innate latent potentialities of body and mind and the avoidance of bad habit formations in early life. It is these latter which by repetition become firmly organised and play an important part in the deterioration of character and in the production of disorders of conduct and mental disease in later life.

In this book he will find a series of essays by eminent authorities, the perusal and study of which will enable him to ascertain and recognise the causes and existence or possible existence of inherited, congenital, and postnatal mental defects and diseases in all the stages of life of an individual from conception to old age. The series points out in a clear and comprehensive manner symptoms—their early onset, the course of the disease, the prognosis and the treatment, with a view to prevention, arrest, or cure by treatment.

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FREDERICK W. MOTT.

22683



EARLY MENTAL DISEASE

BY A GROUP OF WELL-KNOWN AUTHORITIES

publ. 22 July 1926

PREFACE.

IN this Supplement an attempt is made to answer questions that arise in the minds of medical practitioners who are called in to pronounce on (1) the normality and (2) the certifiability of a patient who has manifested mental instability, disorder, or maldevelopment. There are various ways in which such a complex subject could have been attacked. The established psychoses might have been discussed in turn with especial emphasis on the early manifestations. Or the subject could have been treated in age-groups, the indications of various kinds and degrees of abnormality in infants, children, adolescents, adults, and the senile being discussed separately, and an attempt being made to estimate their significance. Still another classification might have been based on symptomatological grounds with special regard to early symptoms, such as insomnia, loss of weight, or anxiety.

There are apparent disadvantages in any one of these methods of classification when used exclusively. It was desirable to avoid the pattern of a text-book wherein disorders are described as they appear when definitely established; a rigid division into age-groups would mean considerable overlapping or cross reference, since many forms of insanity are not confined to one epoch in life; purely symptomatological classification, again, without any description of the psychosis to which symptoms may be pointing would be of little use, since many symptoms may indicate physical rather than mental disorder.

For these reasons it was decided to combine as far as possible the various aspects in a volume of which Part I. is devoted to the study of those early symptoms which, if persistent and progressive, should lead the practitioner to suspect mental instability; and Part II. to an account of the commoner psychoses and neuro-psychoses which may be met with in practice. Certain important considerations which find no place in Part I. or Part II. are grouped together in Part III. It is hoped that a certain amount of overlapping which is quite inevitable in any scheme will enhance rather than detract from the value of the work.

Editor of THE LANCET.

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PART I.—SYMPTOMATOLOGY.

CHAPTER I.—SYMPTOMS IN INFANCY: BACKWARDNESS, CONVULSIONS, AND NEGATIVISM.

BY H. CHARLES CAMERON, M.D. CAMB., F.R.C.P. LOND.,
PHYSICIAN, AND PHYSICIAN FOR DISEASES OF CHILDREN, GUY'S HOSPITAL.

Backwardness.—The Cretin and the Mongol.—Spasticity.—Infantile Convulsions.—Convulsions with Organic Brain Disease.—Toxæmic, Spasmophilia, Reflex, and Epileptic Convulsions.—Negativism.—Refusal of Sleep and Food, Refusal to go to Stool.

INTRODUCTORY CONSIDERATIONS.

AT birth and for some time thereafter the brain of the child is in great part undeveloped. Only those paths and those centres are active which control functions vital for the immediate needs of the newly-born child's existence, such as suction, swallowing, breathing, and so forth. Very gradually the higher cortical centres awaken and assume control, and no study is more fascinating than that of the amazing unfolding of the child in this his annus mirabilis, the first. We must know something of the time-table of the normal child's development. We must recognise the wide limits of variation which yet fall within the normal, and must learn to detect at a very early stage evidence of backwardness so great as to exceed those limits. In some, but not in all, cases of backwardness we shall be able to determine that they owe their defect to certain definite causes, or that they belong to certain special, clearly defined types, and it may be possible, following on this recognition, to see a little into the future, and to estimate with some accuracy the ultimate degree and character of the defect. It is no uncommon experience for the practitioner to be called upon to pronounce judgment upon the mental state of an infant at any time during the first year. Sometimes apprehension is aroused in the mother's mind at a very early age. Especially is this so if the child is not her first, but has had predecessors who have set, as it were, a standard for her observations. With a first child, on the other hand, it is astonishing how long a woman may remain ignorant of misfortune, if, in spite of great intelligence and of good powers of observation, she has no first-hand knowledge of the ways of little children. I have known the mother of a fat and flabby child, an example of severe mongolian defect, until far into its third year, record every day with satisfaction the story of progress which she never suspected of being distressingly slow.

Convulsive states, of very different ætiology and of very different prognostic importance, are common in infancy, and test severely the powers of the medical man to differentiate one from the

other, and among much that is trivial to recognise that which is calamitous. An infant, till then healthy, may suddenly be found with a high temperature, paralysed perhaps down one side of the body, and suffering from repeated convulsive seizures of great severity. The whole disturbance may be due to an indiscretion of diet, and the next morning may find every symptom gone. Yet such an attack may also be the preliminary to a long and serious illness, an encephalitis, from which the child may recover, but hemiplegic, epileptic, or an imbecile.

Again, in infancy it is not uncommon to meet with states of negativistic restlessness and of uncontrolled emotional display, often with refusal of sleep or with refusal of food, which are sufficiently serious to determine that a doctor's advice should be sought. With restless and excitable infants not only is sleep resolutely refused, but violent crying or screaming takes its place. By day and by night, hour after hour, the tense, rigid, emotional infant continues to resist all attempts at pacification, with restless movements and ceaseless cry. Wind from aerophagy, vomiting, mucous diarrhoea, and loss of weight are often directly due to the insomnia and emotional unrest, and are to be controlled not by drastic reduction of the food—for such infants even less than most can tolerate hunger—or by haphazard changes in the composition of the food, but only by measures which are effective in securing rest and sleep.

To deal with such situations, and to bring peace to the mother no less than to the child, is a demand that is made upon every doctor in general practice. They are considered briefly under the headings of (A) Backwardness; (B) Convulsions; (C) Restlessness and Negativism.

INFLUENCE OF ENVIRONMENT.

In the lesser degrees of retardation we must not omit to weigh the influence of environment upon the infant apart from all intrinsic variations in the state of the brain tissues. The infant on his mother's knee, played upon continuously by her face, eyes, and voice, suffers the risk generally

of a too great mental stimulation. Such children develop with amazing rapidity. On the other hand, an inmate of an institution, or of certain kinds of institution, fed and clothed and cared for sufficiently and with routine precision may nevertheless lag far behind in mental development. No child contends long against an institution. It is with his mother that he shows his developing personality and will power, resisting her persuasion and dominating the whole position. Nor must we omit to note the minor differences that are inherited. The rapidity with which a child learns to use eyes, hands, and feet is often the first indication of the quality and power of the brain.

BACKWARDNESS.

At birth the infant exhibits many reflex movements, but none that are voluntary. The medullary and the spinal cord reflexes are active, but the medullation of the pyramidal tracts has not yet taken place. Anything placed upon the dorsum of the tongue produces a powerful movement of suction. Failure of this suction reflex is always a disquieting symptom in the newly born, unless, indeed, the failure is partial and intermittent, occasioned only by too great somnolence or by the opposite fault of too great emotional unrest. The infant may fail to respond when the nipple is put into his mouth if he is too soundly asleep, or if he is crying excitedly. But a persistent failure to suck, especially if it is associated with a degree of asphyxia or respiratory difficulty, with convulsions, with prominence of the fontanelle, with blood-stained cerebro-spinal fluid, or with petechial retinal hæmorrhage, is highly suggestive of intracranial hæmorrhage, usually situated beneath the tentorium cerebelli. Such cases may be found after a labour that has been prolonged and difficult, but more often after a precipitate labour, when the falx and tentorium and other folds of dura mater, which have the function of preventing excessive moulding of the head, have been subjected to unduly rapid, rather than to excessive, stretching. Children who suffer in this way at birth are prone to die in asphyxia, but if recovery takes place there is the further possibility that, later, a condition of diplegia (Little's disease) may gradually declare itself, with a varying degree of mental impairment. It is probable that in many of these cases a decompression operation within a few hours of birth, or as early as possible, is indicated in the hope of lessening the damage.

At birth the sense organs of taste, sight, and hearing are capable of appreciating their appropriate stimulus, but the resulting sensations are as yet undiscriminated and without meaning. By the end of the eighth week, if the child fails to follow with his eyes a bright light in a dark room, it may be presumed that he is either blind or mentally deficient. At about the same age or a little later the sense of taste may also afford us some information. The normal infant will visibly express his pleasure when a glass rod dipped in a solution of sugar is placed in the mouth, and equally will express dissatisfaction if a solution of quinine is substituted for the sugar. The taste of many mentally defective

infants is so little developed that quinine and sugar may be accepted indifferently.

By the end of the third month the head should be held erect, by the sixth month the power to sit and to grasp objects should be developed. By the ninth month he should begin to stand with support, and by the end of a year, or a little later, to make attempts at walking. If nothing has occurred to interfere with his physical growth and strength, the failure to coördinate his movements and to adjust his postural relations to space is likely to indicate some degree of mental backwardness. At first the infant's limbs are stiff and awkward and move as a whole. When any voluntary movement of the hand is attempted its position is that of the adult diplegic, with flexion at the wrist and hyper-extension and separation of the fingers. Gradually, as the medullation of the pyramidal tracts proceeds, the hand becomes plastic and capable of precise action. The infant during the first year of life and later, in all his striving, is, as it were, recapitulating the story of his race. He is learning by constant endeavour to use that instrument, which because of its extraordinary flexibility and sensitiveness, has largely determined the persistence and supremacy of the race—the human hand. At first the hand is spastic and anæsthetic. The new-born child has a cortical paralysis of sensation and of movement. Gradually he learns by touch to discriminate between sensations and to bring into play the great range of movement of which the human hand is capable.

Similarly, the growth of control over the facial muscles is also a process of slow development. At first the smile is reflex and spastic. The face is but little lit up. The lips, not yet under voluntary control, permit the escape of saliva whenever the child leans forward. It is the accident that the power to sit up coincides roughly in time with the beginning of dentition that accounts for the popular belief that "dribbling" denotes the eruption of teeth. Failure to develop control over the facial and lip muscles, from damage to the cortical neurons (birth injury), or from congenital deficiency or faulty arrangement of neurons (primary amentia) prolongs dribbling to a later period of childhood.

A close study of points such as these, the reaction of the child to sensory stimuli, and the degree of control achieved over the muscular system, as shown by the facial play, the movement of the hands, and the posture of the body, must, in the main, provide an answer to the question, "Is the infant backward mentally?"

In older infants who are backward one may appreciate that the power generally of auto-education is deficient. The movements of the child may be purposeless, monotonously repeated, yet without achievement. The fervour of self-education in the normal child is seen during the development of speech in the persistent practice in enunciation of a gradually increasing number of sounds. Understanding of speech is always far ahead of power of expression. The normal child early shows an association of ideas with sound and sight.

Examination, too, will sometimes disclose features characteristic of certain well-defined groups or

varieties of mentally defective children. Thus, microcephalus or hydrocephalus will not escape attention, nor misshapen ears, an unduly arched palate, or retinal degenerative changes.

THE CRETIN AND THE MONGOL.

It is of importance that the infant with hypothyroidism should be recognised at as early an age as possible. The earlier treatment is started, the better, as a rule, is the prognosis. If treatment is begun in the first two years of life it is possible to predict complete recovery in respect of physical development. The parents will almost always press for an answer to the question, "Will there be permanent mental backwardness?" As a rule, the improvement falls just short of complete restoration to the normal.

Not often must we expect from the cured cretin the higher levels of intellectual attainment. In Dr. John Thomson's well-known text-book on the "Clinical Study of Sick Children" he places side by side two photographs. The first shows a typical cretin, the second the same child years later, the happy and sufficiently capable mother of a normal child. Rarely the intolerance of the cretin to thyroid extract may be very persistent and difficult to overcome, and for some time even the smallest doses may be capable of producing tachycardia, very rapid loss of weight, and a general disturbance of health. It is well to bear this possibility in mind lest parental disappointment lead to the early abandonment of treatment.

The infant cretin is to be recognised at a glance by the tough, dry skin, which characteristically tends to throw the forehead into very uninfantile wrinkles and puckers, by the yellow colour with sometimes a slightly cyanosed tint added, by the delay in ossification—so that the fontanelles remain widely patent, while an X ray examination reveals the non-appearance of carpal and tarsal centres of ossification—by the profound constipation, the prominent abdomen and small umbilical hernia, by the subnormal temperature and slow pulse, by the hoarse cry, and by the general torpidity.

With the cretin the mongolian infant is in complete contrast. The cretin state is seldom developed before the third or fourth month and usually later; the mongol is manifest from the first. The small, round head, so wide and so short from before backwards, the thin, fine, straight hair, fair or red in colour, the small oblique eyes with the prominent vertical fold at the inner angle, the small expressionless face, with tiny mouth and nose, the lax, hypotonic muscles, the slender body which is yet prone to a very watery adiposity, the soft compressible thorax are characteristic. The thumb is small, with the thenar eminence ill-developed and often with a curiously simple pattern of the palmar lines, the transverse alone being marked. The great toe, in the other converse, is unduly large, separated from the others by a comparatively wide interval, while the ball of the toe is surrounded by a very strongly marked line. From the first the mongolian infant shows a greater tendency to contract catarrhal infections of all sorts. Almost always soon after birth there

is a troublesome conjunctivitis, sometimes with a discharge so profuse that a gonococcal origin is suggested. Congenital heart disease is found in a high percentage of these children, although in my experience it has seldom been severe.

To the parents of an infant, found to be a mongol, something, although perhaps not much, may be said in mitigation. The recurrence of the condition in a later born child is almost unknown, and they may be encouraged to expect other children of normal mentality. Mongols, though physically weak and so prone to catarrhal infections and to particular forms of tuberculosis that few survive childhood, though incapable of sustained attention or intellectual effort, are not without certain gifts and capacities of their own. They are intensely imitative, have a keen, if childish, sense of humour, are always happy and tractable, and take the greatest delight in all sounds, musical or unmusical. There need be no fear of their becoming passionate or brutal or unclean in their habits. They are delightful playmates to children a great deal younger than themselves. Hence it comes about that in a good home, where progress is much more rapid than in an institution, the mongol child has the compensatory gift both of showing a great deal of affection and of arousing it in others.

SPASTICITY.

Of backward infants with spasticity we must endeavour to distinguish between those with primary amentia from developmental defect, and those who, until the moment of birth, were potentially normal and healthy children, but who suffered from intracranial hæmorrhage. It is no small matter to be able to assure the mother of a spastic diplegic child that the defect has been due to accident and does not in any way denote an inherited or familial weakness indicative perhaps of deterioration of stock. Care must be taken, however, in explaining the condition of intracranial hæmorrhage that the parents do not mistakenly infer that the tearing of the dura mater, and the rupture of the blood-vessels in close relationship to it, are due to defective midwifery. The accident is caused generally by too rapid moulding of the head, sometimes by extreme moulding, but not by the use of forceps or by crushing of the head in the effort to extract. Tentorial tears are, of course, most common in breech presentations, when the moulding to which the after-coming head is subjected must be rapid, and to that extent, no doubt, the incidence may be diminished by version and by timely and foreseeing midwifery. Spasticity at an early age is shown best by the carriage of the hands, the inability to flex the trunk on the legs, and the adductor spasm of the legs. This last is apparent only when the child is held upright in the standing position, when the clipping together or crossing of the feet and legs will show "scissor" gait.

The mental defect of the child with birth injury is often proved by the passage of years to be surprisingly partial. The damage affects especially the sensori-motor areas of the cerebral cortex. The stiffness, rigidity, and spasm of the limbs, the

expressionless face, the reflex smile like that of a much younger child, the harsh toneless cry, the absence of speech, the persistent dribbling of saliva give to the onlooker a general impression of very gross mental defect. Often, however, behind all this unpromising exterior there is a comparatively active brain at work. The retardation is always greatest in the first years of life, because it is by education along sensori-motor lines that the infant and the young child in the main progress. With hands immobilised and anæsthetic, knowledge by this route is almost shut out. Yet such infants may learn comparatively readily by eye and by ear. The mother will often find these damaged children quick to recall places, faces, allusions. Even their stiffness and rigidity gradually, but to a great extent, yield to the persistence of their own efforts—persistence which alone separates them from the group of primary amentia. If they never learn to be versatile, by much practice they contrive to be wonderfully efficient in the particular task to hand. In imagination, in appreciation of art, of history and of literature, and mathematical study, they may reach a comparatively high level. Self-conscious and shy in the presence of strangers, they often play a considerable part in home life. They are perhaps more prone than most to fatigue, and are often passionate over trifles and lacking in self-control. Improvement may be considerable in later childhood, even when the progress in the first year or two of life is depressingly slow.

INFANTILE CONVULSIONS.

Repeated convulsions not only have of themselves a retarding effect upon the development of the child's powers, but in the early months of life are perhaps the most common symptom which indicates to us that the brain is defective.

It is clear that the tendency to states of convulsion is greater in infancy than at any other age and that the liability steadily declines as age advances. If we are to regard the convulsive symptoms as evidence of the failure of the highest cortical centres to control and inhibit the discharges from lower centres, the increased liability of the young infant, whose highest centres are relatively undeveloped and inactive, becomes readily explicable. Moreover, it is clear that all factors which make for delay in the development of cortical control, or which permanently weaken that control, increase or prolong the liability to these intermittent and uncontrolled discharges of energy. Thus the infant with microcephaly, or with the defective brain of primary amentia, often first proclaims its defect by persistent and repeated convulsions. Similarly, the child whose brain was damaged by intracranial hæmorrhage at birth, or by an acute encephalitis occurring during infancy, may suffer from convulsions for the rest of life; while in acute infective conditions of all sorts, the circulation of blood containing toxins through a brain itself undamaged, is often sufficient to deprive the unstable highest centres of the power to control the tendency to convulsive discharge.

These considerations make reasonable the following classification of convulsions in infancy:—

1. With organic brain disease. (a) Microcephaly—primary amentia. (b) With intracranial hæmorrhage at birth. (c) With encephalitis. (d) Symptomatic of other cerebral disease.
2. In toxæmic states of all sorts; meningismus, asphyxial states.
3. Spasmophilia: convulsions and rickets.
4. Reflex convulsions.
5. Epileptic convulsions.

The convulsive seizure in infancy can hardly be mistaken. Quite usually there may be prodromal symptoms in the form of restlessness with slight twitchings of hands, feet, or eyelids; often, however, the attack begins suddenly and unexpectedly. The face grows pale, the eyes become fixed and are rotated upwards. In a moment or two convulsive twitchings begin in the limbs or in the face and rapidly spread to involve the whole body. Sometimes the convulsions remain unilateral. Yet this by no means implies the existence of any local focus of irritation in the brain. Later the initial pallor is replaced by a deepening cyanosis. Froth appears at the lips and there is much rattling of mucus in the larynx. After a time, which may vary from a few minutes to half an hour or more, the clonic spasms gradually cease, leaving the child prostrate and generally unconscious or extremely drowsy. If the convulsive movements have been confined to one side, that side especially lies inert and motionless, as though paralysed from exhaustion of the nerve centres. Death seldom takes place from a single convulsion or even from a series of convulsions of short duration. A fatal ending is due usually to extreme asphyxia. Many recover, however, after long spells of apnoea and asphyxia under artificial respiration.

In minor attacks, such as are often interspersed between the major attacks, or which may for long be the only manifestation, the recognition may be more difficult, and confusion may arise with syncopal attacks, with attacks of laryngismus or breath-holding, with intermittent asphyxial attacks due to atelectasis, with the true rigors of pyælis, and even with the drowsy state which follows the orgasm in infantile masturbation (see p. 15).

(1) CONVULSIONS WITH ORGANIC BRAIN DISEASE.

(a) *Primary Amentia or Microcephaly.*—This form of convulsive attack has been already referred to in speaking of backwardness in infancy. It is not always easy to distinguish between the retardation in development which is the direct result of repeated convulsions, due, for example, to spasmophilia, and the convulsions which are themselves symptomatic of the retarded state. Yet in the former the retardation of development ceases if the convulsions are controlled and removed; in the latter the convulsions are not only little amenable to treatment, but even in their absence the retardation remains obvious and persistent. When other stigmata of degeneration are present, it is to be presumed that the convulsions are symptomatic of a defective development or arrangement of cortical neurons. In these cases, too, it is

characteristic to find major and minor attacks alternating. Often there may be daily innumerable little attacks like petit mal. In her description of these the mother, it will be found, usually expresses herself in terms of what she herself feels as the baby lies in her arms. Sometimes she brings the baby for advice because she fears that something is the matter with the baby's back—the back stiffens and grows rigid at times.

In case of doubt as to the nature of the attacks, it is well to attempt to prevent them by graduated doses of chloral hydrate or, alternatively, luminal. If 5 or even 10 gr. daily of chloral, in doses of 1 or 2 gr.; or $\frac{1}{2}$ gr. to $\frac{1}{2}$ gr. of luminal daily in doses of $\frac{1}{2}$ gr. to $\frac{1}{2}$ gr., produces cessation of the attacks and a rapid improvement in the intelligence and powers, it affords hope that the convulsive state is primary and not secondary to a primary amentia.

(b) *Convulsions with Birth Injury—Little's Disease.* If shortly after labour which was precipitate or difficult, especially in breech presentations and in prematurity, but sometimes also after a labour in no way abnormal, the infant is seized with convulsions, the possibility of intracranial hæmorrhage must be considered. If drowsiness or undue restlessness is combined with some degree of asphyxia, a bulging fontanelle, blood-stained cerebro-spinal fluid, refusal to nurse, retinal or subconjunctival petechiæ, in addition to rigidity, twitching, and convulsions, the diagnosis is certain. Immediate decompression may be indicated.

But long after the cessation of the disturbance directly due to the trauma at birth, in cases which recover, the remoter results may continue in the form of persistent epileptiform convulsions. The great possibility of ultimate improvement, which has been emphasised as characteristic of the retardation of development in Little's disease, is indeed endangered if the convulsive attacks are frequent and become firmly established. Convulsions in Little's disease must always change for the worse the outlook for the future, because they may produce deterioration in that striking power of auto-education which is characteristic of many children so crippled at birth.

With the passage of time and the gradual development of some degree of control over the spastic limbs, there is a general tendency for the convulsions to diminish or cease, but they are often little amenable to the influence of bromides or of chloral. Luminal may succeed more often.

(c) *Convulsions with Encephalitis.*—Sometimes in convalescence from or during the course of measles, whooping-cough, or mumps, more often without previous warning and in the midst of perfect health, an infant or young child may be seized with convulsions, pyrexia, coma, and rigidity, lasting for days and even weeks. Recovery, if recovery takes place, is seldom complete. Blindness, hemiplegia, mental defect of gross degree, and convulsions are usual sequelæ. Although the pathological findings are less definite perhaps than is the case in polioencephalitis or in encephalitis lethargica, we are accustomed to speak of this manifestation of a widely spread cerebral infection

as due to "acute encephalitis." Encephalitis of this nature very often leaves the sufferer permanently liable to epileptiform attacks, which are singularly resistant to all forms of treatment.

(d) *In Other Forms of Acute Cerebral Disease* in infancy, in meningococcal or influenzal or pneumococcal meningitis, for example, convulsions may be found during the height of the disturbance, but, in the event of recovery, their persistence is not the rule as in acute encephalitis.

(2) CONVULSIONS DUE TO TOXÆMIA OR ASPHYXIA.

In infancy pyrexial disturbances of all sorts are apt to be ushered in by convulsions single or repeated, and the distinction between a condition in which the brain itself is the affected site and a condition in which the symptoms are due to the circulation of toxin-containing blood through a brain itself not abnormal is not always easy. A bulging fontanelle, prolonged unconsciousness or coma, or a fall of temperature with persistence of the symptoms generally indicate cerebral disease. The convulsions of pyrexial disorders in infancy usually occur early in the disease. Thus in pneumonia convulsions at the onset are almost always of this nature, while convulsions are much more likely to indicate pneumococcal infection of the meninges if they occur late in the disease. The convulsions of pyrexia are, as a rule, transitory, not of grave significance, and do not tend to leave any tendency to suffer from repeated fits.

Asphyxial states of all sorts are also prone to be accompanied by convulsions. Thus in young infants the prolonged asphyxia which often accompanies the spasm of pertussis may culminate in generalised convulsions. The future in such cases is more doubtful, for undoubtedly there may be left behind a liability for recurring convulsions. Convulsions following on an attack of whooping-cough are said to have a bad prognosis. Probably in all these cases widespread changes in the cortical cells are a result of prolonged asphyxia.

(3) CONVULSIONS DUE TO SPASMOPHILIA.

If we except the neonatal state, convulsions in infancy are more often due to spasmophilia than to any other cause. By spasmophilia we mean an increase in the excitability of the central nervous system and in the excitability and conductivity of the peripheral nerves which is associated with a diminished calcium content in the blood and in the nervous system generally. Hence spasmophilic convulsions are often associated with rickets, and are sometimes described as the nervous symptoms of rickets. Yet not all rickety infants are spasmophilic, nor all spasmophilic infants rickety.

The tendency to suffer from spasmophilia is undoubtedly hereditary. Most convulsions in which there is a strong family predisposition are either spasmophilic or epileptic. In the first case the history of fits will be found only in the infancy of members of the family, while in epilepsy older children or adults will be affected. In certain predisposed families quite young infants and infants who have had no nourishment but the

breast may suffer from spasmophilia. Nevertheless, the disturbance is infinitely more common in the second half of infancy and in the artificially fed. Many, as has been said, show signs of rickets.

The symptoms of spasmophilia have been divided into two groups—those which are *latent* and those which are *manifest*. The latent signs are sometimes to be elicited in the intervals between the attacks. Of these by far the most constant is Erb's sign, which, however, requires special electrical apparatus to elicit. It demonstrates the response in the shape of muscular contraction to a current the strength of which is only a fraction of that normally required to produce a similar contraction. Chvostek's sign is less constant, and perhaps also less specific in its implication. A light tap on the branches of the facial nerve as they pass forwards in front of the ear produces a visible twitch of the muscles around mouth, nose, and orbit. Trousseau's sign is the production of tetany, with the passage of the hand into the so-called accoucheur's position in response to prolonged constriction of the upper arm sufficient to produce slight cyanosis of the hand. Besides convulsions, the other manifest signs of the spasmophilic state are carpo-pedal spasm and laryngismus stridulus. The stridulous whoop-like cry of the child is often characteristic. Mothers describe the laryngismus as "breath holding"; this laryngismus often culminates in convulsions.

It is important to recognise spasmophilic convulsions, first, because of the comparative ease with which they are treated, and secondly, because the prognosis is, on the whole, very favourable. To assist in the recognition of the spasmophilic nature of a first convulsion we must endeavour to elicit the latent signs and to ascertain whether laryngismus or carpo-pedal spasm has accompanied or alternated with the attacks. In spasmophilic convulsions some slight pyrexial disturbance often seems to play the part of an inciting cause. In epilepsy it is common to find that intercurrent pyrexial attacks are accompanied by a complete cessation of the attacks. The presence of slight transient attacks (*petit mal*) means epilepsy. The stridulous cry, the presence of active rickets, the family history during infancy, are often helpful. It is characteristic of spasmophilia that a convulsion is often produced by the disturbance of examination and strong peripheral stimulation. With epilepsy, spasmophilia has nothing whatever to do. In general it may be confidently predicted that the attacks will cease at the end of the second year, though we recognise a spasmophilia tarda as we recognise a rachitis tarda. There is no question of the production of mental deficiency, nor any liability to suffer from epilepsy in later life.

The treatment of spasmophilia is usually promptly effective. Inasmuch as the stimulus to the hyper-sensitive central nervous system is often found in gastro-intestinal disorder, dietetic alterations and purgatives have a part to play. Cod-liver oil and calcium are indicated; the latter may usefully be given as calcium bromide. Sunlight and the mercury-vapour lamp are quickly curative in most cases. In young infants, with a pronounced

familial tendency, the prognosis must be more guarded, since in early infancy in very rare cases laryngeal spasm may be fatal, and in such cases treatment is less likely to be of service. Sudden and unexpected death in young infants, apparently healthy, is probably generally due to laryngismus.

(4) REFLEX CONVULSIONS.

In spasmophilic infants, with increase of excitability and conductivity of nervous tissue, it is clear that peripheral stimuli can produce convulsions. In infants not demonstrably spasmophilic peripheral stimuli, if sufficiently powerful, may at times suffice also to produce convulsions. Colic, distension of the stomach with a large amount of gas, teething, &c., may thus produce fits.

(5) EPILEPSY.

In a proportion of cases of epilepsy the convulsions date back to early infancy, but it is no easy task to separate from the mass of convulsions occurring in infancy those which are due to epilepsy and may persist. Family history may help. The infant with convulsions whose mother has epilepsy may well be similarly attacked.

Convulsions which alternate with minor attacks of *petit mal*, convulsions which are definitely periodic, and convulsions which cease to occur during pyrexial disorders, such as measles or broncho-pneumonia, are likely to be epileptic.

NEGATIVISM.

In older children the restless tendency to offer opposition to all the efforts of mother or nurse to exercise traction upon the child in any direction may take a vast variety of forms and result in a multitude of symptoms. In infancy, where life is a relatively simple matter of being bathed, dressed, and undressed, or put to sleep, of taking in food and of passing the excreta, it is in and around those functions only that negativism evinces itself. Psychologists have a way of drawing a dividing line between different temperamental types. Especially they contrast the objective and the subjective types (Binet), the introvert and the extrovert (Jung), the tender and the tough (James). Even in earliest infancy we may recognise the distinction between the passive, sensitive type of infant, and the active, aggressive, and egotistical. It is the latter, in whom there is little restraint or repression of emotional states, who is especially apt to display what has been called negativism. Yet it is clear that in great part the origin of this infantile restlessness and opposition is to be found rather in the personalities of those who have charge of the child than in peculiarities residing in the infant himself. The confident, self-reliant mother, who has not the smallest doubt of her own power to manage her children; to whom the possibility of the infant's refusal of food, of refusal of sleep, of refusal to get the bowels open, never occurs; to whom trivial difficulties remain trivial and are not always fraught with all the dreadful possibilities of the unknown, finds her children in general tractable and quick to form good habits. But when the handling of the child

in these matters is timid, uncertain, and over-fussy, when there hangs over all an atmosphere of apprehension and worry, the child is quick to catch the sense of unrest and to declare it by refusal of sleep, refusal of food, or refusal to go to stool. With much crying and with little sleep, the digestive function is apt rapidly to become deranged. The restless, hungry child, when he ceases crying, sucks eagerly and incoordinately, with the result that aerophagy and wind add to his sufferings.

We may consider these aspects of restlessness and negativism in infancy under Refusal of Sleep, Refusal of Food, and Refusal to go to Stool.

REFUSAL OF SLEEP.

The normal infant spends, and should spend, by far the greater part of the 24 hours in sound sleep. Soon after birth 20 hours, at three months 18 hours, at six months 16 hours, at a year 14 or 15 hours may represent the average rule. The restless, emotional infant sleeps only in snatches; for hours continuously there may be active crying.

The ill-effect of nervous unrest and sleeplessness is best studied in infants at the breast. Not that cases of dyspepsia due to nervous causes are not equally common in artificially-fed children. It is, however, convenient to deal with infants naturally fed, because we may then exclude with greater confidence dyspepsia of alimentary origin, due to an unsuitable diet. In hospitals and in similar institutions it is true that few opportunities for the study of nervous unrest in infancy present themselves. Within a hospital we may have admirable facilities for the study of the diseases of children; we have, and can have, but little opportunity for the study of the child or the infant himself. In an institution the conduct of the nervous child is usually in sharp contrast to his conduct in the home. I do not doubt the influence of heredity, but experience forces the conclusion that the most important factor in the production of sleeplessness in the child is the contact with a mother who is timid, over-anxious, or inexpert, or who is herself suffering from some degree of nervous overstrain. The communication of nervous unrest from mother to child in this way is as subtle and as inevitable as that between a rider and his half-broken young horse. No baby will lie quiet in the arms of a woman who is not herself calm. The infant, who in his own home is sleepless and emotional, dominating nurse or mother by his cry, when removed to an institution, with its quiet routine and with the interplay between the personalities of the attendants and the child reduced to a minimum, almost at once ceases to struggle, and begins to sleep soundly and well.

Infants suffering from nervous unrest and sleeplessness, as a rule, are quick, observant, and intelligent. The muscular tone is commonly increased. The abdominal wall is seldom distended, but tends to be retracted, with the lines of the recti muscles showing prominently. Often there is some degree of opisthotonos present owing to the increased tone of the muscles of the back. The head is held up at a surprisingly early age, and the movements of the limbs are extraordinarily powerful. The

strength and violence of the child's movements are nearly always commented on by the mother. The patellar and other tendon reflexes are usually brisk. The facial expression is constantly changing from that of interest to fretfulness or alarm. Sudden movements in the vicinity of the child, bright lights, and loud sounds are apt to cause a violent start. Especially sleep is disturbed, of short duration, and of little depth. The child sleeps so lightly that with a sudden start he is awakened by the slightest stimulus. In the very moment of awaking the anxious expression flows back into the face and the loud crying begins. The slow return to consciousness and the gradual onset of crying of the normal baby are not seen. Hunger is a constant symptom. Sucking is violent, incoördinate, and ineffective, and gives rise to a great deal of swallowing of air. Projectile and explosive vomiting is common. Diarrhoea, generally lenteric, is less frequently seen. Passionate, angry crying may persist for hours at a time, leaving the child pale and exhausted at its conclusion. The increment of weight may be small or altogether absent.

In many ways these symptoms contrast with what we find both in dyspepsia from other causes and in true inanition or underfeeding. In dyspepsia from overfeeding and in dyspepsia as a symptom of infection the muscular tone is strikingly diminished. The child grows soft and flabby. The abdomen becomes distended from meteorism. The immunity falls and the skin in consequence is apt to show a variety of catarrhal disturbances—dermatitis, urticaria papulata, furunculosis, and so forth. In true inanition, on the other hand, the infant is inactive and apathetic. The temperature is persistently subnormal. Constipation with the so-called hunger stool, consisting mainly of pigmented mucus and debris from the bowel, is an invariable symptom. The cry is weak or wailing; violent, emotional crying is seldom met with. Sleep may be but little interfered with.

Of the energy derived from the food taken by the child a part may be regarded as devoted to maintaining the minimal or basal metabolism—i.e., the metabolism in complete muscular and gastro-intestinal rest—a part, calculated as about 10 per cent. of the whole, is lost in the excreta, while the remainder is divided between the expenditure upon growth and upon the muscular activity displayed in movement and crying. It is clear that the energy expended under this last head, that of muscular activity, is enormously increased by nervous unrest such as has been described above. We can attempt to estimate the increased loss from "insensible perspiration" during prolonged spells of crying by accurate weighing. The variations in the weight of an infant during the 24 hours of the day and night are considerable. A variation of 100 g. at one month old and 200 g. at six months old is commonly found. The weight is lowest in the morning before the first feed and highest in the evening after the last. This increase during the day is due to the excess of intake of food over the combined loss in the excreta and by insensible perspiration. The fall in weight in the night is due to the excess of the loss by excreta and

insensible perspiration over the intake of food. If the napkin is not changed between two feeds, the loss of weight between one feed and the next will be a measure of the water lost from the skin and lungs, the so-called insensible perspiration. In a series of estimations of this sort carried out upon breast-fed infants in the first month of life, who were sleeping well and spent the time accordingly comparatively motionless in an air-space of constant high temperature, the figures vary from 15 to 40 g. On the other hand, with wakeful babies, who were crying violently and whose limbs and bodies were kept in constant movement through the air, it was by no means unusual to find that the loss of weight in the three or four hour interval between meals amounted to 100 g., and in one case to 130 g., an amount greater than the milk taken at the preceding meal. By means of a respiratory chamber it has been shown that in normal infants by kicking and active muscular movements the metabolism was increased in one case by 20 per cent., and in another by 30 per cent. over the basal metabolism in the 24 hours. The morbid activity of nervous crying infants is probably productive of a much greater increase. During crying the heat lost by young infants may be increased for short periods by as much as 200 per cent. It is clear from these figures that the total energy available for growth may be easily swallowed up by the increased expenditure upon muscular activity. The greater output of energy in the constant, restless movement increases correspondingly the demand for food, and this shows itself in hunger, which in turn adds to the unrest. Further, when, as is commonly the case, the symptoms of dyspepsia with vomiting, and sometimes with diarrhoea are added, the loss by the excreta will greatly exceed the normal figure of approximately 10 per cent. It is therefore not surprising that the mothers of such children are invariably convinced that the explanation of the symptoms is to be found in a want of sufficient breast-milk and, as a rule, demand that supplementary feeding should be instituted. In practice nervous unrest is perhaps the most common cause of failure to nurse. Supplementary feeding is begun, and with its institution the breast secretion declines until weaning is complete.

Not only do restlessness and crying increase enormously the energy expenditure of the child and the demand for food, but at least in breast-fed infants it is apt to interfere seriously with the ability to suck, and if suction is faulty, the breast, insufficiently stimulated, will fail to satisfy the increased hunger. In young infants suction is rather a reflex than a voluntary act. A finger or any like object placed in a certain position on the dorsum of the tongue at once evokes powerful suction movements. The anencephalic monster is capable of effective suction, innervated from the medulla oblongata only. This reflex is commonly inhibited in two ways. It is inhibited in extreme somnolence, such as we commonly find in premature children, and in some full-time infants who are peculiarly drowsy and lethargic. Suction in such cases may only

be induced under the pressure of constant stimulation and rousing from sleep. On the other hand, suction may be completely inhibited by violent emotional disturbances on the part of the child. It is not uncommon to find infants who are crying violently, with tense, rigid muscles, and opisthotonos, and who, when an attempt is made to nurse them, have as it were no attention to spare for the breast. With wide-open mouth they continue to cry. The sucking reflex is inhibited by the violence of their emotions. In other cases the crying ceases when the child is brought to the breast, and the nipple is grasped eagerly and hungrily. But instead of the rhythmical, effective reflex suction of the normal young infant, we meet with eager, purposive attempts at suction, which, like all the voluntary movements, are incoördinate and uncontrolled. The milk is swallowed in great and hurried gulps, mixed with much air. Often percussion after a meal taken in this way will reveal the extent to which the stomach is distended with air. The escape of the air from the stomach is assisted by the device known to all nursing mothers of holding the baby upright. The air-bubble in the fundus of the stomach is then brought more directly under the cardiac orifice and escapes more easily into the oesophagus. If, however, because of the child's position, the air in the fundus of the stomach is shut off from the oesophageal opening, it may only be expelled by so violent a contraction of the stomach that the whole contents are forcibly ejected—the meal recently taken as well as the offending air. The distension of the stomach is accompanied by clear signs of discomfort and often provokes a refusal to suck until it is relieved. Often, too, the peristalsis of the bowel seems to be excited directly by the taking of food. In the case of one such infant the bowels were open and a loose green stool was passed with the escape of much gas per anum on 23 successive occasions during the nursing attempt or immediately after it.

The treatment of the condition so described must be very different from that of dyspepsia due to excess of food or to unsuitable food. Especially it is clear that temporary deprivation of food or the limitation of food and the use of purgatives tend only to make the condition worse. It is essential that the needs for food of these children should be fully met if quiet and rest is to be secured. To increase the amount of food to cover the high demand is to run a great risk of overstepping the digestive capacity. The only effective treatment is to reduce the demand by securing rest and sleep.

In the attempt to secure sleep it goes without saying that the personality of the attendant is of the first importance. Often enough sleep and freedom from dyspepsia come at once when the quiet, confident handling of a good nurse succeeds to fussy and too stimulating management. Handling of an infant should be reduced to a minimum. It is a good plan always to carry such a child upon a pillow, an insulator which is especially necessary if the mother is over-wrought and in a state of nervous tension as the result of the child's distressing

crying. It is important to arrange for a constant high temperature in the air space in which the child lies, and to provide against the entry of cold air as a result of the restless movements. Tight enveloping clothing is very necessary for such restless infants. The swaddling clothes are the straight waistcoat of infancy. Hot baths of long duration and kept at a constant temperature are helpful in producing sleep in states of excitement whatever the age may be. To assist in producing the quiet necessary for effective suction, one-grain doses of chloral hydrate and bromide may be given 20 minutes before feeding. To prevent aerophagy during suction it is further important to pay attention to the position of mother and child. The infant on the pillow should be placed on the mother's knees, while her body is bent forward to such an acute angle that the breast falls freely towards the child's mouth, with the nipple in the most dependent position possible. The infant should not be held up against the breast, while his whole body is hitched in this direction or that in the attempt to assist him to get a better hold.

By such devices sleep can almost always be secured. As soon as sleep of good depth and duration is established, dyspeptic symptoms are relieved, suction becomes coördinate and effective, the breast is stimulated to greater secretion, and there is a rapid gain in weight.

REFUSAL OF FOOD.

Less frequently than refusal of sleep, in infancy, we meet with refusal of food from purely nervous causes, a veritable anorexia nervosa. In older children the origin of refusal of food may be compounded of several factors. In part it is due to the unwise speech of elders concerning them. The child sees himself as a strange being of whom it is characteristic to despise all food, and he feels instinctively that this peculiarity confers distinction upon him. In part, too, the older child scents the fray from afar and enjoys the struggle. No one can eat his dinner for him, and by his refusal he seizes for himself, for the time being, the very centre of the stage. But at all ages the refusal of food is largely the result of unwise pressure and persuasion in a negativistic child. Among the poor, where food is scarce and the morsels are doled out with reluctance, the appetite and demand for food of the negativistic child knows no bounds. Among the well-to-do the unending persuasion leads to obstinate refusal. If force is tried, matters become tenfold worse. Finally, only those foodstuffs which are withheld because of their reputed unsuitability or indigestibility are taken with gusto. Or, it may be noticed with surprise, that when the meal is over, the meal at which hardly anything could be coaxed through jaws clenched in opposition, the child descends from his high chair to scavenge greedily for crumbs on the floor. Two mothers told me on one day that the best meal which their child took was when he was wheeled with a parcel of scraps of bread in the perambulator to feed the ducks. Here was food, not pressed upon him, which his soul desired.

From the third month onward this negativistic attitude towards food may be clearly evident. Many mothers, distressed beyond words at the persistent failure of the child to yield to all persuasion, have told me that the only way they could get food into the baby was to creep to the cot when the child was asleep and to wake it sufficiently to produce drowsy unconscious suction. Often, if the device succeeded, the whole bottle would be drained. But if unhappily she overdid the waking, the first return of consciousness was shown by a vehement gesture of refusal, and if speech had begun, by the inevitable, unvarying cry of these children, "No, No!"

Of treatment in such cases it is difficult to speak. At least the mother may be told confidently that the child will not waste, or decline, or die. Enough food is taken under protest, and the children seldom seriously suffer from inanition. To offer a challenge to the child is always a mistake. They can never, in my experience, be starved into submission. It is important that the mother should completely hide from the child her urgent desire that food should be taken. Let her seem as unconcerned as possible. Let her read a book, or be read to, and try and get her mind removed from its too anxious contemplation. I have known a baby of ten months suck well when the musical box played beside it, and refuse utterly without it. The device of feeding when asleep may well be resorted to. If necessary, sleep may be assisted by 1 or 2 gr. of chloral. Negativism is always more marked when the child is sleepless and irritable. With older infants at times the food may peremptorily be withdrawn, while the mother, not the child, makes use of the slogan "No, No!"

REFUSAL TO GO TO STOOL.

Much that is called constipation in infancy is in reality a dyschezia—that is, a failure only of the act of defæcation. Infants must be trained to the daily routine. Some infants fail to pass a daily motion because they are not so trained. Yet a normal motion, of good colour and consistency, lies just beyond the anal canal in the rectum. Stimulating the anal reflex, by soap cones and other devices beloved of mothers, will generally produce evacuation.

But with older infants it is clear that at times constipation is due not to lack of training, but to a training which has failed in that by its unsuccessful insistence it has provoked the response of negativism. The child screams and refuses, and works himself into a passion of resistance at the sight of the chamber on which he is to sit, or of the various suppositories and cones which are relied on to overcome the inhibition. The nursery interpretation of these symptoms is often either that the restlessness and naughtiness is due to constipation, or that there is a fissure at the anus. Constipation, which is in truth due to negativism, is often cured by a change of management, or by a visit to the seaside, when the mind is otherwise occupied. It is little benefited by aperients, which must be given in doses sufficient to produce diarrhoea before the inhibition is overcome.

CHAPTER II.—SYMPTOMS IN CHILDREN.

BAD HABITS: SEXUAL PRECOCITY: THIEVING.

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Bad Habits: Auto-eroticism.—Sexual Precocity: The Question of Enlightenment.—Thieving: The Power of Sympathy.—Conclusion.

INTRODUCTORY CONSIDERATIONS.

THERE is much misunderstanding as to the significance of bad habits in children on account of our ignorance of the development of the child's sex life. For years it was taught that the child passed from infancy to adolescence possessing sex organs, it is true, but that these were wholly inert till the appearance of the recognised signs of sex maturity, male or female. It is extraordinary that so many should have accepted this teaching without demur, when it is contradicted both by individual experience and by a study of child-life. We might more justly compare that development to the apparent miracle of spring, which is in reality an evolution that proceeds in quiet and orderly fashion during the long, dark winter months. Provided we do not push this analogy too far, it serves us well to understand the child's sex life, and, understanding, to handle his difficulties with greater wisdom and sympathy.

During the auto-erotic period of babyhood and early childhood, we note several apparently disjointed and useless impulses which must, nevertheless, if the child's development is to proceed normally, become unified into a creative sex urge. *Sucking* must be included as one of these. Although Freud was jeered at when, some years ago, he drew attention to this point, we are, nevertheless, impelled to stop and think when we find thumb-sucking and bad habits in close association. We are similarly impressed when we hear of a girl who up to the age of 10 years used to fall asleep every night sucking a corner of the blanket and making "funny noises." Such illustrations could be multiplied indefinitely to prove that the impulse of sucking is linked with sex development. *Rubbing* is closely allied to sucking. Babies submit with delight to prolonged rubbing of the head, and a distracted mother may welcome this means of inducing sleep in an irritable child. If persisted in over a long period the custom is dangerous through becoming indispensable.

We next note the pleasure and interest afforded to the baby by the activities of two organs which lie in close relation to the sex organs—the *rectum* and the *bladder*. Indeed, unless a baby be trained from the earliest weeks of his life to use a chamber, it is sometimes only against marked resistance that habits of cleanliness are inculcated. There seems even to be some support for the view expressed by one modern writer, that the pleasure of passing urine is increased by the moist warmth of the encircling napkin. Not only are babies and little

children interested in the activity of these organs, but will, if allowed to, play with and revel in smearing themselves with *fæces*. Such pleasures are, however, soon included by the child among the social taboos which puzzle him greatly.

He—and here, as in all that follows, unless the sex is material, "he" connotes "she"—then turns his attention to a study of his sex organs and of the body as a whole, the display of which, prior to entering the bath, affords him very great pleasure. Soon he differentiates himself from his surroundings, and while still retaining a very active interest in his own body, he extends this interest to the bodies of other people, first of his brothers, sisters, parents, and later of people in general. At the same time he begins to experience the first faint stirrings of curiosity as to the origin of life, which have perhaps been set in motion by the advent of a baby or perhaps of a litter of kittens or puppies. It is certain that children vary greatly as regards the age of questioning about the origin of life, and also as regards the degree of curiosity evinced. One child will, as opportunity offers, note the sex difference of others in quite a casual way, while another child, even at 6 years of age, shows intense curiosity as to the sexual make-up of those around him.

The child who has early come up against the taboos of society, perhaps through being given some such reply as "You mustn't talk about these things, dear, it isn't nice," will quickly dissemble his interest and at the same time find an escape for his thoughts in phantasy. But the backward child shocks his parents greatly by expressing, with the utmost naïveté, thoughts which other children have already learnt to repress.

To regard the impulses of the auto-erotic period as not disjointed and purposeless, but full of purpose and meaning, throws much light on the development of the child. In these impulses we seem to find the beginnings of self-realisation, which, unfortunately, in too many cases becomes identical with self-love. Yet, through interest in others, first in those of similar sex and later, at adolescence, in those of the opposite, the growing child has the opportunity of emerging fully and completely from the auto-erotic period, and translating that interest into a desire for the service of fellow beings. With full sexual maturity all the transitory impulses of the auto-erotic period should exist no longer as such, but be coördinated into creative sexual energy, which finds an outlet through diverse channels.

The great danger which threatens the child is failure to emerge from the auto-erotic period, which then becomes not a transitory phase but a prison. And it is only when the child arrives at manhood or womanhood with these impulses still uncoordinated that we permit ourselves the term "perversions."

BAD HABITS.

AUTO-EROTICISM.

From such consideration of the child's sex development we can appreciate better the significance of bad habits. These we may define as any means used by the child to obtain, through his own body, pleasure which is the counterpart in the adult of sex gratification. They may be indulged in at any age, even by babies of a few months old. Handling the sex organs in various ways, or, in girls, crossing and rubbing the thighs together, is commonly resorted to; but the insertion of foreign bodies in the anus and other means are also used. The child may, and quite often has, no knowledge of the meaning of sex. The reply usually given, if questioned as to a reason for acting thus, is: "It gives me a nice feeling." If limited to the moments prior to sleeping, it may have been resorted to by a child who is obsessed with fears of the dark, as a means of falling asleep quickly.

How does the child arrive at the knowledge that pleasure can be procured in this way? Sometimes quite accidentally through external irritation from threadworms, tight prepuce, tight drawers, or, in girls, vaginal discharge. It is surprising how often drawers reported to be roomy, are found to cause friction on sitting down. When trouser pockets are placed too far forward, pleasure has sometimes first been experienced by accidental contact with the genital organs. Occasionally children are initiated by other children or by adults, even by a parent. The cinema may be held responsible in some cases, through focusing the child's attention on love dramas which arouse his curiosity by suggesting far more than they dare openly depict.

Passing over those cases where masturbation has not obtained a grip and so is quickly checked by the removal of any local irritation, let us study the child who has become its slave and who may have recourse to it several times daily or almost continuously. Such a child is neither frank nor sociable, but on the contrary is generally markedly introverted. He may be, and often is, profoundly bored or the victim of genuine or fancied wrongs. From these an escape is sought by living in a world of phantasy, which at no point touches the world of reality in which he should be playing his small but important rôle. Consequently school reports are very unsatisfactory, while the healthy outlet of companionship with other children is neither sought nor desired. Instead, the days are passed in auto-erotic gratifications alone, and the charge which we must lay against such children is, not that they are immoral or degraded, but that they have failed to emerge from babyhood and are defaulting in the great task demanded of us all, of adjustment and readjustment to the calls of life as we pass each decade or, indeed, each year.

CAUSATION AND TREATMENT.

Of the fundamental causal possibilities, the first in importance is repression, which creates a conflict in the child's thoughts, driving him in upon himself. The majority of people seem quite unable to reply with frankness to questions about the origin of life. Too often the child receives the impression that he has touched upon a subject which is cloaked in shame, while it profoundly stirs his curiosity. Feeling no longer at liberty to press for information his thoughts turn inwards; he steps backward into the auto-erotic period and consoles himself with the pleasures normal to that time. Again, the attitude of introspection and dissatisfaction may have its roots in jealousies and grievances. For only too frequently investigation of these cases shows discord between the parents, or favouritism of the child by one parent and dislike by the other parent; or the child himself may be jealous of the affection shown by one parent for the other.

The first-born and the youngest are more likely to be spoiled, while the younger of a family of two may suffer acutely from the very fact of being the younger of two. But, indeed, almost any position in the family may have its peculiar difficulties. Spoiling is a fruitful source of inability in a child to achieve adjustment to life, since the spoiled child is continually concentrating upon an exercise of his sense of power rather than upon preparation (even though the preparation be quite unconscious) for the activities of life; or he may simply revel in being a baby and have no desire whatever to free himself from a life of dependence and to follow the upward path which leads to adolescence. We find such children, then, in a state of conflict which leads to a dissipation of energy instead of to a normal outflow in the various channels which exist for the purpose. They are consequently unhappy and jangled, and quite unable to set themselves to the task of adjustment. Instead they prefer to sink back into the facile gratifications of the auto-erotic period.

In the handling of such children attention should be first carefully and thoroughly directed to the details of general health and to the possibility of local irritation, since failure to do so may negative all our other efforts. Next a painstaking attempt must be made to lay bare any environmental causes, such as those discussed, and to persuade the parents of the importance of these. If we find ourselves powerless to alter them, then it is most certainly our duty to suggest a change of environment. If it is decided that treatment can be carried out at home, it must be insisted that all reproaches, threats, and punishments must come to an end, since these merely serve to humiliate the child and to increase the sense of injustice which, perhaps, already burns within him.

The attitude adopted towards the child at the first consultation is extremely important. He must be helped to realise that he is guilty of no sin, and that he must look forward instead of throwing a backward glance in transports of remorse. He is a rational thinking person, and merits treatment as such. So it is explained to him in simple words

that, while it is quite natural for babies to play with their bodies, it is expected of a child of his age (whatever that age may be) that he should exercise his hands to more useful ends and give proof in that and in many other ways that he is no longer a baby.

All our attention is now concentrated upon helping the child to achieve something, for achievement is the keynote to dependable cure. Through achievement boredom is relieved, self-respect restored, and an outlet provided for the incoordinated sex impulses, while healthy tiredness of body and mind predisposes the child to fall asleep quickly and awake refreshed and happy. If the work provided should not be in the open, it is essential to arrange for daily open-air exercise of an energetic variety. The special form which achievement takes will, of course, depend both on the child's capabilities and the resources at our disposal.

The treatment of babies and toddlers who seek pleasure through masturbation is sometimes fraught with great difficulty, but where babies-in-arms are concerned a fairly sudden cessation of the habit has sometimes been observed when the mother is instructed to pin the napkin across the baby's body, leaving the tail free. There is thus an elimination of friction which may have been the starting-point of the habit. The mother should further be instructed to handle the child's genitals as little as possible, cleansing them by immersion in warm water and rapid drying. The baby should only be laid in the cot when asleep and at once lifted and the attention diverted in every way at the onset of masturbation. This is indicated by a crossing of the thighs and rocking of the body to and fro with closed eyes. The face becomes congested, grunting noises are made, and with cessation of the movement the baby perspires profusely. In extreme cases it has been found necessary to attach each ankle to the crib by means of a skein of soft wool, in such a way that the legs can be moved freely but cannot be brought into contact. It is advisable to keep the baby out of doors all day, both on account of the freshness and because the majority of babies are found to be happier in the open air. It is often very difficult for the mother to live up to the advice that no anxiety must be shown and that a calm atmosphere is essential for cure.

As soon as the child can toddle the situation is eased, for he can be allowed to tire himself out, to forego afternoon sleep, and to find interests for himself; the less the child is entertained by others, and the more he is left to his own resources, the quicker does he throw off the habit. A spoiled girl of 2 years first showed definite improvement when she began to imitate her mother in whatever work the latter was doing, the carpet being swept with a toy brush and pan, and the doll's clothes washed in a toy tub. In addition, she was encouraged in every way to render small services to the household, instead of ruling it, as she had formerly done.

It is helpful to regard bad habits merely as an indication that the process of growing-up is not proceeding normally, and to make no reference to them after the first interview with the child. Apart from any report given by the mother, we have ample proof that the child is freeing himself

by his changed bearing. His physical appearance improves, he looks happy, and is intensely interested in his daily round of work. If we fail to secure these results, then it is advisable rather to consider a complete change of environment and of occupation than to blame the child for his inability to respond to our efforts. We cannot rest content with these till his altered appearance proves that we have succeeded in linking his life of phantasy to the realities of everyday life, which must be faced and grappled with in order to attain to the full stature of manhood or womanhood.

SEXUAL PRECOCITY.

Sexual precocity is an expanded example of bad habits, whose ætiology has just been dealt with. But it is important to decide how far the term has any justification. The influence of climate and family idiosyncrasy upon sexual maturity are well known, while a lack of physical robustness may lead to delay in the appearance of the menses. But the term implies rather a purely psychological precocity than a premature physical maturity. All children are sexually precocious in the sense that they are all interested in sex, as is natural when the sexual impulses begin to stir in infancy. The term is, however, generally limited to children who betray their interest very openly and to a degree that is regarded as abnormal, and who indulge in malpractices of various kinds. But the little introvert, who does not betray himself, may be far more deeply steeped in sex phantasy than the child whose conduct attracts notice. When children's thoughts become abnormally focused on sex matters, so that they indulge in conduct provoking general condemnation, it is necessary to seek for a cause. One possibility must always be kept in mind and thoroughly investigated—encephalitis lethargica (see p. 158). Many children have suffered condign punishment, till, on careful questioning, it is found that the behaviour complained of definitely dates back to a period of illness when the child was feverish for a day or two, perhaps vomited, was delirious, and then developed extreme sleeplessness, lasting for weeks or months, and associated with marked drowsiness during the day. But the history may be so indefinite that the diagnosis can only be clinched by the report of a temporary period of double vision or weakness of leg.

If we cannot attribute the sex symptoms to an illness which has damaged the delicate cerebral structures, we must investigate in other directions, always keeping before us the certainty of a strange intermingling of causes, so that a first impression may later have to be modified or even completely altered. For instance, a little girl of 5½ years was brought for advice because she had been decoyed by an old man to a stable, where, behind locked doors, he had exposed himself without molesting the child. Although she was supposed to have been profoundly affected by the incident, her behaviour at the interview was not that of a child obsessed by fears. As the outcome of a conversation with mother and child, the conclusion unhesitatingly arrived at

was that, as a result of overcrowding in the home, the little girl was perfectly familiar with male sex characteristics and quite uninterested in them, but that she feared lest the horses should kick her.

CAUSATION AND TREATMENT.

The close similarity between the aetiology of sexual precocity and of bad habits is shown by the fact that repression must be regarded as the most important provocative factor in both, such repression being due, as has already been said, to a lack of frankness in replying to the child's first questions about sex or the origin of life. The whole truth we cannot give at an early age, but there is a vast difference between this and telling untruths or refusing to reply. This unhelpful attitude towards the child's questions seems to be peculiarly common in some correct homes, where narrow religiosity has refused to regard the body, with all its organic activities, as a partner with the spirit in the development of a full and rich life, alike physical, intellectual, and spiritual.

In two instances recently, where groups of children were reported to be corrupting their forms with "obscene" drawings, the ringleaders were traced to homes of this type, while the reply given by one mother to the suggestion of culpability on the part of her little daughter was: "Well, if she's done this, she's no daughter of mine." Now the pictures in question depicted the male and female organs in process of passing urine, or male and female forms in a close embrace, along with one drawing of a baby's head just emerging from the vulva. The first at once gave the information that, in one direction, this little girl's thoughts were greatly occupied with the pleasures of the auto-erotic period, while the remaining two showed an intense interest in sex and the origin of life, to which she was debarred from giving expression.

Of equal importance with repression must be reckoned everything which stimulates the child's curiosity at an early age, when the sex impulses should be finding a satisfying outlet through the various channels of achievement. Erotic sights or pictures must be put in the forefront, while we cannot overlook the fact that a certain number of children are stimulated by sleeping in the same room as their parents at an age when a healthy interest in sexual matters has already awakened. Three years may perhaps be set as the limit of safety for the majority of children, while the plea put forward by some parents that the child is sound asleep when they retire, cannot be accepted as an excuse for continuing the custom. (I am aware that in many instances this is a painful comment upon the housing question.)

The responsibility of the cinema has already been alluded to, and it is unnecessary to emphasise such an obvious cause as seduction, whether by adults or by older children. But one point of extreme importance calls for discussion. Children who, for one reason or another, desire to keep themselves in the centre of the picture, find encouragement to continue undesirable conduct, because they thoroughly enjoy the stir which it has occasioned in the household and the constant discussion of it in

their presence. It is no exaggeration to say that the feeling of being unique among other children is a great incentive to the continuance of bad behaviour. Indeed, the crucial point for the child is the way in which his first detected offence is dealt with, since wisdom in dealing with it in all its details, including the provision of new and attractive occupation, may rob him of all desire to continue.

The importance of this point is illustrated by the following case. A boy of $4\frac{1}{2}$ years was brought for advice because he was not only masturbating all day long, but had attempted to molest a little girl of 3, after having been himself mishandled by an older boy. His attitude to his own offences was, in spite of his tender years, that of a swashbuckling Don Juan, the attitude being provoked by constant discussion of his behaviour in the presence of neighbours. As his home was most undesirable, and there were suspicions that one or other parent was handling the boy's genital organs, it was decided to send him to a home, but admission to this was delayed because he developed measles. He went to a fever hospital, and as soon as he left a letter was written to the sister of his ward, asking for a report on his conduct and detailing, for the first time, his previous history. The reply was that the conduct had been entirely satisfactory, and that no one had even suspected the possibility of such actions on his part—not surprising in view of the fact that he had been, though accidentally, deprived of all stimulus to unusual behaviour.

Some children are more highly sexed than other children, the mental defective not being under consideration. The environmental factor must always be kept in view; but children vary in the strength of sex impulse just as they do in features, in intellectual endowment, and in temperament, and it is unwise treatment and not the strength of the impulse, per se, which creates difficulties for the child. Many children whose conduct has caused the gravest anxiety will, under discretion and sympathy and in a suitable environment, blossom into new life and go forward erect to adolescence.

The Question of Enlightenment.

A few further points should be touched upon as having a direct bearing upon the subject. Although there is a growing body of opinion in favour of enlightening the child step by step about sex matters, it is still the custom of the majority of people to leave him to acquire for himself knowledge about adult sex characteristics. Some parents, having given thought to the subject, decide that it is important to give the child adequate opportunities—e.g., during dressing, undressing, or bathing—of becoming familiar with the adult form. If this course is pursued, it must be done naturally—almost casually—and while the child is at an early age—preferably about 4 or 5 years—and then discontinued. The questions asked by children take curious and interesting forms, and the advice to answer them frankly is given with the full knowledge that this is often very difficult. But the advantages secured to the child with strong sex impulses of some knowledge of adult sex characteristics are undoubted—he wastes no energy in

peeping and speculating, but turns it to better uses; and he is protected from any possibility of shock should unforeseen circumstances enlighten him at an age when he cannot accept the knowledge as naturally as do quite little children.

It is in the interest of growing children to have separate beds, at least from the age of 5 onwards, and excessive intimacies between children, either of the same sex or of the opposite sex, call for discouragement, or rather for an attempt, with the utmost finesse, to occupy them with engrossing occupation which will serve as an outlet for what may be hurtful emotions.

The most helpful course to pursue when dealing with a so-called sexually precocious child is to assume that a normal and perfectly legitimate interest in sex has been repressed and misdirected, and to attempt in every way in our power to provide new channels for it. If this attitude were always adopted, the numbers of so-called congenitally immoral children would diminish with astonishing rapidity.

THIEVING.

Through misunderstanding and wrong handling of children this unfortunate habit may be developed, and a certain number of the victims proceed on the way to swell the criminal ranks. A study of the little thief brings us to the conclusion that he, like the sexually precocious child and the victim of other bad habits, is one who cannot adjust himself to the increasing demands of life. Consequently a survey of the environment in which we find him, and of his reactions to that environment, will advance us greatly in understanding his case, for these reactions we may regard as his motives for stealing. A knowledge of motives, of which he himself is sometimes only vaguely conscious, gives us the power to handle the situation wisely and well.

Thieving in toddlers we do not, if we have any common sense, take seriously. We realise that at that age the significance of the formula "Mine and Thine" has not been grasped; whatever object makes an appeal is picked up, played with and carried away, unless a mother or nurse intervenes. Yet it is not uncommon, when investigating the case of an older child, to be told that "thieving" propensities (for such is the term used to designate the harmless peccadilloes of childhood) began at the early age of 5 years. An orange was, perhaps, taken from a shop counter while the mother was engaged in discharging her errands, the fact is discovered on the way home, steps are retraced, the orange restored with apologies, and—the point of chief importance—the child is lectured on the error of his ways and even punished. Yet, as all are aware who have any practical knowledge of the evolution of behaviour in children, the most certain way to perpetuate a fault is to magnify it at its first appearance, for the child, owing to his extreme suggestibility, is apt to conclude that the tendency to this misdemeanour is a personal peculiarity, for which he is in no way responsible. On the other hand, it may serve as an excellent means for keeping himself in the parental eye, either because he suffers from neglect or because he is desirous of

paying off old scores by irritating his parents; for resentment appears so frequently as a motive for stealing that it can never be set lightly on one side. Suspicion is quickly aroused if we are told that the child limits his unwelcome attentions to one person or to his home. A grudge experienced against an individual may gather strength as it grows, till, in the end, it is directed against society in general. The child who steals first to irritate his parent may later steal at school, then at work, and finally come into the clutches of the law.

It may be interesting to adduce two examples which illustrate this motive in a very striking way. A girl of 12, a typical case of Fröhlich's syndrome of mal-development, stole indiscriminately at home, at school, from friends, or from shops. As the parents lived some distance from London and she improved greatly with treatment, an interval of six months elapsed without a report. It was then learned that three to four months had passed without any thefts, and that their recurrence had coincided with a refusal to buy her a new hat or article of attire. Similarly, if she went to visit a grandmother with whom she maintained terms of the strongest hostility, she invariably, on departure, relieved this aged relative of a trinket or a coin.

The second example is still more illuminating. A little girl of 7 years, who from her birth had been treated with the utmost indifference by her father, witnessed, when 5½ years of age, the arrival of a baby brother amid acclamations of parental joy. Coincident with the birth she was sent to a day school, and although she had never previously touched the possessions of others, she now, spurred to resentment at this unequal treatment, began to pilfer small articles or coins left lying about. Conviction and punishment followed, which merely aggravated the situation. Then complaints in the same direction were received from the headmistress of her school, and finally her withdrawal was requested.

Two types of children utilise stealing as a means of focusing attention upon themselves. One is the child who, from his earliest days, has been so foolishly indulged in his every wish that he has developed a lust for power and for prominence. The more daring the theft, or the defiance of the law in some other form, the greater its appeal to him; but he is often not alone in being unconscious that his conduct merely indicates that he is imprisoned in the auto-erotic stage of his development. The other is the child who for one reason or another is unable to compete with his brothers or sisters, and consequently suffers from a feeling of inferiority for which he seeks compensation.

Sometimes we are faced with a child so retarded in development that, although his actual age is 7 or 8, his mental development may approximate to that of the toddler, and we fail to do him justice or succour him unless this fact be taken into account, while in these cases also investigation must be carefully carried out definitely to set on one side encephalitis lethargica as a causal agent. Inquiry will be made on this point during the thorough physical examination which is always necessary.

Inquiry shows that, as a rule, there is only one thief in a family, and again the child's position in the family becomes significant, and not only as regards age, but also as regards the relative proportion of brothers and sisters in the family. One little thief, for instance, a boy of 10, found himself wedged among sisters, two below and three above him, while his two brothers were already young men of the world. The feeling of inferiority which this begot in him was still further accentuated by the poor physique which congenital heart disease had conferred upon him. I have no doubt that this environment determined his failing. Although it is always interesting to work out the intelligence quotient according to Binet-Simon tests, it is yet obvious that a child in a state of such complete disorganisation is certain to be graded below the normal mental age.

That every thief should become an expert liar is only what we would expect, the initial lies being resorted to as a means of avoiding punishment, and the habit of untruthfulness then becoming habitual. It is interesting to note that advance in truthfulness never goes hand-in-hand with the abandonment of stealing; it is only after some months that the little thief's statements can be accepted without questioning.

THE POWER OF SYMPATHY.

From what has already been said as to the similarity in ætiology between stealing, bad habits, and sexual precocity, it is not a matter for surprise that in some instances stealing is closely associated with sex problems, and with indulgence in the other impulses described as normal to the auto-erotic period. One of the most important elements in treatment is the establishment, at the first interview, of a bond of sympathy and understanding between thief and physician; so that a child who, on arrival at the interview, feels the world against him, leaves with a sense of restored self-respect because of the confidence one person has in his capability to work towards a new goal. This happy result can only be obtained if a light tone is adopted at the first interview, with a careful avoidance of the use of the word "thief" or "thefts." It is often necessary to say very straight things and even to sting a child into activity, but wiser to postpone these measures till the child's confidence is fully gained, and till he is imbued with the conviction that everything is being done to help him. Ingenuity must often be exercised to turn some special aptitude to a useful purpose and so raise the child's self-esteem, but the hardest task may be that of changing the attitude of distrust and dislike which has prevailed in the home to one of confident expectation of success. Yet, in many instances, improvement has commenced when the child has been entrusted with a few shillings, a pencil and a notebook in which daily shopping expenses and balance in hand have to be carefully noted. Results of treatment will depend largely upon our ability to

secure the whole-hearted coöperation of the family, which is not always easy. Where progress is variable instead of rapid, it is frequently to be found that parental irritation has not yielded to sympathetic understanding and a desire to forget the past. But it is at the same time well to question whether our study of the environment has been sufficiently thorough, for many unsuspected factors come to light on a more extended study due to the obstinacy of the case. If progress in the home is slow and the child is removed to a new and carefully chosen environment, the improvement is nearly always startling in its rapidity, sometimes maintained even over an extended holiday at home, at other times subject to relapse under the strain of the home atmosphere. The work demands infinite patience, unfaltering confidence in ultimate success even in the face of temporary disappointments, and, above all, boundless optimism.

CONCLUSION.

Although this article closes on a note of extreme optimism, which is, indeed, the secret of success, it is yet true that progress, in some cases startling in its rapidity, is at other times very uneven, a period of encouraging advance being succeeded by disappointing lapses. The physician who is handling the child, possibly along the lines suggested in this article, may then ask himself whether it is worth while to continue his efforts or if he must decide that he is dealing with a hopeless case.

The writer would at once reply that, provided there is no physical or mental defect, the word hopeless is inadmissible when dealing with a culprit who is still in the profoundly suggestible period of childhood and who is therefore capable of capturing the spirit of a new ideal and of shaping his life to its demands. The explanation of slow progress must be sought in two directions. It may be that the physician in question is lacking in psychological knowledge and has consequently missed an important and vital point in ætiology, or that he has not gained the confidence of the child. But it is equally possible that the child cannot make headway against some one factor in his environment; he may perhaps be convinced that his parents have no real confidence in his capacity to make good.

When the physician feels that he himself can do no more to improve matters, it is urged that the child should be investigated and treated by a psychological specialist, without change of environment, since the attainment of self-mastery in the very environment which has proved such a handicap imparts a feeling of added confidence when a cure is effected. If it is decided that the counterpull of environment against new ideas is too strong, then the child should be removed to a home for difficult or unadjusted children, where his own groping efforts will receive both support and sympathy, and he will be helped to a dependable cure.

CHAPTER III.—SYMPTOMS IN CHILDREN.

OBVIOUS STIGMATA AND FAILURE TO RESPOND TO MENTAL TESTS IN THE APPROPRIATE AGE-GROUP.

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Physical Symptoms ; Structural and Functional Stigmata.—Psychological Symptoms : Methods of Psychological Testing.

In discussing the symptoms of imperfect mental development discoverable in children, it should be premised that the types of children to be studied are those usually classed under the headings of idiot, imbecile, and feeble-minded. The more minute differences between these classes will be treated of in other sections (see p. 66). All that need be said here is that symptoms are necessarily more marked and more readily noticeable in the lowest grades. The difficulty of recognition becomes more definite as we rise through the scale of the feeble-minded to children only just subnormal.

Symptoms are partly physical, partly psychological, the latter being by far the most important for diagnosis.

1. PHYSICAL SYMPTOMS.—STIGMATA.

In former years much emphasis was laid upon physical "stigmata" (as they are usually termed) as aids to recognition of the defective and the degenerate. The medical man's chief concern having been with bodily structure and function, it was but natural that he should look for physical indications of defect, and Lombroso's criminal studies gave what appeared to be firm scientific grounds for this attitude. Goring's destructive criticisms of Lombroso, and the coming of the psychologist into spheres so long monopolised by the medical man, have very considerably altered the perspective, and if there is a danger now, it is that we may be tempted to ignore entirely the physical indications.

The presence of physical stigmata singly in persons who are mentally quite normal tends to prove that they are of significance only when in the plural number, three or more. Statistical investigations have definitely confirmed this, and have also demonstrated that stigmata are more likely to be found in plurality in congenital cases of deficiency, apparently functioning as signs of degeneracy in the stock. They may be distinguished as (a) structural, (b) functional.

(a) *Structural Stigmata.*

Structural stigmata may be dealt with briefly :—

1. Abnormalities in the shape and size of the ears are very common. The most frequently observed of these are asymmetry of the two ears, adherent lobules, absent lobules, large clumsy lobules, the Morel ear—standing out prominently

from the head and of marked conchoidal shape, abnormally small ears, and a very long ugly type of ear. Smaller abnormalities of individual parts of the ear, the helix, the anti-helix, the lobule, and the scaphoid fossa do not have much significance unless multiple.

2. In the eyes, epicanthus—a fold of the eyelids round the inner angle of the eye—is the only abnormality of moment, apart from the obliquely placed palpebral fissures of the mongol. Nystagmus should not be regarded as a stigma.

3. Palatal deformities are almost always present. Asymmetry may be observed. The most common abnormalities of shape are the so-called saddle-shaped palate, usually so high as to reduce the capacity of the nasal cavity, and the V-shaped palate, the point of the V forwards, with resulting prominence of the front teeth.

4. Certain cranial measurements are usually taken. A single measurement, say, of the cranial circumference, is of very little value unless the departure from the normal is very marked ; as rough norms for comparison we may take at 5 years 20 to 20½ in., at 10 years 20½ to 21 in., at 14 years 21½ to 21¾ in. Asymmetry—probably of more consequence than size—may be detected by taking the measurement in two halves. Whatever measurements are taken must be very accurate and preferably done with callipers. The most thorough method—that of Berry and Porteus¹—consists in an attempt to measure the cubic capacity of the skull by taking three measurements, the maximum head length from the glabella to the occiput, the maximum head breadth measured above the plane of the ear-holes, and the head height from the mid-points of the ear-holes to the highest point of the skull. The authors of this plan established certain relations between the cubic capacity of the skull and the intelligence quotients of their subjects.

5. Webbed toes and fingers, polydactylism, coarse skin, adenoma sebaceum—a papular growth on the face—striation of toe- and finger-nails, are other stigmata of less frequent occurrence and probably of less significance.

Besides these stigmata, which may occur in all classes of defectives, there are also certain special

¹ S. D. Porteus: *Studies in Mental Deviations*. Training School, Vineland, N.J.

types of defectives who are recognised by the groups of stigmata which characterise them. Of these the cretin is best known, though not so typically seen in the later ages of childhood since thyroid treatment became habitual. His broad nose, his open mouth and thick lips, his long protruding tongue, his dry skin and coarse hair, his stumpy hands and short legs suffice for his recognition. Almost equally easy to recognise is the mongol. The striking features are the small circular head, the obliquely-placed palpebral fissures (outwards and upwards), the transversely fissured tongue (not always so in the very young), the small ears, the broad ugly hands, the short incurved little finger. The resemblance between individual mongols of different families is so startling as to suggest a racial explanation.² The microcephalic, as his name indicates, has a small head—17 in. or less in circumference—and a markedly receding forehead. In the hydrocephalic the mental defect is not necessarily severe.

Other types are so rare as not to merit notice here, and it need only be said further that all these special types are of rare occurrence, the vast proportion of defectives conforming to none of them, and that most of the children of these types are of very low grade. In the case of the cretin, thyroid treatment does not improve his mentality to the same degree as it does his physical condition, and he remains a defective (see p. 156).

(b) *Functional Stigmata.*

1. *Delay of physiological development* in cases where an accurate history is obtainable is always of much significance for diagnosis. Late appearance of teeth and delay in commencing to walk may be indicative only of rickets, but where these are combined with delay in talking, and lateness in the acquirement of clean habits as regards urination and defæcation, some defect is indicated, and, as a rule, the degree of defect corresponds to the amount of delay, except in cases where the defect has resulted from some accidental cause after birth and is not congenital. The feeble-minded class have usually passed these stages before school age, although the acquirement of clean habits is not infrequently long delayed, but idiots and imbeciles may only reach these stages at a much later date; an idiot who cannot sit up at 8 years is not rare, and imbeciles may not begin to speak till 5 or 6, or even later.

Besides delayed speech, a slowness in achieving distinct articulation is a frequent sign. Where this persists to 8 or 10 years of age it is in the vast majority of cases a sign of deficiency, provided we have excluded the possibility of physical interference—e.g., cleft palate, and of special aphasic defects. Especially significant is a persisting tendency to echolalia—repetition of words spoken to the child, or of the last words of a question addressed to it, in place of a reply.

2. *Lack of nervous control* is often very obvious in lower grades. The balance of the body is poor both in standing and walking, the gait clumsy, there is a general flabbiness

of muscular tone, the knees may be flexed while standing, the mouth open, and salivation profuse. Coördination of the muscles is usually late, as shown, e.g., in the ability or the reverse to dress without aid. In other types, the most noticeable features are a general restlessness and fidgetiness, and a particular restlessness, if we may so call it, of individual groups of muscles, shown in grimacing, eyebrow and forehead movements and creasing, a perpetual or frequent grin; twitchings of shoulders or fingers suggestive of chorea, biting the nails, sucking the thumb. Epilepsy and mental defect are not seldom associated, and when the fits are frequent and severe the resulting mental deterioration makes the degree of apparent defect still greater. A cerebral paralysis is also an occasional accompaniment of deficiency. Most cases of cerebral birth-palsy, particularly if of the diplegic or paraplegic type, show a considerable degree of defect.

2. PSYCHOLOGICAL SYMPTOMS.

Before considering these in some detail, a preliminary point of some importance requires to be noticed. There are two Parliamentary Acts dealing with mentally defective children—viz., the Mental Deficiency Act proper, which provides for the permanent care of such defectives as require it, and the sections of the Education Act of 1921 dealing with defective children which provide for the education up to the age of 16 of such children as do not obviously require immediate provision to be made for them under the former Act. Putting aside the imbecile and the idiot, to whom only the first Act applies, it is not always realised that certain feeble-minded cases may require certification under the latter Act, who may not at the end of their education in a special school, or even at any later period, require to be certified under the former. Before a defective child can be certified under the Mental Deficiency Act he must not merely be recognised as defective, but must be so defective that he cannot be educated even in a special school, or so troublesome in behaviour as to make his presence in such a school undesirable.

Probably few practitioners would hesitate to certify a child of such a degree or quality of defect, but they may often be inclined to regard as normal, or as only somewhat backward, a child who to a school doctor's eye obviously requires special education. There are degrees of defect, and the higher degrees are not so readily recognised unless one has some definite standards of educational attainment or intelligence level by which to measure. And a prognosis that the child will be "all right" later, based on a very rough-and-ready superficial examination, may recoil in later years upon the head of the practitioner who has been deceived by a superficial smartness which is merely a veneer.

The most striking feature of the defective child of any grade is his incapacity to give attention, particularly willed or voluntary attention, for more than a very limited period. The period in the very lowest grades may be merely a second; indeed, it is not then a voluntary act at all but is a

²F. G. Crookshank: *The Mongol in our Midst.* Kegan Paul.

momentary response provoked by a strong and appealing stimulus applied by the examiner. It is characteristic of many of these children that their attention flits rapidly from one thing to another and never stays long enough for any impression to be retained. As we rise in the scale of defect to higher grades this is not so marked, but they can never concentrate long. Frequent change of work is a necessity in a special school. In one type of defective, generally of a somewhat unstable, uncontrolled character, this feature is most marked and easily noticeable. There is, however, another type, more deceptive, who appears to give attention but whose failure to assimilate what is put before him is soon made apparent; this is usually a placid, stable, docile type, much less troublesome in behaviour, who, if he does criminal actions, rather drifts into them under the influence of others than is actively experimental himself.

Following upon lack of attention comes defect of memory, by which we mean recall of what is learnt. What is not attended to cannot be remembered, and it is characteristic of the defective that he forgets to-morrow, or long before to-morrow, what he learnt to-day, and that much repetition is necessary for the assimilation of quite small amounts of knowledge. An inability to remember two or three simple errands on the part of a child of 7 years or over is one of the best single signs of deficiency known to the writer, although its absence is no proof that the child is normal, and no single sign such as this must ever be relied on. It should not be necessary to say that the parrot repetition of poems, hymns, and catechisms is also not a sign of normality, though generally regarded as such by parents.

Merely mechanical memory may, in the higher grades of defectives, reach a fair degree of efficiency. One has, for example, met with many who can repeat considerable sections of the multiplication table correctly. It is in the application of what is remembered, rather than simple recall, that the higher grades of defectives fail. Judgment and comparison are as a rule weak. In the lower grades failure will show itself in such simple matters as judgment of colour, size, distance, weight. In general it may be said that the discrimination of sensory stimuli, whether those of vision, hearing, smell, or taste, lacks delicacy. The lower the grade, the more gross is the lack. In the lowest grade of all, the idiot, taste and smell appear to be absent, so that they will consume the most nauseous material. Higher grades cannot compare objects in respect of more subtle characters, and may, for example, be unable to state readily the differences and similarities among groups of objects.

With the best grades, who may have some capacity of concentration and fair memory power, it is their marked subnormality of reasoning power that is most noticeable. In school work this is shown most clearly in their incapacity to solve arithmetical problems, although they may have fairly well mastered the mechanical processes, and also in their inability to write a good piece of composition. It is this lack which incapacitates them for the problems which face them later and

makes so evident their want of common sense in the every-day affairs of life, and their inability to adapt themselves to new situations. Their incapacity for abstract thought is associated with this lack of reasoning power; the grasp of abstract ideas even of a very simple kind is always difficult to them. Even children not of the lowest grades may never be able to deal with number in the abstract, but only as attached to concrete objects.

METHODS OF PSYCHOLOGICAL TESTING.

Systematic testing methods for the presence or absence of these qualities are the product of the last 20 years. Two main methods may be distinguished. On the one hand, psychologists have attempted to devise definite tests of the different mental powers—e.g., perception, memory, judgment, reasoning. Attention has been tested by means of a card of letters of the alphabet arranged in any order, the candidate being requested to strike out one particular letter as often as it occurs. Memory has been tested by repetition of digits, or sentences, or nonsense syllables. One of the most valuable tests of this type is the scale of reasoning tests, devised by Dr. Cyril Burt. They are beyond the powers of most feeble-minded children, but to an examiner called upon to diagnose the mental condition of an adolescent accused of moral delinquencies they are invaluable.

As a general rule, however, it must be said that tests of this type are too difficult for most defectives and recourse must be had to the method originated by Binet and Simon, and since then developed in many directions. Binet's object and that of his followers was to devise a scale which would test not merely one aspect of mentality, but so far as possible test the whole mentality, in its cognitive aspect at least—which would, in fact, measure that indefinite and apparently yet indefinable entity which we name "intelligence." The ideal scale would be one which would measure the child's native intelligence, irrespective of environmental and scholastic influences, but this can only be an ideal. The response of any child to any tests or scale of tests must necessarily be the joint product of his native capacity and of his acquirements from his environment. Dr. Burt and Mr. Hugh Gordon³ have independently shown that the results obtained from some of our most used scales are more dependent upon school training than has been assumed.

The original Binet scale has been modified and remodified by Binet himself and by a crowd of other investigators, some tests being altered in their age-placing as the result of careful trials upon much larger and more varied groups of children than those at first experimented upon by Binet, and many new tests have been added. Probably the best known in this country are Dr. Burt's rearrangement,⁴ in which he uses no tests not suggested by Binet, and the Stanford (American) revision associated with the name of Prof. Terman.⁵ For English examiners, Dr. Burt's scale has the advan-

³ Hugh Gordon: *Mental and Scholastic Tests among Retarded Children*. H.M. Stationery Office.

⁴ Cyril Burt: *Mental and Scholastic Tests*, or the abridged edition, *Handbook of Tests for Use in Schools*. King and Sons.

⁵ Lewis M. Terman: *Measurement of Intelligence*. Harrap.

tage that the standardisation was obtained by trials upon English children, but the fact that the number of tests is not the same for each age leads to some intricacy in scoring. With the Stanford scale the scoring is easier, and although the placing of a few of the tests requires modification for English children, the additional tests appear to the writer to give less chance to a child of purely mechanical mind to achieve a score above his deserts, testing as they do some of the higher qualities of judgment and reasoning, and particularly that surely fundamental quality of intelligence, the power of adaptation to new situations.

The following is a list of the tests of the Stanford revision up to the mental age of 10, beyond which it is seldom necessary to proceed in examining defective children. For details, particularly of methods of presenting the problems to the child, reference must be made to the literature.⁵

Year III.

1. Points to parts of body named (nose, eyes, mouth, hair).
2. Names familiar objects shown (key, penny, knife, pencil, watch).
3. Enumerates objects in pictures shown (at least three in one picture).
4. States whether boy or girl.
5. Gives surname.
6. Repeats six or seven syllable sentences.

IV.

1. Compares length of lines.
2. Discriminates and matches different forms.
3. Counts four pennies.
4. Copies a square.
5. Answers comprehension questions (what should you do if sleepy, cold, hungry?).
6. Repeats four digits.

V.

1. Compares pairs of weights.
2. Names primary colours shown.
3. Aesthetic test (pretty and ugly faces).
4. Definitions in terms of use (chair, fork, horse, &c.).
5. Reconstructs post-card divided into two.
6. Carries out three simple orders consecutively.

VI.

1. Distinguishes right and left.
2. Detects missing features in mutilated pictures.
3. Counts 13 pennies.
4. Answers comprehension questions (what to do if raining when going to school, if house on fire, if miss train).
5. Names three of four familiar coins.
6. Repeats sentences of 16 to 18 syllables.

VII.

1. States number of fingers on one and both hands without counting.
2. Describes one of three pictures shown.
3. Repeats five digits.
4. Ties bow-knot like model shown.
5. States difference of pairs of objects (butterfly, fly; stone, egg; wood, glass).
6. Copies diamond.

VIII.

1. Ball and field test.
2. Counts from 20 backwards to 1.

3. Answers comprehension questions (what to do if break another person's property, if late on way to school, if hit unintentionally by another child).
4. States similarities of pairs of objects (wood, coal; apple, peach; iron, silver; ship, motor-car).
5. Gives definitions superior to use (balloon, tiger, football, soldier).
6. Defines 20 words in vocabulary read to him.

IX.

1. Gives date.
2. Arranges five weights in order.
3. Gives change.
4. Repeats four digits backwards.
5. Makes sentences containing three prescribed words (boy, river, ball; work, money, men; &c.).
6. Gives three rhymes for given words (day, mill, spring).

X.

1. Defines 30 words in vocabulary.
2. States absurdity of sense in sentences read.
3. Reproduces two designs exposed for 10 seconds.
4. Reads short passage and reproduces its facts in speech.
5. Answers comprehension questions (what to do, when asked opinion of person not well known, before beginning important work, and why judge people by acts rather than words).
6. Names 60 words in three minutes.

The "mental age" of the child is obtained by allowing two months for each test passed and adding two to the total corresponding to the first two years of life, and the "intelligence quotient," I.Q., is obtained by the formula $\frac{\text{mental age}}{\text{chronolog. age}} \times 100$. As a rule, it

is only necessary to try the tests of three or four successive years. A diagnosis of mental deficiency should never be based upon such tests alone, but in so far as it is so based it may be said that all above an I.Q. of 75 may be reckoned as not deficient, those between 70 and 75 as doubtful cases, and those below 70 as deficient. Imbeciles are usually between 25 and 50. All such figures must, however, be regarded as only at the best approximations, and should not be interpreted rigidly. And where certification under the Mental Deficiency Act is required for institutional care on grounds of intelligence alone, an upper limit of 60 or even less might well be fixed. It is seldom, however, that the diagnosis has to be made on such grounds alone.

Much more important than the mental age or I.Q. is the careful interpretation of the detailed test results. On this matter it is impossible to lay down rules. The experienced examiner learns to rely upon the general attitude of the child, the method of attacking and answering a problem presented to him, the type of answer given, the types of questions on which the candidate passes or fails, rather than upon the actual score attained. Success in such tests as those of "differences" and "similarities," comprehension questions, repetition of digits backwards, construction of sentences, detection of absurdities, must weigh very greatly in favour of the candidate (in due relation, of course, to his age). In a simple test of estimating

weights (V., 1) besides the correctness of the answer, one notes as of importance whether the child first weighs one box, then the other, in one hand, or picks up both at once in one hand, or even only tries one, and gives his opinion without further trial. In answering the "differences" question (VII., 5) a tendency to give the same type of answer to all the questions is generally indicative of poor intelligence; for example, after stating the difference between fly and butterfly as one of colours, he may try to distinguish wood and glass similarly; the writer recollects a child who even distinguished egg and stone also by colours. Nearly every test provides points of significance such as these, apart from the mere fact of failure or pass.

It is obvious that most of these tests depend upon the use of language—all of them upon the understanding of the language of the examiner, and the majority upon the actual employment of words, points in which many defectives are notoriously weak. It has now become usual to employ other tests of a somewhat more practical kind, for many defectives are not without some practical capacity which may be turned to use—it may be said, indeed, that this is their one sheet-anchor. At the head of tests of this type we would place the Porteus maze tests,⁴ which consist, as the name suggests, of a series of mazes printed on paper or cardboard, rising in difficulty from ages 5 to 14. The child has to trace a way through the mazes from entrance to exit with a pencil or knitting-needle. Their special value is in demonstrating qualities such as foresight or its absence, carefulness or recklessness, ability or failure to profit by mistakes, and to a limited extent ability to plan. These tests are probably of most value, as are also the Stanford tests, in examining children of the lower mental ages. The writer has found that only a few of the very lowest grades of feeble-minded in a special school failed to make some attempt at least at the test for age 5, so that they obviously have a fairly wide usefulness in the examination of defectives.

Many other types of performance tests are now available, mostly American in origin.

As a rule, it is desirable to test the educational attainments of the child, keeping in view at the same time his opportunities. For this purpose the examiner can have no better guide than Dr. Burt's standardised tests of reading, spelling, and arithmetic. Even when school attendance has been normal, a defective's educational level is usually at least three years behind the normal for his age, except in the very young—up to 8, say, when his backwardness may not be quite so great. With regard to educational work, it should be said—and this, I consider, is a point of considerable importance—that readiness and even fluency in mechanical reading is in itself no proof of normality. Indeed, I have recently seen a very marked instance of this in the case of a lad of 14 who, by persistent effort on the part of the teachers in a residential school, is now able to read Dr. Burt's tests up to age 10 and to spell on the level of age 9,

and yet on all other grounds is easily certifiable as an imbecile. In cases of practically complete failure to acquire the art of reading after fair trial, the possibilities of word-deafness or word-blindness must be considered. In arithmetic even the best types of feeble-minded have great difficulty in attacking quite simple problems, although mechanical processes give them little trouble. The lowest types of feeble-minded may not be able to grasp three without actually counting with the aid of the finger, or may not be able to count four pennies correctly; there may be complete failure to grasp the idea of number at all. Between these extremes all degrees are found, but usually the chief difficulties are with abstract work, with subtraction and division, and with sums in the form of problems. The difficulty with subtraction, which is often very noticeable, is probably correlated with the difficulty in going backwards in numbers, as in the Stanford tests VIII. 2—IX. 4, and in the alternative test sometimes given at age 7 of asking a child, after repeating the days of the week, to state what day comes before—say—Tuesday.

All this testing requires much time and patience, and it is not always possible to carry out the whole of it at one sitting. The child's power of concentration is frequently unequal to a prolonged examination. Most practitioners will probably have to be content with a more restricted line of examination, but for a definite and reliable diagnosis an examination that does not include the tests of three or four successive years of intelligence tests, with corresponding educational tests, and one or more performance tests, can scarcely be regarded as satisfactory. As already suggested, the diagnosis must not be made to hinge entirely upon the results of tests. The physiological development of the child from infancy should be ascertained as accurately as possible (see remarks on Physiological Stigmata) and inquiry regarding the child's reaction to his environment in general is advisable. Does he tend to avoid the society of children of his own age and associate with younger children, is he a leader or easily led, can he join intelligently in games, what are his usual hobbies, what is the attitude of other children to him, is he a target for the ridicule of others? Answers to these questions are of much significance, but may not always be reliable when given by parents naturally anxious to camouflage their child's shortcomings.

A medico-psychological diagnosis of mental deficiency having been reached, the legal certification will depend upon the purpose of the examination. The school medical officer who has to decide on the child's unsuitability for an ordinary school, and his suitability for a special school, will be called upon to certify for educational purposes children who could not be certified by the practitioner, for the practitioner gives a certificate under the terms of the Mental Deficiency Act, which specifies certain other conditions as necessary. Questions of behaviour and moral control (which are dealt with elsewhere) enter into the decision more in the latter case than in the former, although in neither case can they be ignored.

CHAPTER IV.—SYMPTOMS IN CHILDREN.

ABNORMAL AND EXCESSIVE EMOTIONAL REACTIONS; RESTLESSNESS: DAY-DREAMING AND SHYNESS.

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Development, Intellectual and Personal.—The Apathetic Child.—The Over-emotional Child.—Environmental Factors.—Value of School Life.—Restlessness.—Day-dreaming and Shyness.

DEVELOPMENT, INTELLECTUAL AND PERSONAL.

CHILDHOOD is pre-eminently a period of emotional display, so much so that we incline to regard as childish any undue emotional tendencies in the more mature. It is a matter of considerable difficulty, then, to fix any standard by which we may judge the normality or otherwise of an emotional outburst in the child and to determine the point at which interference may be deemed necessary.

It is generally recognised that during the years of physical growth not only is there an intellectual development in progress, but also the more subtle formation of those sentiments which constitute the foundations of the personality and character. For the former there is needed an experience of things, either at first hand or through the medium of a teacher, and as intellectual development is regarded as a prime necessity at the present day, the requisite facilities are usually amply provided. To the latter little attention is paid except such as the parents can give, and, even so, the only way in which the child can progress is by first-hand emotional experience.

Emotional reactions, we may say, are necessary in the life of the child. The flow of interest, the drive of curiosity should be relatively uninhibited and unfettered, and as the young mind forges on through the early years of development there must of necessity arise a great variety of situations in which achievement, frustration, disappointment, pleasure, and pain cut across the steady flow of interest, and so cause emotional states which are manifested in considerable intensity. It cannot be too plainly stated that it is only by the stirring of the deeper feelings that development takes place, that the child is enabled to mature, and though, as we shall see later, a constant intensity of emotional reaction may become pathological or may lead to secondary disturbances, yet it would be quite wrong to regard free emotional display as prejudicial.

In the very young child we should expect reactions of the more primitive self-centring types—anger, fear, jealousy, self-pity—while as the years go by these should give way to the more complex feelings of love, pity, sorrow, and so forth. Only as the period of adolescence is reached should there be that damping down and conscious restraint of

the expression of feeling which we associate with the adapted social individual. Just as the interest of the child is labile and omnivorous, passing freely from one object to another, being with difficulty kept in one direction for any length of time, so with the feeling states the emotional reaction should be free and variable. They should pass and change lightly and easily; apart from their more profound effects in moulding the sentiments they should leave little or no sign of their passage. The ease with which a normal child recovers from an intense paroxysm of crying and enters a phase of obvious pleasure and gratification is a striking phenomenon, and is paralleled in the lower animals by such occurrences as when a terrified rabbit will be observed to sit up and commence nibbling a lettuce leaf within a few seconds of the cause of its terror having been removed.

It is not, then, to the incidental outburst that we must look for evidence of abnormality in the emotional life of the child, but rather to some failure of lability as would be shown by the undue persistence of outbursts of feeling or by a more frequent recurrence of some specific emotions than of others. There is little doubt that in the normal child the tendency should be towards feelings of a pleasurable quality. On the whole the emotional reactions should be in the nature of expressions of self-satisfaction, commonly designated as "high spirits." Wherever possible the wise parent arranges for opportunity for these manifestations to occur so that they do not interfere with other members of the family or social circle and so do not demand restriction. A departure from this prevailing feeling state for any length of time is usually taken as indicating that the child is physically ill, and such is the common case in the young but not necessarily in the older child.

THE APATHETIC CHILD.

There is no more serious portent than a failure of emotional reaction in general. In such a case the child is listless, apathetic, and disinterested. The attention may be gained spasmodically, but is quickly lost; there are no particular indications that the mental state is one of pleasure or displeasure, and there is no response to affection or

severity. Emotional apathy is found in association with certain types of low-grade mental deficiency; the mental condition of children with gross cerebral lesions and of the cretin is so characterised. Apart from general mental deficiency it is almost invariably a sign of some serious disturbance of the physical health which does not entail much pain. Alimentary toxæmias, cardiac deficiencies, marasmus, and rickets are examples which may be cited. This failure of emotional reactions means psychologically and also biologically a failure of energy, and while it persists there will be no mental development and possibly no physical growth. Emotional apathy, whenever it appears, should be taken as an indication for rest, and on no account should any attempts be made to drive the child to interest himself, no matter at what age the condition may be manifested. The mental torpor of encephalitis lethargica is often of the nature of an apathy, though the masking of emotional response may in many cases be more apparent than real.

In older children an apathy may be simulated, but it is rare that the appearance can be kept up for any length of time; should the condition persist and should there be no concurrent disturbance of the physical health, then the cause must be sought in some abnormal development of sentiment or in the environmental situation of the child. The boy or girl at school who becomes dull, slow, and disinterested for no obvious cause is usually suffering from an inhibition set up by some incompatibility between internal sentimental values and environmental reality, and in such cases the emotional apathy may be the prelude to a serious mental disturbance if nothing be done to change the environmental factors.

THE OVER-EMOTIONAL CHILD.

Persistent and recurrent exhibitions of the more primitive and egocentric emotional qualities, such as anger and fear, with outbursts of petulant conduct and storms of tears of self-pity, are common in all grades except the very lowest of mental deficiency. Their appearance in an otherwise normal child is usually due to a physical cause of irritation. The bad temper and uncertain disposition associated with the teething period is a familiar example. Persistent irritability of this kind is related also to the epileptic disposition. Apart from those cases of epilepsy which depend upon some definite neurological lesion or upon some adventitious toxæmia, which constitute a comparatively small proportion, there remains the numerically strong group of the so-called idiopathic type. The investigation of these cases has shown a fundamental tendency towards the persistence of the primitive emotional reactions and a failure of maturation of the sentiments which should normally inhibit them and deflect the feelings along other and more socially useful channels.

In older children who are not mentally deficient, and in whom the more primitive reactions are becoming modified by the development of sentiments, abnormality is shown by the persistence of moods which are ill-adjusted to the circumstance of

the moment. A tendency to self-absorption and a constant disinclination to mix with other children, a general sulkiness, self-consciousness to a degree which seriously interferes with the child's social behaviour, periods of excitement and self-satisfaction alternating with apathy and depression independently of environmental circumstance, are to be regarded as indicating some failure of sentimental adjustment and the need for psychological investigation.

Care must be taken in the older child to distinguish between true apathy and the suppression of emotional manifestation. It is true that sooner or later there must come the conscious inhibition of the expression of feeling, but that should not be present to any marked extent until adolescence, and in the younger child it may be fraught with serious consequences to the emotional life later on.

ENVIRONMENTAL FACTORS.

So far we have considered the emotional variations from the point of view of the child alone, but it must not be forgotten that, apart from the innate tendencies which must appear as development proceeds, the environment exerts an enormous influence on the affective life of the growing child. The handling of the emotional outbursts when they come is essentially a matter for the parent or whoever happens to be *in loco parentis* at the time, and it greatly depends upon the manner of the handling of the situation what effect the emotional experience will have on the future affective life.

In the first place the child will absorb to a great extent the emotional atmosphere which surrounds him. The calm, placid home will tend to produce the child without initiative, a creature of fixed habit, steady but with no intensity of life. The child brought up in an atmosphere of emotional excitement will tend to be a creature of impulse, brilliant but with perhaps a lack of staying power.

Secondly, the child is imitative, and quite apart from what is absorbed he will tend to copy and exaggerate any eccentricity or abnormality that may be present in a parent, nurse, or teacher. As a result a habit of expression may be formed which may persist throughout the later life.

The third and most important consideration of all arises out of the actual affective relationship which appertains between the parent or guardian and the child. However much the child may be moulded by the general atmosphere or by contact with an eccentricity, he will be profoundly disturbed by the personal factor of the parents when he occupies too prominently the centre of interest in the home. In general, while the children are young and very impressionable, the parents are so immersed in the struggle for existence that their energies are deflected to a considerable extent from the children. Also, when there are two or more children, no one child can usually be the sole focus of sentiment for the parents. The solitary child of the well-to-do and unoccupied parent is in a very invidious position. Granted the perfect mother and father, naturally he will stand a better chance than any other, but parents are human, and

the only child usually has to suffer affectively in after life for the over-attention of his parents. The sentimental doting father and mother cannot thwart the child because in so doing they are made unhappy themselves. The child quickly learns the power he exerts and how he may most easily accomplish his ends, and by the time he leaves the care of the home he is incapable of modifying his conduct to suit the requirements of the outer and less sentimental world. An undue emotional need for affection on the part of the mother or father will result in a complete dependence emotionally of the child upon one or other or both, and this "fixation of the interest" in childhood may lead to untold difficulty in the social life of later years. Such tendencies towards the conditioning of emotional reaction by the sentimental attitude of personal contacts are, by their nature, hysterical, and there is little doubt that the hysterics of adolescence and adult life have their ultimate origins in such circumstances (see p. 168). Unfortunately, in cases of this kind, it is impossible for the doctor to get at the trouble until secondary disturbances of conduct have arisen and the essential mischief has been done. The parents are the last people to realise the morbidity of the earlier emotional reactions, and it is only by them that advice is likely to be sought.

THE VALUE OF SCHOOL LIFE.

From the point of view of giving the child an affective nature which will enable him to prosper in the social world, there is no doubt as to the wisdom of getting him away to school. Despite much criticism to the contrary, I think that, to-day at any rate, both public and private schools strive to meet, and do in great measure meet, the emotional as well as the intellectual needs of their charges, but in the education provided by the State little or no attempt is made to influence the child emotionally. The coming years will show whether it is wise to give an indiscriminate and minimal education of a purely intellectual value and to neglect the factors which go to form the character and personality.

RESTLESSNESS.

The nervous system is primarily a conducting mechanism which provides the necessary connexion between stimulus and motor response, and active life is fundamentally dependent upon the reception and assimilation of environmental and endogenous stimuli. In the highly complex nervous system of the human being this basic property still persists, though it is masked by the groupings and co-ordinations of the channels of afferent and efferent impulses and by the inhibitions which are both automatic and consciously exercised. Innumerable stimuli are constantly being received on the afferent side, and consequently there is a tendency towards a constant motor discharge. Restlessness, a somewhat relative term, may be taken to mean a persistence of motor activity which is in large measure purposeless and lacking in utility to the organism and which, moreover, is not within the control of the will. By applying the principles laid down by Hughlings Jackson it will be seen that such a condition may arise in various ways.

Defect in Higher Inhibitory Control.

In the first place there may be a defect in the development of the higher inhibitory control, and to this cause may be attributed the general restlessness that is associated with the various grades of mental deficiency. In some cases the defect is manifested mainly in the associational centres and the common motor pathways, and is shown in the curious spreading of motor excitement which is not uncommonly observed. The patient commences to speak and with that the facial muscles overact, movements spread to the arms, the trunk, and the legs, and soon the whole organism is in a state of useless activity. When the associational centres are particularly affected the thought processes themselves are broken up and rendered meaningless and valueless to the individual. Even where the case is not so extreme any mental or physical effort is greatly modified in its effect by the constant uninhibited flow of nervous impulse producing disorderly and incoherent motor activity. Only a limited portion of the nervous system may be affected, and in such a case there will be a correspondingly limited motor restlessness in a group of muscles in a particular limb. Restlessness due to trauma in later life is usually of this type; it is unlikely that a patient would survive an injury to the higher centres causing a general disturbance. Examples of such local restlessness are to be found in the athetosis which follows cerebral palsies, the mass, or spreading, reflexes which are seen in lesions of the spinal cord, the pill-rolling movements in Parkinson's disease, and the continued tremor of the organic neuropathy of most kinds.

Physical Irritability.

Secondly, we have to consider conditions where the nervous system is subject to some irritation and is rendered hypersensitive and therefore highly conductive. In most physical illnesses associated with pain this state of affairs arises, and even where the sensory stimulation is not consciously appreciated the effect may be the same. The relatively little inhibitory development of the child renders it particularly liable to restlessness of this type, as is evidenced by the reaction of children to intestinal worms, to obstruction of the air passages by tonsils and adenoids, and to the results of improper feeding. General states of toxæmia produce a similar effect. The restlessness of the child with pneumonia or any acute infective disorder may be cited in this connexion, and there is little doubt that mild toxæmias of an exogenous or even endogenous metabolic source underlie a great deal of the restless activity of the child. The restlessness of chorea is an instance of a toxic disturbance affecting particularly localised areas of the nervous system.

Persistent Emotional Discharge.

Thirdly, an undue and persisting motor discharge may occur in the child where the potential of the nervous energy is persistently raised, and here we have to deal with a causation based upon emotional factors. The more intense the conscious feeling state the greater the tendency to motor discharge, and it is an impossibility for the child who is passing

through an emotional experience to keep still. Persistent emotional reaction intensifies the leakage of nervous energy along pathways of motor discharge. Habits of lower levels of nervous function quickly arise both in the receptor and effector sides and a vicious circle becomes established, as a result of which the slightest display of interest on the part of the child is followed by an intense emotional reaction and a motor discharge quite incoherent and without purpose. This ultimately leads to an exhaustion of the organism with serious disturbance of the endocrine system.

In some cases, and especially where there is an innate tendency, such restlessness due to emotional failure may become paroxysmal and convulsive in form, and it is not at all certain whether the further possibilities do not include the establishment of an idiopathic epilepsy. The epileptic convulsion is, after all, simply a total uninhibited motor discharge, and such a reaction is theoretically an extreme and terminal case of the type of restlessness which is being considered.

The restlessness originating in emotional disturbance differs from that deriving from the more purely physiological sources in that it is not limited to the waking life. The movements of the mental defective, the choreiform grimaces and jerking, the athetoid contractions cease during sleep, but the general restlessness of the emotional child persists. In many instances it is first remarked that the child's sleep is disturbed and the general lack of control of the day is often attributed to the loss of sleep.

Naturally a chronic source of irritation, such as continued pain, will disturb the child night and day, but apart from such cases in which the causal factor is fairly easily established, restlessness at night must be attributed to emotional stress.

DAY-DREAMING AND SHYNESS.

Intellectual activity, the capacity to use the symbols of language, to think things out, and to rearrange and redispense of life in ideas is a development of mankind upon which the supremacy of the human race mainly depends. Ideation is not, however, so dissociated from the mental functions which we share with the more humble denizens of this planet as some philosophers would have us believe.

In its most important application ideation is a preparation for activity. It is an associational phenomenon interpolated between the stimulus and the response, and, as we know to our cost, in situations where action is impossible the stimulus of the situation may excite a frantic thinking which is beyond all our power of control. In other words, thinking is a form of conduct and largely replaces overt behaviour. When we are doing we can rarely think profitably, and when we are thinking deeply we can perform but poorly.

The whole of life is dominated by the urge which derives in the first place from the primitive instinctive mechanisms. These urges we realise consciously as desires and wishes which influence behaviour. On the whole, our activities are towards securing results satisfying to our states of desire or wishing; failure to achieve such results may be bitter and distasteful.

Individuals whose activities have not been successful, or whose desires and aims are for various reasons unattainable in this world, tend to fall back upon thinking, which is the alternative to doing. The great philosophical schemes of history are usually the result in some measure of such a withdrawal from the reality of life, and there is the tendency in all of us to retire into an ideationally constructed world of our own when the pressure of life has become too severe. As we grow older our responsibilities tie us closely down to reality, we dare not relax our grasp lest we fail to get hold again, but before the discipline of the self is well established there is no harm done in abandoning the reality for the shadow for a while.

For children a great deal of life is phantasy; when fact fails to please and satisfy the ideational representation is allowed full play. Day-dreams are phantasies of this nature. In the day-dream the child can find emotional outlets and can exercise sentimental dispositions which would be starved in the world of fact. Just as play in the child or the young animal is in a sense a preparation for more serious activities, so the free exercise of the imagination is an exercise of those associational processes which later on will be tempered and forged into the weapon of the intellect.

The danger comes in the tendency for the means to become an end in itself. The ideational world or the phantasy life calls for little effort, and if it be sufficiently vivid it may be amply satisfying to the senses. In comparison with the world of hard reality it may be too tempting for the individual to leave. The building of castles in the air may make impossible the cottage in reality. While in the child the phantasy and the day-dream is to be expected, in the adolescent serious trouble may arise from the conflict between reality and fancy. It is in childhood that these difficulties can be anticipated and arrested most easily, and it is important to keep the child's tendencies under observation. It may be laid down that the phantasy should normally be easily broken into by an interesting reality. Meal-time should be a signal to which the child should naturally respond, a new toy should always be able to attract interest, and so on. When the child is reluctant to give up the dream world for realities of this kind it is time that something is done.

As the child progresses individual should give way to collective phantasy. The child should derive more pleasure from the sharing of the experience with others. Boys should play at being Red Indians together, girls should hold collective tea-parties. The self-discipline of the collective imaginary exploit or game is of great importance in the maturation of the sentiments, and if the child shows a tendency towards isolated play and dreaming it is an indication that there is some difficulty of adjustment to social life or that the particular phantasy cannot be shared. In either case investigation is needed.

The tendency towards isolation of the thinking imaginative life is commonly indicated by an excessive shyness. The child who lives largely in phantasy and who has come to depend upon the

dream rather than the realities inevitably hesitates to express any emotional feeling in the presence of others by whom the importance of his dreams would not be appreciated. Only in the company of intimates who have been initiated into the trains of thought which seem all-important can any free emotional expressions occur. When the phantasies centre around a definitely sensual basis the child is liable to a more or less complete isolation. Whether such a state of affairs arises as a simple development of a certain innate constitution, or whether the accidental experiences of the lifetime would suffice to bring it about, is largely uncertain. It is probable that such degrees of introversion, as it may be termed, have a basis in both factors.

Shyness and day-dreaming go hand in hand. It is right that the child should show both in the course of development; the boy or girl who dis-

played no reticence would indeed be intolerable. The criterion to be applied should be that of practical expediency; if the characteristic is so marked as to militate seriously against the general well-being, as to render the child unhappy in a normal social milieu, then attention is required. As a rule, with such children the parents are the last people in the world to understand or to undertake the elucidation of the case, and the physician must by some subterfuge or another get the child away into the hands of some competent person who will approach the matter free from any sentimental bias and who can form a nidus in the environment which the child may appreciate and respond to. With patience and care much may be done in the pre-adolescent period of life to save the grave difficulties which may follow the persistence of such tendencies beyond the purely childish span.

CHAPTER V.—SYMPTOMS IN ADOLESCENTS: ADOLESCENT INSTABILITY IN GENERAL: MANIFOLD MANIFESTATIONS.

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*Influence of Heredity.—Manifold Manifestations.—Hysterical Symptoms.—Considerations of
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IN the normal course of development the period of adolescence is characterised by certain changes of considerable magnitude. In the majority of individuals these do not result in any serious disturbance of the health of either body or mind, but this is by no means so in all. There are, in fact, a considerable number of persons who evince at this time such pronounced manifestations of mental instability as to cause very grave anxiety to parents and relatives, and to necessitate especial treatment, care, and supervision. The importance of this condition of adolescent instability is far from being adequately recognised. Actually, however, the sufferer is passing through a very critical stage in his career. He is at the parting of the ways. One way leads to the re-establishment of mental equilibrium and to a life of happiness and efficiency; the other only too often leads to a state of chronic instability, with all its attendant misery, social menace, and inefficiency. The way he will take will be largely influenced by the treatment he receives, and I believe that one of the greatest services which the medical practitioner can render to the individual and to society consists of the early recognition and appropriate treatment of these cases. For this reason the consideration by different writers in adjacent sections of this book of the condition covered by the term Adolescent Instability has no doubt been planned; while the significance of the symptomatology must be recognised by the practitioner, it is also necessary that he should be ready to detect the general relations.

At the outset it is desirable to explain what is meant by the term mental instability. As is well known, mind is exceedingly complex. It consists of an intricate nexus of activities made up of perceptions, ideas, memories, fantasies, feelings, emotions, sentiments, and desires; also of capacities for comparing, discriminating, and forming judgments. Running through and controlling these processes are the awareness of self and surroundings which we term consciousness, and that distinctive, but intangible, something which we call the ego or personality. Although these activities are so many and varied, and although the reactions between them are of the utmost delicacy, nevertheless in the normal healthy mind their adjustments are so flexible and the adaptability of the whole so perfect that even under the violent strain which may be caused by great emotion, by unusual experiences and by

new and strange ideas and longings, the general equilibrium of the mind remains undisturbed, and the individual continues to make a satisfactory and efficient response to his surroundings.

Under certain conditions, however, a disturbance of this adjustment may take place. There is then a tendency for one or other set of processes to pass beyond control, for the general harmony of mind to be interfered with, and for the equilibrium of the whole to become unstable and disturbed. Under such conditions the individual is no longer capable of making a satisfactory adaptation to his surroundings, and the manifestations of mind, as seen in mood, disposition, speech, and behaviour, become erratic, incoördinated and anti-social. It is this state to which we apply the term mental instability, and its essential feature, from the psychological aspect, is a disturbance of the normal balance of mind. It seems probable that this disturbance is chiefly in the form of a dissociation of the personality or controlling mechanism, in consequence of which ideas, feelings, emotions, and longings get the upper hand and have unfettered sway. It may, perhaps, not inappropriately be compared to those states of incoördination and absence of control which we see in the purely motor sphere in such conditions as athetosis, epilepsy, chorea, and lesions of the upper motor tract.

CAUSATION.

Adolescent instability is most commonly seen between the ages of 17 and 24. It is more prevalent in females. Its causes may be considered under the two headings of predisposing and determining.

While I think that in some instances a predisposition to mental disturbance at this time may be acquired by the individual as a result of long-continued physical ill-health, or of injudicious upbringing and mismanagement over a number of years, nevertheless such is exceptional, and in the great majority of cases the predisposition is constitutional and inherited. The sufferer will be found to come of a stock of which many members are "nervous," "highly strung," "hysterical," or have suffered from epilepsy, insanity, or some psychosis. He has inherited a mental constitution inherently less stable than that of the normal person.

In a person so predisposed it is not surprising that the changes associated with adolescence should disturb the mental equilibrium and determine a breakdown. These exciting factors are both physical and psychical. On the physical

side we have the demands upon the organism which are made by the rapid growth and development occurring at this time, and which are only too often accompanied by late hours and insufficient sleep. It is also to be remembered that adolescence is a period when new internal secretions come into play. These may readily result in a temporary disturbance of endocrine balance, and it is not uncommon to find distinct evidence of such in metabolic changes, flushings and faintings, palpitation, enlargement of the thyroid gland, and the like. It is probable that this endocrine disharmony plays a not unimportant part in the determination of mental instability. On the purely psychic side adolescence witnesses developmental changes of even greater importance. The youth or young woman is beginning to experience new emotions and new longings. He is falling under the sway of ideals and incentives to action of which he has previously been unaware. At the same time the highest and latest functions of his mind—namely, those of discrimination, prevision, judgment, and control—are still undergoing evolution. Their degree of development may be insufficient to direct and control the new emotions which now begin to sway him, or, not being fully established, they may readily be thrown out of gear. And this tendency to mental incoördination and instability occurs at a time when the individual's burden of social responsibility is naturally increased, when he has greater personal freedom, and when parental supervision and restraint are becoming more and more relaxed.

SYMPTOMATOLOGY.

It is not surprising that the combination of conditions above mentioned should result in a disturbance of the harmonious working of mind and should tend to upset the mental equilibrium. As a matter of fact, it is probable that most adolescents manifest this in some degree or other, but fortunately in the majority the disorder is transient and comparatively slight, and it is only where the instability becomes so marked as to lead to serious alteration of conduct, or to necessitate special care, that we may regard it as pathological. It is with such cases only that we are here concerned.

As will readily be understood, the manifestations of this state are extremely varied. Perhaps the most frequent changes are seen in the emotions, and they consist either of phases which alternate with great rapidity, or of prolonged periods of exaltation or of depression. Where emotional instability is marked the state of the individual may be compared to that of a derelict vessel at sea exposed to the elements. He, or she, is blown this way and that way by every gust of feeling; at one moment being passionately and demonstratively affectionate, at another violently antagonistic, obstinate, and revengeful. The waywardness and fickleness of these persons is so great that it is quite impossible for them to settle down to any regular occupation, and if an occupation is found for them they will either throw it up at a moment's notice without any adequate reason or they will

be dismissed because of their utter unreliability. Some of these persons may be quite charming with strangers, but they speedily alienate all their friends, and at home they are quite intolerable. In some cases the emotional change takes the form of a persistent exaltation. Such persons are restless, talkative, ostentatious, full of wildly impossible and constantly changing schemes, lacking in all reticence, rushing about here, there, and everywhere, but settling down to nothing. At the same time, and in spite of their protestations of service, they are thoroughly selfish, intractable, and intolerant of all advice or restraint. In other instances a persistent state of depression and despondency is the prevailing feature. The individual becomes gloomy, silent, and morose. He will not occupy himself, he will not associate with his relatives and companions, his whole mind seems filled with sadness and foreboding of ill. As a rule, this class is so unresponsive that it is impossible to elicit from them any explanation of their feelings; others will simply say that they feel wretched and no good for anything. Threats of suicide are not uncommon, and suicide may be actually attempted or committed.

In a very considerable proportion of adolescents, especially females, the emotional change is manifested in certain symptoms which are usually termed "hysterical." It is unnecessary to particularise these, for they are well known to all practitioners; it will be sufficient to say that in addition to the rapid changes of mood and disposition, the outbreaks of temper, and the general fickleness, they take the form of aches and pains in all parts of the body, of alleged retention of urine, of paralysis ranging from a transient weakness to complete inability to walk or stand, of blindness, deafness, mutism, and of convulsive seizures which may closely simulate epilepsy. In a number of instances of this type the individual complains of persistent, but vague, pains in some region of the pelvis or abdomen, and the condition may be thought to be appendicitis, gastric ulcer, inflamed gall-bladder, or "bands." In such cases the unwary surgeon may easily be led into performing an operation, and I have seen many persons who have been operated upon two or three times in the attempt to discover some pathological condition which only existed in the mind of the sufferer. It used to be thought that, even if the condition was "hysterical," operation was the correct procedure, inasmuch as it would convince the patient of her cure. I am certain, however, that this is wrong. The performance of an operation in an obsessional case of this kind only serves to fix the idea still more deeply and to make the task of the mental specialist, to whom the patient is almost certain to be sent sooner or later, one of greater difficulty. It may, indeed, make his task impossible and impel the patient into a life of chronic invalidism, for against the ever-present reminder of these portentous scars psychotherapy may prove powerless.

In addition to these emotional changes the instability of adolescence is often characterised by a disturbance of the intellectual functions of

mind. This may show itself in a failure of the capacity for comparing and discriminating, a weakening of judgment, an inability to see things in their true perspective, to look ahead, to plan, and to provide for even near contingencies, and a general loss of the power of concentration or mental application. In fact, the mind of the individual, in addition to being the battle-ground of a war of emotions, is also the site of a tumult of ideas and desires, and these are often of the most wild and fantastic nature. In other cases the intellectual faculties, instead of running riot in this way, become dulled and sluggish. The individual seems to have lost all desire and to be incapable even of utilising the acquirements he formerly possessed. Not infrequently the mental hebetude and childishness are so marked that he appears to be feeble-minded.

Amid this emotional and intellectual disturbance, and with this loss of discrimination and dissociation of the personality, it is inevitable that conduct should be affected, and consequently we find that aberrant behaviour and actual misconduct, often amounting to the commission of crime, occur in a very considerable number of these cases. This is seen in many ways. In some instances the individual takes up, one after another, various fantastic religions or social causes, and the promulgation and practice of these, to the neglect of the occupation upon which he should be engaged, cause him to be at the least an intolerable nuisance and not infrequently to come into conflict with legal authority. In other individuals the aberrant conduct is seen in boastful lying and markedly exaggerated self-display. He may profess, and in some cases apparently believe, that he is a person of great consequence, and he may commit extravagances and illegal acts in accordance with this assertion which bring him within the law. In other instances the unrestrained ideas or liberated primitive instincts lead the person to wander away from home, to commit thefts, sexual offences, acts of destruction, assaults, and even murder. I think that there is little doubt that a considerable proportion of the crimes committed by young persons between the ages of 17 and 24 years are the result of mental instability. In exceptional cases the individual may be actually unaware of the act he commits, either during or after its performance; his condition, in fact, resembles the automatism seen in epileptics, and it is likely that it is really of an epileptic nature. This, however, is uncommon; the person usually knows perfectly well what he is doing, but the disturbance of mental equilibrium is so great that either wrong seems to him to be right, or else, knowing it to be wrong, the inadequate control renders him unable to resist the impulse. Adolescent instability is the explanation of many of those sad cases of thieving and other forms of wrong-doing which occur not infrequently amongst well-educated and carefully brought-up youths and girls at public schools.

DIAGNOSIS.

The diagnosis of this state is not usually difficult; there are, however, a few conditions which the

practitioner should bear in mind, and should exclude, before deciding that he is dealing with a disturbance of mental function and not with an organic disease, since such a differentiation is important from the point of view of prognosis.

One of these conditions is *feeble-mindedness*. On the one hand, a considerable number of feeble-minded persons suffer from adolescent instability, and this latter may preponderate to such an extent as to mask the underlying defect. On the other hand, the merely unstable person may be so incapable and inefficient as to be thought to be feeble-minded. A diagnosis can only be made after a careful inquiry into the patient's previous history and an examination, by means of special tests, of his general mental development (see p. 20).

The early stages of *adolescent general paralysis* are often characterised by marked mental instability, and such cases may be thought to be merely functional. This is all the more likely because in general paralysis the usual physical signs may not appear until one or even two years after the onset of the mental symptoms; also, although this disease is due to congenital syphilis, the characteristic signs of this may be entirely absent. There will usually be something in the parental history suggestive of this possibility and a Wassermann test should settle the matter.

Dementia præcox in its early stages may be thought to be merely adolescent instability, and symptoms of instability are not infrequently seen at the beginning of this disease. It may be necessary to keep the patient under observation for some time in order to ascertain the general course and to detect the peculiar mental features of *dementia præcox* before a certain diagnosis can be made.

Certain *post-encephalitic states* are characterised by marked instability, change of disposition, loss of emotional control, and misconduct. Diagnosis may be difficult, but it can generally be made after a careful inquiry into the previous history of the patient, by a physical examination which may reveal signs of organic nerve lesions, and by a study of the patient's mental peculiarities.

Many persons suffering from *epilepsy* are markedly unstable, intractable, and subject to emotional changes; but usually in such cases there will be no difficulty in obtaining a history of definite fits. It is to be remembered, however, that a person may suffer from psychic epilepsy without any motor convulsions, and it may be exceedingly difficult to distinguish between this and mere mental instability; indeed, I am disposed to think that psychic epilepsy may be a manifestation of the mental instability of adolescence.

PROGNOSIS.

This has to be considered, first, with regard to the actual attack, and secondly, with regard to the effect of this upon the patient's subsequent mental condition. Generally speaking, it may be said that a case of marked mental instability will certainly last for months, and may possibly last for one or more years. In the majority of instances, if suitably treated, it will end in recovery; in a minority it will pass into a state of certifiable

insanity. Of this latter group the majority of patients will eventually recover, while a minority will remain incurable lunatics.

The prognosis given in any particular case must be based upon a careful consideration of the family history, the patient's previous mental condition, his physical state, the nature and extent of his mental disturbance, and the factors which have been the immediate cause of the breakdown. In a case in which neuropathic inheritance is not very pronounced, where prior to the present attack the patient's mentality was normal, and where the breakdown can be traced to some definite physical or psychic determining factor, a favourable prognosis may be given. In other instances the issue is more doubtful, but recovery is the rule under appropriate treatment.

With regard to the patient's future, it must be remembered that it is rare for a person of normal mental constitution to suffer from a marked degree of adolescent instability. Such an attack is almost invariably the indication of an innate defect of durability. It follows that a breakdown at this time of life is very prone to be followed by mental disturbance at other periods and under other exciting causes. I think there is no doubt, however, that, if due attention be given to the danger signal and the future life be so ordered as to avoid mental and physical stresses, further attacks may be prevented in a considerable proportion of cases.

TREATMENT.

In some of the mildest cases it is possible to obtain satisfactory results at home, provided the material and mental environment is good; but even mild cases will respond better when removed to new surroundings, and if the instability is at all severe removal from home is essential. The question then arises, Where should the patient be sent? This depends largely upon financial and social considerations. It may be months before equilibrium is restored, and during this time the patient may be exceedingly difficult to manage, resentful of guidance, and antagonistic to those about him. Firm but kind and judicious supervision is essential, by a physician with a knowledge of psychiatry in an environment providing a variety of occupations in quiet surroundings, and, if possible, in country air.

In the case of well-to-do patients it is not usually difficult to meet these requirements. Occasionally they may be fulfilled by sending the patient away to suitable relations in the country; generally, however, it will be better to remove him entirely from relations and friends and to place him in one of the numerous small homes which are owned by a medical man or are under medical supervision. For patients whose means do not admit of this expense the matter is not so easy. There are a few homes where the necessary treatment and care can be obtained, but the number of these is very limited, and at the present time the accommodation for persons of this type is woefully inadequate. In some instances the only means of obtaining proper control may be by certification under the Lunacy Act, but this is a measure which should

not be adopted if it can possibly be avoided. As to management, adolescent instability is not a specific clinical entity running a definite course; it is a disturbance of personality. The physician must ascertain the cause and variety of the disturbance present, and he must then strive to bring about a readjustment.

Treatment must be directed to both body and mind. It has already been mentioned that disorder of bodily health may be a factor of considerable importance in determining the mental disharmony. It is therefore imperative that any such physical disorder should be ascertained and receive appropriate treatment. In regard to this attention should particularly be directed to the possibility of septic teeth, tonsils, or other organs, also to chronic constipation, anaemia, and malnutrition. If sleeplessness is present it may be necessary to give mild hypnotics. If the patient is below weight he should receive a generous diet consisting mainly of milk, eggs, fruit, and farinaceous foods, but much meat should be avoided. A patient who is markedly under weight, who is very easily fatigued and who shows signs of nervous exhaustion, is better kept in bed for the whole or greater part of the day, but otherwise he should be provided with as much healthy recreation and occupation as is possible, preferably in the open air.

Before initiating any definite psychic treatment it is essential for the physician to gain the confidence of his patient and to get him to unburden himself freely and fully of his thoughts, feelings, and longings. Where conduct is faulty the psychological cause of the misbehaviour must be sought, and the best way to do this is to encourage the patient to describe the state of mind which led up to each particular misdeed. This requires much patience and tact and several interviews may be necessary before it is accomplished; but it is of the utmost importance because it is upon such knowledge that the subsequent mental treatment must be based. In many cases conflicting ideas and desires will be revealed, and the conflict may be settled and equilibrium restored by sympathetic explanation and discussion. In other instances obsessions may be present, and these may be removed by suggestion or persuasion. In others it may be found that the patient is lacking in moral and altruistic feeling and in that sense of personal responsibility and obligation which are the basis of satisfactory social behaviour. Treatment then consists in the development of affection and self-respect, and in the inculcation of moral and social ideals. In yet others it will be found that the prime cause is a breakdown of control, and in these systematic physical and mental exercises directed towards the development of attention and the general coördination of mental action will be of value.

The essence of sound treatment consists of two things: first, regulation of the various functions of the body and removal of any pathological conditions; secondly, the allaying of the riot which is taking place in the patient's mind, the acquirement of self-knowledge and understanding, the building up of character, and the development and strengthening of self-control.

CHAPTER VI.—SYMPTOMS IN ADOLESCENTS:

MOODINESS AND EMOTIONAL INSTABILITY; WITHDRAWAL FROM REALITY.

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*Moodiness and Emotional Instability.—Disproportionate and Incoordinated Reactions.—Withdrawal from Reality.—Phantasy, Anergia, and Negativism.—Symptoms and Diagnosis.*MOODINESS AND EMOTIONAL
INSTABILITY.

EMOTIONAL instability is, as might be expected, very commonly manifested by adolescents. It would indeed be surprising if the transition from the emotional reactions of childhood to those of adult life were accomplished without, at the least, passing disturbances of emotional balance, the more so when we reflect on the tremendous number and variety of new experiences, the profound and revolutionary changes in outlook, and the immense increase and development of self-realisation which accompany the period of adolescence.

A certain amount of moodiness is therefore only to be expected from time to time in practically every adolescent who has a nervous system of any responsiveness at all. The question of dealing with this will not, as a rule, concern the physician, but it is a matter of the very first importance, and the future character and outlook of the individual may largely depend upon how his moods are handled in adolescence. His parents, and perhaps his schoolmasters, will be the persons most concerned with this task, unless the boy's emotional reactions are so distinctly and persistently abnormal that the physician's aid is sought. No progress will be made in dealing with a normal, but moody, adolescent until his confidence has been won by tact and understanding. The only general rule for progress thereafter is to take him seriously, to see to it that he has every opportunity for all possible sublimations, and to wait.

When emotional instability is observable in the adult it is interesting to notice that it is, more often than not, associated with some organic brain mischief. Thus, we meet with it constantly as an accompaniment or sequel of such conditions as senility, organic disease, injury of the brain, or encephalitis lethargica—though here the subjects are frequently youthful. In the adolescent, however, we have to fall back, in the present state of our knowledge, on purely psychological explanations. These are extremely complicated and, it may be added, incomplete; but what is absolutely necessary may be stated.

Abnormal emotional reactions in the adolescent can be roughly grouped as insufficient, excessive, disproportionate, and incoordinated. By *insufficient* is meant the general dulling of emotional activity which is seen so characteristically in early melancholic states. It should always be remembered

that melancholic depression is by no means merely a matter of the emotional tone being one of grief. It is a general slowness, sluggishness, and insufficiency of reaction to emotional stimuli of every kind. Good and bad news are received with equal indifference by such a patient. He is not even interested, let alone troubled, by wars or rumours of wars, and he is no more terrified by the prospect of battle, murder, and sudden death than he is cheered by a promise of health, wealth, and happiness. In the early stages, at least, such patients are indeed—

“From too much love of living,
From hope and fear set free.”

Excessive reactions are found at the beginning of the states of mania which are by no means uncommon in adolescence. The patient is not only in a state of emotional elation; he is emotionally hyper-excitable, he can be moved from laughter to tears in a moment, and the meanest flower that blows is sufficient to arouse in him deeper feelings than even the poet knew, though, fortunately or unfortunately, not so sustained. Any emotional stimulus produces a reaction which, although generally appropriate enough in kind, is excessive in degree and startling in the rapidity with which it vanishes, to be succeeded by another. The patient can, in fact, emulate with striking success the character who was “Merry, wise, quaint, grim, and sardonic; one by one or all at once.”

DISPROPORTIONATE REACTIONS.

Disproportionate reactions are those which are seen typically in hysteria. They may be either insufficient or excessive in any given instance, but they do not constitute a more or less homogeneous state of raised or lowered excitability as do the first two groups. More than this, they may be apparently inappropriate. A situation which might be expected to produce laughter is reacted to with tears, some apparently harmless object or incident gives rise to expressions of terror, or there may be a cheerful indifference to circumstances which might have been expected to rouse lively emotions of one kind or another. It is not easy, however, to judge of the appropriateness of the reaction, inasmuch as the patients who show disproportionate reactions are in reality reacting not to a particular object or situation but to something perhaps very different, for which it stands to them. The process is comparable to that occurring in the child who,

having been hurt or frightened by a doctor, displaces his feelings of dread from the original doctor and transfers them to the profession as a whole, or even, on occasion, to stockbrokers or other harmless people who may wear top hats and carry black bags. The child distinguishes between the first doctor and the others in intellect, but not in feeling, and the hysterical adolescent shows a similar mechanism in this respect. "Once bitten, twice shy" is understandable in the case of a child with a dog for a week or two, but if the child carries into adolescence an unreasoning terror of anything on four legs we realise that he is dominated by his past and call him hysterical. A special instance of this disproportionate reaction which such patients show is the way in which they tend to "take things to themselves." Chance remarks of others are given a personal meaning, and the merest accidents and trivialities are made the excuse for an attack of weeping, anger, or sulks.

INCOÖRDINATED REACTIONS.

Finally, we have the incoördinated reactions, and by this is meant reactions which are not only insufficient, excessive, or inappropriate with regard to the situation concerned, but are, so to speak, incoherent and inconsistent among themselves. Thus a given stimulus may produce a smile of pleasure, but repeated a few moments later may evoke expressions of terror or a snarl of disgust. Apparently causeless and spontaneous outbursts of fear, laughter, or rage are included in this group and are generally signs of serious significance. Again, the actual expressions of the emotions may be mutually inconsistent, as when a patient will laugh heartily while announcing his misery, or describe his merriment with sobs and tears. Perhaps most characteristic of all, the patient may show all the physical expressions of an emotion, while remaining perfectly unaffected mentally, as far as one can judge. Thus, such patients may smile, nod, and gesticulate in a mechanical and marionette-like fashion, but will give at the same time the irresistible impression that they are far indeed from feeling the mirth of which they are displaying the signs. "Even in laughter the heart is sorrowful."

These incoördinated emotional reactions are highly characteristic of dementia præcox, and if suspicion has not already been aroused by the earlier symptoms of the patient, no time should be lost in obtaining an expert opinion upon the case.

WITHDRAWAL FROM REALITY.

PHANTASY, ANERGIA, AND NEGATIVISM.

Phantasy, anergia, and negativism may be regarded as manifestations of different stages of the same process—namely, a withdrawal from reality. Phantasy, as is well known, is one of the commonest, simplest, and up to a certain point most healthy methods of escape from the drab realities of existence.

The creation of a dream world is an occupation in which most of us indulge, and do well to indulge,

from time to time, and no danger arises until or unless we find the dream world so attractive that we are unable or unwilling to bear the awakening. The consideration of phantasy is one of the simplest methods of obtaining some insight into the workings of the unconscious mind. It is in phantasy, and in phantasy alone, that we gain our heart's desire in the very naming of it, that all our schemes come to fruition on the instant, and that our rewards are commensurate with even our own opinion of our merits. This process, as has been stated, is both natural and beneficial, and illustrations of its working can readily be observed in ourselves and others. A large class of the community dislikes even the labour of creating its phantasies for itself, and such persons prefer to step, as it were, into a ready-made dream world by the simple process of identifying themselves with the hero or heroine of a thrilling melodrama or a sentimental novel. Hence the eternal popularity of the happy ending.

As it comes under the notice of the practitioner, however, phantasy in the adolescent is not usually very noticeable in this form. When indulgence in phantasy goes so far beyond what is normal as to raise misgivings as to the patient's condition and doubts as to his health, it will generally be found that the chief characteristic of the patient is a dreamy, idle detachment from everyday affairs, and a lack of enthusiasm for, or even ordinary interest in, men and things. This is not surprising. There can be no objection to living in a dream world until it unfits one for coping with the world of reality, and this unfitness will obviously first be shown, as has been indicated, by disinclination to drag oneself back to affairs at home out of a castle in Spain.

Loss of interest means loss of energy; hence it is to be expected that anergia will be the first demonstrable symptom of over-indulgence in phantasy by any given patient. The significance of anergia must be considered in more detail, but we may push the matter here to the point at which we can picture the dream world, as it were, taking the upper hand, absorbing the patient's conscious ego, and becoming more real to him than reality itself. The resistance of a person in this state to every effort to confront him with the facts of life is proverbial, and will naturally be stimulated by every object and experience of daily routine. The patient's active denial of these things and of their appeal, his refusal to assent to life as it is, and his blind struggle to maintain his world of illusion and phantasy, is the process underlying the condition known as negativism.

SYMPTOMS AND DIAGNOSIS.

Granted a certain amount of psychological insight, and a reasonable degree of that human sympathy which gains the confidence of the patient, it is not a difficult task to decide when a patient is living in a dream world to a harmful extent. The degree to which a patient lacks happy and vigorous contact with his environment is the index of the significance to be attached to his indulgence in phantasy. A serious degree of anergia, arising as indicated above, is shown prin-

cially by listlessness, apathy, absent-mindedness, and an almost complete lack of driving power. In more advanced cases the patient will brood quietly by the hour, possibly making strange disconnected remarks at intervals, and smiling gently to himself from time to time. His intellectual understanding of what is said to him is unimpaired, and he will give a pleasant acquiescence to any proposition put to him by the physician. It is painfully clear, nevertheless, that such acquiescence is the merest lip service, and that there is a very complete divorce between his words and his feelings. If his real interests and enthusiasms exist at all, they are fixed on something far away. It is worth noting that this detachment from life can be observed on the physical level also. Such patients are often clumsy and apparently slightly incoordinated. They are distinctly prone to trip over obstacles, slip in getting off tramcars, and generally come in for comment that "they do not look where they are going." Such a condition of affairs in the adolescent may be of the most serious significance, and its onset is often so gradual that it only too often escapes observation until well established. It is highly suggestive of dementia præcox.

There is, however, another type of anergia very commonly met with among adolescents which requires consideration. It differs profoundly in its essential nature and in its significance from the foregoing, but the two may be extremely hard to distinguish. It is characterised, not so much by a vague and dreamy detachment from the things of every day, as by a dull and limp will-lessness. In the first type the patient is blandly indifferent to the demands of life, while in the second he is clearly and often painfully conscious of his inability to meet them. He simply is not interested in things and cannot do them, and he is unable to tell you whether the lack of interest or the failure

in performance came first. Getting up in the morning is a prolonged, painful, and intense effort, and shaving or hairdressing a Herculean task. Reading is a weariness, writing is a torture, and concentration for any length of time an impossibility. He knows that he is, or ought to be, fond of his parents and relatives, but realises that he is, emotionally, completely indifferent to them. So dull and sluggish is his whole affective nature that he cannot even be acutely distressed by this realisation. He is intelligent, quiet, and even pleasant, as far as in him lies; he will answer questions correctly and sensibly, but he can give no help and expects none. His power of initiative is practically nil, and he has least complaint to make when allowed to sit quietly on a chair and do nothing. This is the onset of the melancholic phase of the manic-depressive psychosis (see Chapters XXI. and XXIII).

To distinguish between these two types of anergia is a task of the very greatest importance, as they are widely different in their course, treatment, and prognosis. Much help may be gained from the family history and the patient's own previous history. Broadly speaking, the more indications of instability or degeneracy shown by these, the more likely is the diagnosis to be dementia præcox.

There is an irrelevance, a disjointedness, an absent-mindedness, and an air of detachment about the anergia of the early subject of dementia præcox which is entirely lacking in the anergia of an early manic-depressive. Not unusually, there is in this latter an almost complete absence of actual, obvious depression, and the physician must not be misled by this fact. In the incipient stages which we are considering, the dulled emotions, the semi-resigned helplessness, and the complete lack of initiative are the most essential characteristics.

CHAPTER VII.—SYMPTOMS IN ADULTS: INSOMNIA.

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Causes of Insomnia.—Physiological Considerations.—Clinical Aspects of Insomnia.—Treatment.

INSOMNIA may be defined as the inability to secure a sufficiency of normal physiological sleep under favourable external conditions. A sufficiency of physiological sleep denotes an amount which is normal and usual for a particular individual, although the actual duration and depth of sleep may vary with age and personal constitution. Normal sleep is fairly rapid in onset, is tranquil and uninterrupted by disturbing dreams, and usually results in the sleeper awakening refreshed. Insomnia implies, therefore, not only inadequate sleep, but also failure to obtain sound and restful sleep. Three types of insomnia may be distinguished: (1) sleep delayed in onset; (2) sleep interrupted by disturbing dreams or "starts"; and (3) sleep normal in onset, but the sleeper awakens in the early hours of the morning and is unable to sleep again (internocturnal insomnia). Two of these types may be combined in the same patient.

Insomnia is frequently a prodromal symptom of early mental disorder, and its successful treatment often one of the most exacting problems that confronts the physician. In dealing with any case of insomnia, it is essential to regard the sleeplessness merely as a symptom and to use every endeavour to ascertain the exact nature of the underlying disturbance responsible for its production. Cases of insomnia have been differentiated into two groups: (1) secondary insomnia, in which the loss of sleep results from some form of bodily discomfort—e.g., pain, cough, dyspnoea, &c.; and (2) primary insomnia, in which no definite physical cause for the symptom can be found. In the latter, however, the sleeplessness almost invariably results from some psychical cause, often an alteration in the affective or emotional state of the patient (anxiety, fear, depression, which acts as a persistent irritant preventing the onset or interrupting the tranquillity of sleep. It is probable, indeed, that no really primary insomnia ever occurs.

From the ætiological standpoint, therefore, the main factors responsible for insomnia may be classified as follows:—

(I.) *Physiogenic Causes*.—Insomnia resulting from physical discomfort or organic disease.

- (1) *Pain*.—Neuralgia, neuritis, arthritis.
- (2) *Dyspnoea*.—Cardiac disease, asthma, nasal obstruction.
- (3) *Cough*.—Bronchitis, phthisis.
- (4) *Frequency of Micturition*.—Cystitis, prostatic enlargement, disseminated sclerosis.

- (5) *Pruritus*.—Skin diseases.
- (6) *Pyrexia*.—Acute specific fevers.
- (7) *Gastro-intestinal Disturbances*.—Flatulence, palpitation, colitis.
- (8) *Circulatory Disturbances*.—High blood pressure, cold feet.
- (9) *Toxic States*.—Chronic sepsis, alcoholic delirium.
- (10) *Organic Cerebral Disease*.—Encephalitis lethargica, meningitis, dementia paralytica.

In some diseases insomnia may result from a combination of several of the above factors—e.g., in pneumonia from cough, dyspnoea, and toxæmia, or in typhoid fever from gastro-intestinal disturbance, toxæmia, and pyrexia.

(II.) *Psychogenic Causes*.—Insomnia in which no definite physical basis is found.

- (1) *Anxiety States* (anxiety neuroses and anxiety hysteria).—Mental conflicts, apprehension, disturbing dreams.
- (2) *Neurasthenia*.—States of fatigue.
- (3) *Hysteria*.—Auto-suggestion, somnambulism.
- (4) *Compulsion Neuroses*.—Obsessions.
- (5) *The Psychoses*.—Manic-depressive states, paranoia.
- (6) *Dementia præcox*.
- (7) *Confusional states*.

PHYSIOLOGICAL CONSIDERATIONS.

We are somewhat handicapped in both the investigation and treatment of insomnia by our lack of knowledge concerning the exact physiological mechanism of normal sleep. Various hypotheses have been propounded from time to time, the most important of which, in brief, are as follows: (1) Retraction of the axons of the cells of the central nervous system, which results in an interruption of the transmission of nervous impulses, the nerve-cells being temporarily isolated during sleep (Démoor). (2) Chemical changes occur in the cerebral cells as the result of the accumulation and action of waste products of metabolism (fatigue-products), which act as narcotics. Obersteiner considered the soporific substances to be acid in nature, while Preyer went so far as to state that the product was lactic acid. (3) A certain focus or "sleep-centre" in the mid-brain controls sleep and awakening (Economo). The assumption for the existence of such a centre is a reasonable one, if only on the analogy of other controlling centres for physiological processes (e.g., vaso-motor centre, micturition centre, heat-regulating centre, &c.). (4) Diminished blood-supply

to the brain and consequent cerebral anaemia. (5) Sleep is a form of auto-hypnosis and a purely psychical phenomenon.

The most feasible of all the hypotheses of the physiological mechanism of sleep appears to be that of the existence of a sleep-regulating centre, although no doubt cerebral anaemia, the accumulation of fatigue-products and even auto-suggestion play some part in influencing its activity. The opportunities that have occurred during recent years of studying cases of encephalitis lethargica, both clinically and pathologically, has led to an increased acceptance of the view that such a sleep-centre exists in the mid-brain very near to the centre for ocular movement. Encephalitic lesions in the region of this focus result in changes in the rhythm and duration of sleep. Similarly, neoplasms in the neighbourhood of the third ventricle are frequently accompanied by profound disturbances of sleep—excessive drowsiness, narcolepsy, &c. Economo, indeed, goes so far as to assert that certain so-called cataleptic conditions have been found to be associated with organic lesions of the ganglia situated between the thalamus, corpora geniculata, and pineal body, and that a disturbance in this region will eventually be found to be the basis for many abnormalities of sleep hitherto termed "functional."

For practical purposes most cases of insomnia can be explained on the hypothesis of the existence of a sleep-regulating centre and correlated with a disturbance of its mechanism. Under normal conditions the sleep-regulating centre would become active rhythmically and regularly once in every 24 hours, partly as a result of its own automatism and partly under the influence of certain favourable afferent stimuli—fatigue, quiet, habit, suggestion. It would then act reflexly by diminishing the functional activity of the cerebral cortex, so that the cortical cells no longer responded to ordinary stimuli. In the infant the sleep-regulating centre would necessarily act purely automatically; with increasing development—especially psychical—the function of sleeping, like other bodily functions, becomes more complex.

The mechanism of the sleep-regulating centre could be disturbed in one of three ways. (1) Under the action of afferent stimuli of unusual intensity, the cortical cells would be stimulated to such a degree as to overcome the inhibitory influence of the sleep-regulating centre and maintain them in a state of activity; consequently sleep is abolished. Such afferent stimuli are loud noises, bright light, and the various forms of physical discomfort—pain, cold, pruritus, &c. (2) The excitability of the cortical cells themselves might be so enhanced that the normal influence of the sleep-regulating centre proves insufficient to inhibit their activity, the cortex continuing in a state of hyper-excitability quite incompatible with sleep—e.g., in mania, anxiety states, paraphrenia, delirium tremens, Graves's disease, &c. (3) The sleep-regulating centre itself might be affected and rendered either incapable of exerting its full influence on the cerebral cortex or disturbed in such a way as to cause it to lose its automatic rhythm or even to

overact—e.g., in encephalitis lethargica, some cases of dementia paralytica, &c.

CLINICAL ASPECTS OF INSOMNIA.

On dealing with any patient complaining of sleeplessness, a full physical examination is imperative at the outset. Apart from cases in which the symptoms point to an obvious cause (pain, dyspnoea, pruritus, frequency of micturition, &c.) the digestive, circulatory, respiratory, and excretory systems must be examined, the blood pressure taken, and lastly, careful attention devoted to the investigation of the nervous system in order to exclude the presence of organic disease. Insomnia is often an early symptom of organic nervous disease. In spite of what the name implies, encephalitis lethargica frequently begins with sleeplessness on several successive nights or, preceding the lethargy, insomnia may be associated with mild nocturnal delirium. Inability to sleep may also persist long into convalescence, especially in the Parkinsonian type of the disease, while it is quite common to meet with alterations in the sleep rhythm (the so-called "sleep-reversal") in which the patient is able to sleep quite well during the day, but insomnia occurs at night. The writer has met with several cases in which, the patient apparently having recovered from the encephalitis, a reversal of sleep rhythm was the only remaining symptom. Again, in general paralysis of the insane (dementia paralytica), insomnia frequently occurs in the early stage of the disease and may or may not be accompanied by excitement or exaltation. Later, in many cases, sleep tends to become excessive and even narcoleptic attacks may occur. Of the diseases of the nervous system associated aetiologically with alcohol, delirium tremens is accompanied by absolute sleeplessness in the early stages, while in alcoholic pseudoparesis insomnia is early and pronounced. Korsakow's syndrome (alcoholic polyneuritis with mental changes) is sometimes heralded in by delayed and disturbed sleep, although the insomnia is partly accounted for by the pain resulting from the neuritis.

When all physical factors have been definitely excluded and the conclusion reached that the insomnia is one of psychogenic origin, the physician's first duty is to investigate all possible causes of mental anxiety. Consequently a full exploration of the patient's domestic, business, social, and sexual life is essential. A mental conflict is the basis of all cases of anxiety hysteria, in which insomnia is one of the most frequent symptoms. In such cases sleep is often disturbed by harassing dreams, usually associated with or symbolical of the factors giving rise to anxiety (e.g., the battle dreams of war neuroses, &c.). Later, sleep is also delayed, the patient frequently anticipating the recurrence of disturbing dreams and fearing to fall asleep. The explanation of these phenomena advanced by analytical psychology is that painful or terrifying experiences are repressed; during sleep, however, control over the repressed memories is relaxed and the patient dreams of them either in actual or in symbolical form. Sleep may also be delayed in

onset by the conflicts of apprehension, grief, or of business and domestic worries. Anxieties which have been partially obscured by the ordinary occupations of the day, or by attempts at a process of conscious repression, will emerge with excessive insistence and will have full play while the patient lies waiting for the sleep that is so delayed. Under such circumstances all his doubts are exaggerated and his worries intensified; he may eventually fall asleep only to be awakened by a startling dream in which his anxiety is reproduced with added intensity and his arousal accompanied by distressing emotional manifestations such as palpitation and sweating. During the stage of semi-consciousness that actually precedes sleep, the patient is sometimes rudely aroused by an apparent vision of startling intensity (hypnagogic hallucinations) and usually connected with his mental conflict, although often in distorted symbolical form; sleep is thus further delayed if not actually abolished for that night.

Neurasthenia is a term that should be confined to the clinical entity characterised chiefly by rapid and undue fatigue on slight exertion, physical or mental, and should not be confused with anxiety neurosis nor anxiety hysteria. In *neurasthenia* sleep is often good, although it is occasionally delayed in onset. Almost invariably, however, the patient awakes unrefreshed and is often difficult to arouse in the morning. Also, sleep may be disturbed by nocturnal emissions. Overwork, in the absence of coexisting worry, is a rare and doubtful cause of insomnia. Most cases in which the symptom is attributed to this factor are examples of anxiety states, mild manic-depressive psychoses, or early dementia præcox. Complete insomnia—total sleeplessness on a succession of nights—is very rare, but may occur in association with *neurasthenia*. In women it sometimes follows the prolonged nursing of invalids, during which period the absence of regular rest has lowered the general health of the patient and destroyed the normal sleep-habit. As this form may endanger the mentality, prevention is better than cure.

Sleeplessness is occasionally a purely *hysterical manifestation* (conversion hysteria); in such cases the degree of insomnia is often much exaggerated, the patient taking a delight in telling people how little he or she sleeps. Apart from the fundamental psychoneurotic disturbance, hysterical insomnia develops as the result of auto-suggestion and may disappear quite suddenly only to reappear in another form—e.g., as hysterical aphonia, headache, astasia-abasia, &c. In some cases the actual origin of the sleeplessness has been physical (pain, &c.), but the cause, having disappeared, the insomnia persists as a hysterical symptom. This occurrence is analogous to the paresis that sometimes persists in hysterical form following an organic paralysis due to nerve injury, the actual lesion, as shown by normal electrical reactions, having recovered. Somnambulism—though not strictly a form of insomnia—may also interrupt the otherwise normal sleep in hysteria. As a rule, the patient has no recollection of somnambulistic acts when awake.

In *hypochondriacal* subjects insomnia may become a veritable obsession and constitute a definite compulsion neurosis, the patient believing that under any circumstances it is quite impossible for him to sleep. Apart from hypnotics such cases usually require prolonged psycho-analysis to elucidate the cause, and even then relief may not be attained. Similar cases, however, will eventually sleep quite an adequate number of hours and will continue to assert that they do not sleep.

Insomnia is frequently an early symptom in the *psychoses*, occurring in association with the depressed or excited mental condition of manic-depressive states, in confusional psychosis, dementia præcox, presenile depression, &c. Many examples of persistent insomnia associated with depression are in reality cases of manic-depressive psychosis. To the same class belong the instances of suicide attributed to sleeplessness, some of which if recognised earlier might have yielded to treatment. In such depressed states sleep is considerably delayed, the patient lying awake tormented by melancholy and painful ideas; sleep may also be disturbed by confused dreams and the patient awake early, fatigued and depressed.

In mania, excitement interferes considerably with sleep and some acute cases are almost completely sleepless. Milder cases suffer from delayed sleep and usually awake too early, although when actually asleep their slumber is often profound. Sleep may also be disturbed by excitement in early dementia præcox but in paranoia the patient as a rule sleeps well. In confusional states sleep is poor and may occupy only a short period of the night.

Apart from depression, some cases of senile insomnia are due to flatulence and often to high blood pressure. Many of the aged, however, although sleeping only four or five hours at night, will indulge in "naps" during the daytime, and so average an adequate amount of sleep in the 24 hours.

The Effects of Insomnia.

The effects of insomnia vary with its cause. In general it leads to increased fatigue, lack of concentration with deficiencies of memory and consequent inability to perform effective mental work, impairment of muscular coördination—especially for the more delicate movements, anorexia, and irritability of temper. When unable to sleep, one individual may lie quietly in bed and content himself with the knowledge that at least he is resting, while another will become restless and agitated and may even get up and pace the room. The effects of insomnia are obviously more severe in those of the latter type. In psychoneuroses a vicious circle occurs, the insomnia aggravating the nervous disturbance and vice versa.

TREATMENT.

1. *Physiogenic Insomnia.*

The treatment of insomnia dependent upon definite physical disorder is, in general, that of the associated disease, and most of the conditions are outside the scope of this communication. Continued pain, however, due to neuritis or neuralgia and

resulting in protracted insomnia in unstable individuals may, if unrelieved, lead to a psychoneurosis or even a psychosis. It is not uncommon to meet with cases in whom, the organic disorder having ceased to exist, both the pain and insomnia persist as hysterical manifestations. In the sleeplessness caused by definite pain analgesic drugs are indicated, such as acetyl-salicylic acid (gr. 5-15), pyramidon (gr. 4-8), veramon (2-3 tablets), novalgin (gr. 7½-15), or dialacetin (½ to 2 tablets); the latter is a most useful drug in pain combined with insomnia. If the pain is of a severe and temporary character morphine or the total alkaloid omnopon (up to gr. ¼) may be indicated.

In all patients complaining only of sleeplessness in whom no obvious physical cause can be found, it is as well for the practitioner to make quite sure at the outset that the symptom is not one of physiogenic origin. Dyspepsia and constipation as causes of insomnia may easily be overlooked; flatulence, especially, is liable to lead to delayed sleep. It is often worth while in such cases to try the effect of a carminative draught taken at bedtime. Minor circulatory disturbances (e.g., cold feet) may also be missed. In these cases a hot-water bottle placed in the bed or a hot mustard foot-bath at night often gives relief. In cases of hypertension the treatment is that of arteriosclerosis—dietetic measures, moderate exercise, saline purgatives, and iodides—while a dose of nitroglycerine at night is often helpful.

2. Psychogenic Insomnia.

In all cases in which the cause of the sleeplessness is of psychical origin the practitioner's first step—as previously pointed out—is to ascertain all possible causes of mental discomfort—anxieties, &c. Elucidation of the mental factors, however, may take a long time, and prolonged psychological investigation and even psycho-analysis may be necessary; in the meantime the patient needs sleep. Much help can be given by trying to persuade him to adopt the right mental attitude to his symptom. Those who suffer from insomnia almost always exaggerate in their own minds the severe consequences of not sleeping adequately, a fact which adds considerably to their anxiety. The physician should point out to the patient that there is no fear of his losing his reason or dying as a result of his sleeplessness, that a smaller amount of sleep than most people take is quite compatible with health, and that rest in bed with muscular relaxation is to a certain extent a substitute for sleep. The correct mental attitude on the part of the patient will assist greatly in relieving an anxiety state and combating insomnia, as so often delayed sleep is kept up by worry concerning it, the patient going to bed anticipating and dreading that he will not fall asleep. On the other hand, it is useless for him to try to make desperate efforts to go to sleep; as far as possible he should retire to bed in a tranquil state of mind believing that sleep will come. Failing this, if he can be persuaded to show indifference to sleep, the insomnia will sometimes disappear.

In the subject of insomnia every effort must be made to raise the level of the general health by suitable feeding, warmth, and judicious exercise; the tendency to undue fatigue must be counteracted by a reduction of the daytime activities and the taking of short periods of rest, especially after meals. Cerebral excitants, such as coffee and tea, are best avoided in the latter part of the day. As sleep in many individuals is largely a question of habit, the patient should retire to bed at a regular hour each night and should avoid close mental work during the evening, or if this is impossible, he should take a short walk before bedtime. A warm bath promotes sleep in some cases but has the reverse effect in others; it is, however, worthy of trial. In those who suffer from cold feet, a hot mustard foot-bath at bedtime is often helpful. It is unwise to go to bed on an entirely empty stomach, as from the physiological aspect it is generally accepted that cerebral anaemia plays some part in the mechanism of sleep. A meal tends to produce drowsiness, blood being required in the splanchnic area for purposes of digestion, and this leads to a corresponding diminution in cerebral vascularity (compare the desire of most animals to sleep following a meal). For this purpose it is advisable to take warm soup, bovril, or cocoa with dry biscuits half an hour before bedtime.

The patient should have a bedroom to himself, which must be dark, quiet, and well ventilated. All clocks must be removed and the light turned off; if, however, the latter is impossible owing to the patient's apprehension, the light must be subdued by shading. A spring mattress is usually best, but much depends on that to which the patient has been accustomed. The bedclothes should not exceed the minimum quantity required for comfortable warmth, and in those sensitive to cold the bed must be warmed with hot water-bottles after a thorough airing in the daytime. As regards posture, it is generally preferable to try to sleep on the right side; in this position pressure by the liver on the stomach is avoided and it is easier for the latter organ to empty. The height of the pillow will depend largely upon the patient's habit, but in cases of increased blood pressure a high pillow is desirable.

Reading in bed sometimes promotes sleep, and some individuals habitually read until drowsiness compels them to extinguish the light. Unless the patient is accustomed to "read himself to sleep," it is best not to introduce the suggestion in case a habit of wakefulness be established.

Education in complete muscular relaxation is sometimes valuable. The faculty of muscular relaxation can be so developed that the patient is able to relax all muscles upon getting into bed, a habit that greatly favours the onset of sleep. General massage, with special attention to the spinal muscles, carried out shortly before the usual hour of sleep, is often of great assistance, especially in cases of neurasthenia.

As regards alcohol, much again depends upon the patient's habits and how he reacts to alcohol. Stout or a glass of hot whisky and water at night will induce sleep in many individuals and may

succeed when everything else has failed ; in others, however, it has but a temporary effect and may even cause wakefulness.

As suggestion—the hour of day, undressing, and the accustomed bedroom—probably plays a considerable part in the production of sleep in adults, it is generally best to try to treat insomnia in the patient's own home. In cases of long standing, however, a change of environment is often desirable. The bedroom and surroundings may have lost their suggestive effect, and far from inviting sleep, actually repel it by the association of continuous nights of wakefulness. In the extremely rare cases of insomnia due to overwork in the absence of associated worry, or in which the anxiety is of a superficial character, a holiday may speedily effect a cure.

Hypnosis has often been advocated in the treatment of insomnia. In the writer's experience neither simple suggestion without hypnosis nor post-hypnotic suggestion is very satisfactory. In suggestible subjects a temporarily good result may sometimes be obtained, but even such cases quickly relapse in the absence of more radical treatment. In other cases no effect is observed.

It is almost needless to state that it is far better to treat the cause of insomnia rather than the symptom of insomnia itself. In psychogenic cases, however, this may occupy a considerable period, and in the meantime, pending the result of psychotherapeutic and other measures, the patient must have sleep. Although the routine use of hypnotics is indicated only in exceptional cases, it is unjustifiable to withhold such sedatives owing to the bugbear of habit-formation on the part of the patient ; the insomnia, indeed, is far more likely to become a fixed habit and the patient is usually only too glad to discard the hypnotic. Also, in many cases, if sleep be induced even by artificial means, a definite psychosis may be averted.

In prescribing a hypnotic one cannot afford to fail, since the patient may be left in a worse condition than before ; consequently, it is wise to begin with a substance and a dose a little stronger than is really necessary. In mild cases simple bromides may be used, but the bromide-urea compounds—bromural (gr. 5–10) and adalin (gr. 10–15)—or dial (gr. 1½–3) are better ; the latter is very safe

and sure and has no unpleasant after-effects. Of more potent sedatives, the veronal group—especially medinal (sodium-veronal) in 7–10 gr. doses—are very satisfactory ; these drugs in therapeutic doses have no toxic effect upon metabolism and no cumulative action. Paraldehyde is too unpleasant for general use, but is helpful in alcoholic cases and in pneumonia, while chloralamide is too uncertain in its time of action. On account of its delayed effect trional (gr. 10–20) is indicated in internocturnal insomnia, in which the patient is awake only in the latter part of the night. Sulphonal (gr. 10–30) suits some individuals, but is generally inferior to veronal and medinal, while luminal in hypnotic doses is unnecessarily potent. Morphine should not be used in insomnia of psychogenic origin outside a mental hospital. In practice it is usually best not to continue a hypnotic longer than two or three weeks without an attempt at a gradual reduction in the dose employed. In the later stages, with the patient improving, the sedative may be varied from time to time, with a slight reduction in dosage on each occasion a hypnotic previously used is again prescribed. The plan of the patient having the hypnotic by the bedside to take if necessary is often successful and he may sleep night after night without needing it.

In the acute psychoses of which sleeplessness is so common a symptom, the use of powerful sedatives (the so-called "chemical restraint") is steadily becoming regarded with increasing disfavour. Endeavours are being more and more directed towards assisting nature to bring about relief by careful nursing and general treatment—attention to the digestive and excretory functions, frequent baths, and the administration of alkalis. Attempts to promote sleep are also made by warm sponging, hot packs, and continuous baths. Hypnotics, nevertheless, are often necessary, but should be used judiciously and as sparingly as possible. Kläsi and others have utilised a drug termed "Somnifen" to produce a prolonged state of lethargy or "twilight sleep" for therapeutic purposes in cases of acute early psychosis. As it is possible to rouse the patient to take nourishment, the sleep has been maintained for a week or longer ; very favourable results are reported.

CHAPTER VIII.—SYMPTOMS IN ADULTS: ABNORMAL FATIGUABILITY.

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The Clinical Picture.—Points in Diagnosis.

ABNORMAL FATIGUABILITY.

ABNORMAL fatiguability is probably the most universally experienced symptom of which we know, and may result from an almost infinite variety of causes. It is, one supposes, more or less physiological after a varying length of active work of any kind whatever. It is the first result of insomnia, a constant accompaniment of dyspepsia, and in different people it can be produced by causes ranging from a relaxing climate, sea air, or high temperature, to overwork, financial worry, or religious difficulty. In all such cases the fatiguability is abnormal for the individual concerned, and each has his own standard of normality in this respect. In addition to this, the abnormal fatiguability in the vast majority of instances is a purely temporary matter, and is the effect of some pretty obvious cause, the removal of which puts an end to the condition. We are left with a residue of people who, for indefinite periods, suffer from a fatiguability which makes it difficult or impossible for them to carry out their daily work, which is definitely abnormal when judged by their own past histories and the general average, and which does not arise from any readily discoverable cause. Such persons drag out a weary existence with each day a makeshift, bounded by an egg-flip at its beginning and sanatogen at its close. They get through as much work as they require to do, but are in a chronic condition of being "below par" or "run down," and they are constantly either just coming back from seeing the doctor or just going off for a short holiday.

THE CLINICAL PICTURE.

Excessive fatiguability, however, can reach a much further stage than this, and it is the dominating factor in the clinical picture of a patient with whom most medical men are painfully familiar. The patient begins each day with a sense of mental and physical exhaustion, which is accentuated by every effort he (or she) makes. Mental concentration and physical exertion are thus alike impossible to him, and efforts to carry them out result in complete and utter fatigue, plus appropriate bodily sensations. Mental work produces headache, or a sense of pressure on his head, reading produces tired eyes or sensations of spots in front of them with dancing of the print, standing makes his back sore, walking makes his legs and

feet sore, sitting gives him cramp, food gives him dyspepsia, and excitement prostrates him completely. Every form of activity has its appropriate Nemesis for him—except the discussion of his illness. In this case the signs of exhaustion are apt to appear first in the physician.

POINTS IN DIAGNOSIS.

The picture is that of neurasthenia, properly so-called, and a recollection that its symptoms are all manifestations of the excessive mental and physical fatiguability, which is its essence, would prevent many misdiagnoses. The condition from which it is most difficult and most important to distinguish neurasthenia is a mild melancholia, and the failure to make this distinction has resulted in the suicide of many a patient. Though the emotional state of the neurasthenic is, naturally enough, one of depression, his emotional reactions are well marked and even excessive, and there is none of the dull, lethargic depression which is so characteristic of simple melancholia. The neurasthenic is anxious to be occupied, and bewails the limitations which his fatiguability imposes upon him, whereas the melancholic patient of the type which is apt to be mistaken for neurasthenia has no desire whatever to occupy himself. Further, neurasthenic patients are almost invariably highly distractable, and it is easy to arouse their attention to a given subject for a short period; whereas, the very reverse is the case in melancholia.

Descriptions of the manifold symptoms of neurasthenia and discussions of the various methods of treatment are not included in remarks which are intended to convey generalisations. It need only be said here that, provided the physician is sure of his diagnosis, there is, as a rule, no reason why he should not himself undertake the treatment and management of the average case without calling in specialist aid, provided always that he is not one of those who regard neurotics in general as a grievance and a weariness, and a neurasthenic patient in particular as little short of a personal insult.

This section of the book deals with individual symptoms and symptom groups rather than with disease states, but in this particular instance it cannot be too strongly emphasised that for all practical purposes abnormal fatiguability is neurasthenia, and neurasthenia is abnormal fatiguability.

CHAPTER IX.—SYMPTOMS IN ADULTS: ALTERATION IN CHARACTER AND CONDUCT.

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Regression.—Changes in Character, Conduct, and Habit.—Deterioration in Mind.—Altered Behaviour and Bizarre Attitudes.—Acts of Violence and Homicide.—Suicidal Impulses.—Obsessional Impulses.—Disorders of Expression, Speech, and Writing.

IN the course of normal development from infancy the individual emerges from a state of complete dependence in which he is capable only of instinctive action, until he becomes an independent unit capable of fulfilling all his functions in the world. During this period he passes through successive phases in which not merely his conduct and character but also his mode of thought varies at different stages.

It is possible to trace in the psychoses and neuroses different defects in the process of adjusting to the environment, and how a personality when disorganised by mental illness may tend to return to the childish or adolescent modes of reaction, both in thought and in conduct. This tendency is called regression.

REGRESSION.

The most extreme degree is seen in the complete dependence shown in states of confusion and stupor. The patient, like the infant, has no control of the functions of micturition and defæcation, and may even, like the child, require to be fed. Such a state may be temporary or permanent according to the nature of the damage. In a confusional state there may be complete recovery, whereas in the final stage of dementia following general paralysis it results from permanent injury to the nervous system. It is not possible in partial states to trace such a complete analogy between development and devolution, as damage is necessarily irregular in its effects, and various aspects of the personality may suffer in different degrees.

A little further on in development the child is concerned mainly with his nutrition and bodily comfort. He avoids the unpleasant and seeks the pleasant. A similar state is seen in the dementia which follows various mental disorders and occurs in old age. There is a return to being interested only in receiving food and being clothed and kept warm, and in advanced degrees assistance may be required in this, and the patient may need to be washed, dressed, and fed. Emotional instability is another common feature, the facile tears of the old resembling the quick changes in emotion seen in childhood.

The object of development is to enable the individual to react in a complete and satisfactory way to the environment, and to obtain thereby

outlets for the instinctive strivings. The free expression of the instinct of pugnacity or, when it develops, of the sex instinct, obviously brings the individual into conflict with the environment. In the course of conforming to the social life it is necessary for him to modify and repress the direct and immediate gratification of some of the instincts. The urge to action of an instinct may be deviated into useful work in other directions, a process known as sublimation. It may, particularly when repressed, seek outlets in other directions and form the basis of various neurotic symptoms.

A common outlet in childhood, for instincts for which free play is not possible, is by indulging in day-dreams or phantasy. The child who feels he would like to be a great soldier fights his battles with toy soldiers, or in his play leads imaginary armies to victory, and so obtains satisfaction. This childhood mode of reaction persists to an unnatural extent in neurotic and psychotic patients. When faced with difficulties in obtaining natural satisfaction for their instinctive strivings they fail to adapt themselves to their real environment and sink back into day-dreams. In extreme states they may lose complete touch with reality and sit silent and absorbed, neglecting everything around them. This is most characteristically seen in cases of dementia præcox, but it also occurs to a lesser extent in cases of hysteria. This failure to adapt may be shown at various stages of development. The child refuses to face the adjustments necessary on going to school, and the adolescent is unable to throw off the dependence on the parents and presents neurotic symptoms to delay the separation from parental guidance.

The symptoms of hysteria illustrate both the clinging to a dependent existence and also the substitution of phantasy for a true, rational satisfaction of desires. The disabilities of conversion hysteria, such as paralyses, enable the patient to live a sheltered, dependent life, the centre of interest to parents or other relatives, and to maintain far into adult life the condition which a spoilt child occupies in the home. Sexual phantasies may develop in quite crude forms; the normal vague and latent conception of an ideal Prince Charming may develop until a complete phantasy of marriage in all its details may occur, and even childbirth phantasy may follow. Such

ideas, being repugnant to the general standard of consciousness, usually occur in dream or dissociated states which are only vaguely remembered by the patient when in a normal condition.

The individual who has barely maintained a satisfactory adult existence when living at home may, on the death of the parents, develop a psychosis in which regression to an even earlier level is plainly seen. Such patients tend to live in the past among their childish memories and to revive early phantasies and to establish fresh ones, reminding them of a happier period of existence when external troubles, which they are unable to cope with, did not yet exist for them.

The tendency to regress to an earlier mode of reaction is plainly seen in the changes which occur in character and conduct, and are discussed in dealing with those subjects. In character one sees how the successive advances made in development may be gradually lost until it may be said that character ceases to exist. Similarly in action, voluntary movement tends to be replaced by instinctive impulsive actions. The correspondence between the different evolutionary levels of the nervous system, and their control of different types of action, further illustrate this tendency to return to a lower kind of response.

CHANGES IN CHARACTER, CONDUCT, AND HABIT.

Conduct is the external expression by means of action of the individual to his environment. It is based on all the factors which form the personality and is affected by any change in these factors. It is the criterion by which we are judged by our fellows, and in mental cases is the principal consideration which guides the medical man in giving advice to the patient and his friends. All animals are born with a number of instincts, or instinctive tendencies to action, and with these they proceed to react to the environment. At first all conduct is instinctive and in the developed psychosis it tends to return to that level. In the course of development we receive sensations, which we build up as perceptions, each tinged with emotional feeling which we store as ideas. These ideas become associated and memory is formed. Upon all our percepts and ideas we pass emotional judgments and so develop our sentiments. The ideas may be concrete or abstract, and on the latter we develop æsthetic and moral sentiments.

One of the most important is our self-regarding sentiment or self-respect, which largely enters into the make up of the complete ego, or conception of self, and this to a great extent influences our character and inhibits and guides our conduct. Prof. McDougall defines character as "the sum of the acquired tendencies built up on the native basis of disposition and temperament; it includes our sentiments and our habits in the widest sense of the term, and is the product of the interaction of disposition and temperament with the physical and social environment under the guidance of intelligence. The temperament and disposition are in man largely born in him, and are little alterable by any effort he may make, whereas his character is made largely by his own effort."

The disposition is defined as the sum of the innate dispositions or instincts. The variations in this hereditary factor have considerable influence in determining the liability to and the type of psychosis likely to develop. Temperament, or the mood prevailing throughout life, is important in the psychoses, and changes in this are often an early sign of mental trouble. When the exuberant individual becomes quiet and silent, or the taciturn man becomes unusually talkative, it is generally an indication of the onset of disease.

As McDougall points out, there are four stages in the development of character.

In the lowest stage instinctive behaviour is only controlled by the pleasure-pain principle, and is guided by the gratification or otherwise of the moment. Few, if any, developed civilised characters are so elementary. It is seen among imbeciles and also characters deteriorated by mental disease. It causes the individual to come into violent conflict with his environment, and if there is capacity for development he attains to the next stage. In this the instinctive tendencies are modified by the rewards and punishments systematically administered by the social environment. Certain low and social types belong to this level. They are only restrained by fear of the law, and then sometimes not always effectively, and they form a considerable proportion of the criminal type.

In the next stage conduct is controlled mainly by the anticipation of social praise and blame. It is to be feared a considerable proportion of the population are nearer to this type than to the highest level in which behaviour is regulated by "an ideal of conduct that enables man to act in the way that seems right regardless of his immediate social environment." Few unfailingly maintain this standard. In degeneration of character and conduct a reverse or regressive process takes place. A rapid and acute psychosis may quickly submerge the personality and reduce the patient to a state of instinctive reaction, but in a slowly developing disease one can observe the deterioration proceeding through the successive stages. The high standard of consciousness becomes lowered as the sentiments on which it is built up disintegrate. The power for inhibition diminishes and thus releases and makes evident the underlying instinctive forces. As is true of all deterioration, mental and moral, the last to be formed goes first. The higher altruistic sentiments disappear, and those around feel the finer points of character are disappearing. The power of self-criticism diminishes and the patient ceases to form accurate judgments regarding his work or conduct in general. The individual thinks less of others and becomes selfish and self-centred, a marked feature of all developed psychoses. In early stages he may still be susceptible to the opinion of acquaintances, displaying the degenerative changes more to his own family, before whom he is perhaps normally less accustomed to exercise control. It is not uncommon for relatives to say, in describing a patient, that he is much better with strangers. While losing this regard for external opinion the

patient also loses his self-regarding sentiment or self-respect.

Changes in habit show in minor neglects of person and dress. Individuals, even of the educated classes, vary somewhat in this respect. Some are naturally careless and untidy, but where a person who was formerly particular in appearance becomes slightly slovenly it is a matter of distinct import. Changes in the performance of ordinary routine in either the home life or work should be looked for. For a time a long-established routine, particularly if of a simple kind, may sustain a mentality which is becoming disorganised. A change of work with increased responsibilities is often given as a cause of breakdown, and this may undoubtedly be a factor. It is, however, not uncommon to find that employers with the best of intentions have given a simpler type of work, and that the mere change has precipitated the threatened crisis, the slight adjustment necessary being sufficient to upset the tottering mental balance. Changes in sexual relations are not uncommon, and in married people inquiry will often elicit there has been an increase or diminution of this impulse according to the nature of the psychosis which is developing. The partial loss of inhibition shows itself in undue irritability and a liability to emotional outbursts. Small irritations, such as noise or minor worries, may induce a quite uncalled-for outburst of anger. The noise of children at home or minor irritations at work may lead to quarrels with relatives or fellow-workers. A sense of nervous tension and a motor restlessness often accompany the irritability. At first the individual merely feels restless, and later begins to move about frequently, and finds difficulty in sitting still.

DETERIORATION IN MIND.

Along with these changes in character and conduct the intellectual faculties may also be affected. Ideation may be interfered with either from the psychosis being accompanied by a true deterioration, or by the disease partially or wholly absorbing active attention. In either case there will be an increasing loss of interest in domestic and business matters. The judgment and reasoning powers will be impaired owing to inability to recall and marshal quickly and clearly the ideas necessary in these processes. Periods of abstraction occur, the patient becomes forgetful and has to make an increasing effort to give the necessary attention to his affairs.

In simple deterioration a loss of the capacity to remember plans made for the future is often an early symptom; the business man makes appointments which clash, forgets arrangements made for business transactions, and has difficulty in organising and planning work in anticipation; he is particularly liable to forget proper names. In early phases of depression he may fear to take normal risks and refuse business in a mood of morbid want of confidence which he would normally regard as justifiable ventures. A subjective sense of inefficiency often precedes its objective manifestation. In early stages of mania and general

paralysis, on the other hand, he may launch into wild ventures and take risks or form grandiose projects which his normal self would reject, and a similar failure of self-criticism and insistence on the wisdom of his own plans characterise the beginning of senility.

Provided intellectual changes are not advanced, and while the patient retains sufficient character to make a fairly successful effort at control, the symptoms will be slight. The man may continue at work and the woman look after her house. It is when the progress of the disease reaches the point when inhibition and control are no longer possible that a marked change occurs.

At this point even unobservant relations realise the patient is suffering from mental trouble and call for assistance. It is evident when the disorganisation of the personality has reached this point that character is ceasing to exist. The inhibition exercised by it has to be replaced by external control, and mental care becomes necessary. Once in a mental hospital the routine there replaces the social environment with its pains and penalties for asocial conduct. The new environment appreciates how far the patient is able to control impulses, and no penalty attaches to conduct which the individual is not responsible for. At the same time he is encouraged as far as possible to exercise such control as remains. Punishment is not and cannot be used, but moral suasion and the judicious granting of privileges trains the crippled mind to exercise such inhibition as remains.

To understand the further changes in conduct it is necessary to consider the different types of action. The highest type of action is voluntary movement executed in connexion with conscious thought, and at a slightly lower level comes habitual or automatic action such as walking. This fails partially or wholly to involve consciousness in so far as it is relegated to more direct paths. Then comes instinctive action or the impulse to act in response to all primitive instincts, and finally there is the lowest or reflex level of action which principally controls our bodily functions and forms a rapid defence mechanism against noxious stimuli.

These groups of actions correspond to the different evolutionary levels pointed out by Hughlings Jackson.

The highest level is the psychic or cortical level, controlling voluntary action. The second level is the thalamo-striate or emotional-impulsive level. The lowest is the reflex or spinal level. Interference with the higher levels have two effects: (1) the results of the interference with its function; and (2) the release from control of the lower level. In the psychoses, we are principally concerned with the effects of disturbance of the highest cortical level and the effects in releasing its control of the thalamo-striate level.

The effect of alcohol in drunkenness illustrates this well, and it has been aptly compared to a miniature insanity. There is successively a loss of judgment and of the higher functions of the mind; inhibition is diminished, with a release

of emotional control and a liability to impulsive action. The individual may become excited or depressed and lachrymose, and finally, if the vital centres in the reflex level become affected, coma and death may follow. Similarly in mental disease, with release of control impulsive instinctive action tends to take the place of voluntary action. The form which the disturbed emotional state assumes has great influence. Where there is exaltation, as in mania, there is a stimulation of instinctive tendencies with a great increase in the volitional impulse to action. In melancholic depression action is diminished, and in melancholic stupor volition may even be totally inhibited. Where there is loss of emotion, as in dementia præcox, a state of apathy is induced which also may extend to stupor, but which is liable at any time to be disturbed by inconsequent impulsive action.

In the localisable organic lesion known as apraxia the mental conception of the act is intact, and so is the executive motor mechanism, but the linking of the two cannot be accomplished; the same holds of the corresponding sensory defect, agnosia. This differs from the inhibition or absence of volition known as *abulia*, which occurs in certain mental states with a consequent absence of action.

In the various kinds of *stupor* the patient lies inert and apparently inaccessible. There may be marked diminution of instinctive action, and the patient may make no effort to feed himself, and may have a total disregard of all bodily functions. To a lesser extent the diminution of volitional impulse and instinctive action is shown in all degrees of melancholia. The intensity of the condition may vary from the mildest case, in which the depression is little more than that experienced by ordinary persons, up to the complete inhibition seen in melancholic stupor. In mild cases this inhibition shows itself in the slight feeling of incapacity and an inability to concentrate and do things.

In a marked case the patient remains in a characteristic stiff bent attitude, and apart from the phase of agitation seldom moves. Sexual desire is lost, and there is no wish for social intercourse. Maternal instinct is in abeyance, and a mother loses interest in and neglects her children. Even desire for food is lost and this may be refused, apart from delusional ideas regarding poison or a desire to commit suicide. In states of mania a reverse picture is seen. There is an increase of activity which varies from a mild restlessness to the most acute and violent excitement. In mild cases the patients are full of projects, often waste money buying unnecessary goods, and involve themselves in undertakings which cannot be carried out. In the earlier stages the slight loss of inhibition may effect a superficial improvement in the personality. A shy type of individual acquires piquancy and charm; the relatives often say they never remember the patient being so well as just before the attack, not realising that it is merely the onset of the disease. In such a condition a shy, retiring woman, normally afraid of strangers, collected a large sum of money on a Rose Day, and made election speeches which were

received with enthusiasm. Later, as the disease developed, her arrogant self-assertion caused much offence, and her disregard for money seriously affected her husband's financial position.

In acute cases any impulsive act of violence and destruction may be committed. The sexual instinct provides a good example of the effect of increased and unrestrained instinctive impulses. The patient becomes grossly erotic, which may show itself in criminal assaults or in shameless masturbation or exposure. The complete loss of control over bodily habits may extend beyond the stage of mere neglect. All sense of decency is lost, and the patient may drink urine and smear faeces about his room, and generally exhibit the most complete degradation.

ALTERED BEHAVIOUR AND BIZARRE ATTITUDES.

The schizophrenic type of unguided and disordered impulsive action is best seen in the dementia præcox group of psychosis, particularly in the catatonic form. Here the will power is altered and there is emotional apathy with a disconnexion or disassociation between guiding thought and the impulse to action.

The will may be affected either in the direction of a blind hyper-suggestibility or in the opposite direction with resistance to all external suggestion. In the first case this leads to the symptom known as *cataplexy*, where there is a blind obedience to all external suggestion. Patients so affected will imitate any action seen, which is called *echopraxia*; they may repeat any phrase addressed to them, which is called *echolalia*. They will remain in any awkward attitude in which they are placed, which symptom is referred to as *flexibilitas cerea*. Where the state of will resists all external suggestion the condition is known as *negativism*. This is part of the state called *catatonia* in which there is response to unguided stimuli from within. In its most marked degree of catatonic stupor the patient remains in a stiff, rigid attitude, failing to respond to any bodily need, but liable at any time to exhibit any inconsequent or impulsive action.

Meaningless phrases may be repeated, which is known as *verbigeration*. In the course of repeating them such patients often slur and shorten these phrases until they become unintelligible and may resemble the meaningless words or neologisms which they often use. A similar trait is the repetition of the meaningless movements, a condition known as *stereotypy*. Grimacing is frequent and wrinkling of the forehead, and this, combined with the fact that in a number of cases the hair tends to be erect, gives the patient a distinctly simian appearance. The absurd mannerisms and tricks which are common in these cases further increase this resemblance to monkeys. This conduct and the stiff, awkward attitudes combine to give the patient a most bizarre appearance. The untidy habits and general neglect of person, when added, produce an impression of most marked abnormality.

These symptoms represent the condition seen in advanced cases. In the early stages the develop-

ment of this conduct is indicated by a general loss of external interest and periods of abstraction which interrupt the working routine and impair efficiency. There is also a liability to causeless laughter, and slight and unexpected contortions of countenance.

Maniacal patients also present marked eccentricity in attitude and dress. Their movements are bold and free and exaggerated, and they strike attitudes. It is their tendency to adornment which gives them so eccentric an appearance. Incongruity or paucity of material makes no difference, and any article may be utilised. They will pick up any brightly coloured cloth and attach it to their person, and will make garlands of leaves and flowers. I have seen an actress dressed in untearable combinations owing to her destructive habits, polish a black rubber chamber, and wear it proudly as a top hat, and then proceed to give a quite creditable male impersonation of a dude.

Delusional ideas may lead to eccentric attitudes; a youth with homosexual trends, who believed himself to be a girl, used his tie as a bandeau for his hair, and nursed his coat as a baby, displaying great annoyance when the "infant" was interfered with. Exalted delusional ideas may lead patients to imitate the character they believe themselves to be. A woman who thought she was a queen, proudly wore a paper crown she had constructed from yellow paper; a paranoiac, who believed he was Jesus, grew his beard and arranged his hair to resemble his conception of the Saviour. The stiff, bent attitude of the melancholic presents a pathetic rather than an eccentric appearance, and the facies and the whole attitude suggest acute misery. The appearance is not unlike that seen in the Parkinsonian syndrome. In this, however, the face is expressionless instead of presenting the lined and drawn appearance of the melancholic.

The loss of one or two special senses, such as sight and hearing, exercises a considerable effect on the conduct of normal persons where every effort is concentrated on making suitable adjustments. In states of confusion, imperception has a marked effect, and when to this are added false perceptions or hallucinations of any, or perhaps all, of the special senses the effect is to make the individual affected act with a considerable or complete disregard of his environment. The consequence may be most serious either to himself or others. If a patient does not perceive he is near the edge of a high window and sees a terrifying vision behind him, it is quite natural for him to precipitate himself through the window.

As long as the subjective nature of the hallucination is recognised, control is usually possible; when this is lost impulsive action is liable to follow. However fully alive to his surroundings, if a patient hears an accusation or sees a figure threatening him he is likely to respond, possibly in a violent manner. Purely delusional ideas seldom result in so immediate a response, but a patient who believes he is persecuted by others may take active steps to redress imaginary wrongs. This may take any

form, from writing letters to homicidal attacks (see p. 51).

ACTS OF VIOLENCE AND HOMICIDE.

It is only in the persecuted delusional cases that a deliberate premeditated attack is made, and for this reason these cases are most dangerous. Such cases may fix on an individual as the cause of their imaginary wrongs, or may arbitrarily pick on someone in the endeavour to redress their grievances against the community in general. In either case a violent and unprovoked homicidal attack may be made on an individual unconscious or barely conscious of the aggressor's existence. In all other cases the attacks are incidental to a state of excitement, although they may be influenced by the presence of hallucinations.

Marked violence may occur in the course of a number of conditions, such as delirium tremens or in the excited phases of general paralysis and dementia præcox, but the states in which most danger is likely to occur are acute mania, mania à potu, and epileptic excitement. The maniacal patient usually makes an attack when thwarted and when endeavour is made to control him. He can be easily diverted, but once started he fights with an absolute abandon until his strength is quite exhausted. No regard for decency or fair play restrains him, and biting, kicking, and any method to injure may be attempted.

Always irritable in relation to fits, the epileptic is liable to states of excited violence which may be dangerous even to those accustomed to control them. An attack may even be made without any provocation at all, particularly when hallucinations are present. Such attacks are liable to precede or follow major fits, or may occur in substitution for fits as epileptic equivalents, and also in association with minor fits which may not be noticed. Normally well-conducted epileptics may have at infrequent intervals such outbursts, in which they are entirely irresponsible, and may exhibit homicidal violence. Quite unconscious automatic actions may also occur, generally not of a violent nature. The classical example of this type of action is the case of the judge who micturated in a corner of his court and returned to his judicial seat unaware of what he had done.

In the short alcoholic excitement of mania à potu any act of violence may be committed. Homicide or rape or any act of destruction may occur, and on recovery no recollection may remain of crimes committed during the excitement. All these subjects are liable to commit sexual assaults, and may in their rage do violent injury to or kill the victim who resists them.

SUICIDAL IMPULSES.

The impulse to suicide is the most important single factor which has to be considered in giving advice regarding the treatment of early mental patients. The impulse varies in intensity from a vague feeling they "would like to be out of it," up to a most intense determination. In moderate degrees the impulse is felt with varying intensity at different times, and only at intervals rises to a

level of determination likely to be put into execution. This is particularly apt to happen in the early morning or when under stress the vitality is low. In ascertaining how far the impulse is present, it is useful to ask patients if they have ever been so depressed as to feel like doing something to themselves, and, if so, how they thought of doing it. The first question often elicits the presence of impulses which have never been revealed even to their near relatives. The second question gives an indication as to how far they have seriously considered really making an attempt.

It is impossible to lay down rules, and each case must be judged on its merits. A large number of people think and talk vaguely of suicide who are most unlikely to make any attempt. Cases, however, occur where an individual who has threatened vaguely for years suddenly makes a successful attempt. Conversely, people who have never made any threats, and have even denied the impulse, may suddenly commit suicide, although their mental symptoms have shown no obvious change. Any exacerbation of a depressed state should always receive careful consideration from this point of view.

The religion and occupation have a distinct influence on these tendencies. Roman Catholics and the clergy in general are inhibited from suicide by their religion, but once this inhibition has been cast aside they may make determined attempts. The knowledge and breadth of resource of the medical and allied professions make it probable that attempts among their followers will be successful.

The motives for suicide vary from those in which the objective reasons are adequate and evident to those in which the cause is purely subjective and arises only in the disordered mental state of the patient. The best example of the former is probably seen in cases suffering from painful and inoperable malignant disease, and another similar type of motive is seen in the efforts of murderers and other criminals to evade deserved punishment. On the other hand, in the seriously depressed, their feeling of misery and the accompanying hopelessness regarding recovery supply for them just as adequate a motive as is felt by those who have every objective reason to wish to die.

Suicide is liable to occur in the depressed phase of various mental disorders, but it is most frequently associated with the melancholic phase of the manic-depressive psychosis (see Chapter XXIII.). The patients generally give as a reason that they would rather face the unknown terrors of death than continue in their present state of misery. Similar impulses may be present in the depressive phase of general paralysis, and may even persist until dementia supervenes. The incapacity produced by the Parkinsonian syndrome following encephalitis lethargica may induce a depression leading to suicide. Epileptics in moments of depression and pique may make impulsive attempts at suicide. Cases of dementia præcox, particularly in the early stages, are also liable to such attempts. The method chosen is frequently unusual and bizarre, in keeping with their conduct in general.

Although the attempt is often impulsive, such cases may at times show considerable sustained determination.

In any acute state of excitement, particularly if confusion is present, the lack of appreciation of the consequences of their acts may lead patients to do things which may result in their own death. Hysterics are liable to make demonstrations of suicide with the desire of attracting attention rather than with any serious intent. When death results it may be most difficult to form an opinion as to whether such a death is due to misjudgment or whether, as sometimes occurs, real intention was undoubtedly present. This makes it difficult to ignore the threats that these cases may make, and, if a fatal result follows, a coroner's jury is likely to return the verdict that the suicide was intentional.

Methods of Suicide.

The only way to prevent suicide is by continuous observation, and in a really determined case this can only be adequately given in a special home or institution. Where, as in the obsessional cases, the patients fear the impulse, they will readily agree to this and welcome suitable care. If the advice to remove a seriously suicidal case to a mental hospital is not followed, the only course the practitioner can take is to disclaim all further responsibility. The difficulty arises in milder cases, where the impulse is not continuous, or where the patient is able to exercise good control; they may even deny the impulse, realising that it may lead to certified care and diminished opportunities to carry out the intention. If the medical attendant feels that the patient is likely to make an attempt, and if the patient and relatives are unwilling for his removal from the home, it is necessary to define clearly the essential measures and to place the responsibility for carrying them out on the relatives. They must provide continuous observation in a suitable room, from which it is essential to remove any articles which may be used with lethal intent, as the presence of such things may stimulate a suicidal impulse which is latent. Sharp cutting instruments and all poisons are the most obvious examples, and attention should be paid to access to windows, open fires, gas, the presence of blind cords, and so forth. If mental nurses provide the observation the procedure is costly; if the relatives do this they soon find the strain intolerable, and in any but mild cases soon agree to other measures.

The vast majority of suicides are incipient mental cases, and the methods adopted by psychotic patients only differ from those seen generally in the limitation of opportunity which follows mental care. The common ways of attempting suicide are by hanging, drowning, and poisoning, and in the case of males the use of weapons, which includes all cutting instruments. Coal-gas poisoning is also becoming popular, owing to its ready accessibility. It is important to remember that hanging and strangulation can be done with very little material; even when watched a patient may tear off a strip of bedclothes and tie it round the throat with rapidly fatal results. A lavatory

chain may provide a method of hanging, or even the neck-band of a dress. A handkerchief may be used for this purpose, and also as a method of inducing choking. Precipitation is particularly liable to occur if the windows are not secured from opening freely. Smashing glass and cutting the throat or a blood-vessel, or swallowing fragments are methods which have been used, and setting the clothes on fire and inflicting fatal burns has not infrequently been done.

OBSESSIONAL IMPULSES.

There is considerable difference between the unguided blind responses in impulsive acts and the morbid impulses which form part of the compulsion or obsessional neurosis. Here there is usually little or no disorganisation of the personality, and the patient is generally able to exercise fairly good control. The obsessions may either take the form of constantly recurring thoughts or fears and doubts, or of impulses to perform some action. If the impulse is not serious the patient yields to it and feels better until it recurs. If it is a very serious impulse, such as to homicide and suicide, the impulse is at first resisted, but the patient may be under such mental anguish as to seek assistance and care. The impulses take many forms, commonly to touch some object. In one case a woman had the impulse to kick her husband on the ankle, and also to tap the parrot on the head, and to tap lamp glasses until she heard the sound. Unfortunately, being somewhat deaf, she broke many lamp glasses and killed the parrot. The absurd nature of the impulse makes no difference to the patient, who is anxious and distressed by the condition. Kleptomania, dipsomania, and pyromania belong to this group of morbid impulses, and are quite different from stealing, drunkenness, and impulsive arson (see Chapter XXXVII.).

DISORDERS OF EXPRESSION, SPEECH, AND WRITING.

Apart from the effects of physical disease, such as tremors and ataxia, these disorders of expression tend to run on parallel lines. The same mental disturbances affect both, although the writing, requiring finer mental and physical adjustment, is more affected. In any acute disturbances, where there is confusion and imperception, the speech will tend to be incoherent and writing impossible. The retarded melancholic, who only speaks under stimulus in a low undertone, can seldom be roused sufficiently to write. The maniac, on the other hand, has such a rapid flow of ideas that speech becomes incoherent owing to the observer being unable to follow the rapidly changing train of thought. This shows itself in writing which is large, bold, and childish, and displays the same incoherence as is seen in the speech. Lack of development or deterioration often makes the writing of advanced epileptics childish in character. The speech is also often childish and tends to be uttered in an explosive manner. The slurred speech of general paralysis requires no description and the writing exhibits the same tremulous ataxia.

The effect of the mental deterioration is seen in the contents, which may be incoherent and contain repeated words and phrases. Cases of dementia præcox tend to use stilted expressions and this is reflected in their writing. It is often underlined without meaning, showing the same inconsequence displayed generally. The repetition of phrases and use of neologisms also appear in the writing.

It is in the delusional types of insanity—namely, paranoia and paraphrenia—that the content of the letter is important. An obviously insane letter attracts little attention, but when the personality is little disorganised and the letter is apparently sane, trouble arises. Generally this type of letter is one of complaint directed against a person or group who, the sufferers believe, are persecuting them or depriving them of their imagined lawful rights. They may complain directly of accusations made against them and write to public officials or the police asking for help and protection. A woman may write that the neighbours are continually saying she is unfaithful to her husband. This is a not uncommon delusion which may be caused by hallucinations of hearing, or may be a pure delusional idea based on general dissatisfaction with her husband and a subconscious desire to live with someone else. The difficulty of proving such a statement to be a delusion is obvious, as neighbours are spiteful, and infidelity not unknown.

At times a whole elaborate scheme of delusions of persecution is contained in the letters, and where they contain obvious evidence of insanity they should be retained as evidence. A paranoiac who is causing trouble may have sufficient control when questioned to evade saying anything likely to lead to certification, and direct evidence in his own handwriting may be invaluable. Distance of time to an imagined wrong makes no difference. One apparently sane paranoiac wrote a letter to a public body complaining of ill-treatment by a doctor eight years after the imaginary incident. He had not seen the doctor for a number of years and had never previously complained. When letters of complaint contain threats they are more serious and action should be taken. Certain well-known cases in the papers prove the difficulty there may be in certifying and retaining such people under proper care. The writer of letters containing threats may either believe that some prominent person addressed has usurped his rightful position or that he is in a position to redress their imagined wrongs. Politicians are liable to receive letters of abuse or containing hints how to rule the country. It is difficult to differentiate these letters from those written by the apparently sane, but the morbid outlook of the writer is usually evident. Amorous letters may be addressed to imagined loved ones who have come in little or no contact with the patient, and in some cases such letters are sent to members of the Royal Family. Anonymous abuse or accusation sent to neighbours on postcards may emanate from hysterics or from definitely mental cases. Until the unknown writer is traced much annoyance may be caused and innocent people accused.

CHAPTER X.—SYMPTOMS IN ADULTS: DELUSIONS AND ERRONEOUS JUDGMENTS.

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Delusions, their Definition, Pathology, and Classification.—Clinical Significance.—The Legal Attitude.

THE first time a medical man hears one of his patients express an insane delusion is a memorable experience. There is something uncanny in receiving the confidence of an apparently sedate citizen who asserts gravely that he is the richest man in the world, or that his inside is crammed with snakes.

A DEFINITION OF DELUSIONS.

Delusions are not always evidences of insanity. Sane persons believe that it is unlucky to light three cigarettes with the same match, to walk beneath a ladder, or to trim their nails on a Friday. A child arranges a number of chairs in a line, and proceeds to regard himself as the driver of an express train. His judgment on the chairs cannot be accepted by adults, but it is natural to him and is no evidence of insanity. Similarly, sane judgments made by members of one race may become insane delusions if held as true by members of another race. An inhabitant of a Southern Pacific Island may with perfect sanity, as well as without incurring the stigma of insanity from his fellows, have beliefs which, if held by an educated European, would secure his hasty segregation as a person of unsound mind. The error of judgment may sometimes be on the side of the public who condemn the holder of what they think is a delusion. Some men of great genius have appeared insane to their contemporaries; the classic example is, of course, Galileo, who believed in his judgment that the earth moved round the sun, but being considered by an indignant ecclesiastical court to have a delusion, he was forced to recant. Any great thinker or inventor, who progresses so far beyond the knowledge of his age that his conclusions can be only gradually accepted, may be thought to have delusions; his first supporters will be those whose standard of education most nearly approaches his own.

A delusion has been defined as a "false belief," but this is a confusing term, and a much clearer meaning is obtained by using the expression "erroneous judgment," or more fully: a judgment which cannot be accepted by persons of the same race, class, age, and education as the individual giving it expression.

There is an important feature of an insane delusion, which is obvious to every observer, and which produces sometimes in those around him a state of irritability and intolerance towards the patient. This feature is the intense conviction with which the sufferer believes in his judgment. No amount of argument, or what the sane would call proof to the contrary, will shake an insane

delusion, and time so spent by a physician is only too often wasted. Suppose the patient quotes the instance of Galileo, whose judges represented the sanity of the day, what answer has the physician? The conviction of the patient in his view becomes significant when the pathology is considered.

PATHOLOGY OF DELUSIONS.

The insane delusion is no casual failure of logic, but is a response to imperative need. And so long as the delusion exists the patient loses personal "insight" into his true condition. That is to say, he is unable to appreciate the obvious fact that he is insane. Once "insight" is obtained delusions fade away. This failure to grasp the salient fact of insanity explains the resentment displayed by some patients at being taken to interview a physician, or at finding themselves detained in a mental hospital. They can see no reason for either medical advice and treatment, or for the curtailment of personal liberty.

Delusions are made of the same stuff as dreams, hallucinations, fairy tales, and myths. The false judgment itself is but the last link to become apparent in a long chain of causative factors. The origin of a delusion is hidden from observer and patient alike in the deeper layers of his mind. We may—to employ the analogy of the chain—imagine ourselves to be standing on the deck of a yacht at anchor, at our feet is a visible link in the anchor chain, and link by link we can follow the chain over the bow of the vessel until it enters the water, and soon becomes lost to sight, though the observer may possess a general sense of its direction. A delusion is the last visible link in a long chain, which can be followed for a short distance when it, too, is lost in primitive and strange mental processes, which are now being explored and charted, and which at present are defined as the unconscious mind. Now to get in an anchor chain requires knowledge and skill and hard labour; it is often accomplished only after meeting unexpected difficulties, as yachtsmen well know. Starting from a delusion, the chain may be brought slowly to the surface of the mind, a process involving special skill and much labour, the technique being known as psycho-analysis. But this method of treatment can only be applied to patients who are young, or, at any rate, who exhibit no progressive deterioration of mind; it is of no avail when delusions result from organic brain changes, or when a delusional system is so advanced as to produce a radical alteration in character and behaviour. The intense conviction

with which a delusion is held by the sufferer throws some light on the nature of a delusion. It results from an underlying need of the subject, and will remain in force so long as the need exists. To take a biological view, it is a defensive reaction, developed in a desperate attempt on the part of the patient to adapt himself to an environment of increasing difficulties. These are associated with unconscious desires and wishes, of which a delusion is one method of conscious expression.

CLASSIFICATION OF DELUSIONS.

There is no satisfactory method of classifying delusions, though certain descriptive terms are in common use, some of which are helpful. Delusions differ with almost every patient, and while their sources are very similar, the content of delusions must depend upon each individual's habitual methods of thought, his experiences throughout life, his standard of education, and the degree of his mental disorder.

Many delusions are merely an exaggeration of the mood of the patient, or may reinforce his physical symptoms in a fantastic manner. Thus a depressed patient tends to express delusions reflecting his misery, and as he is generally constipated and suffers from a mild mental and muscular paresis, he translates his difficulties into the characteristic delusions of melancholia (see Chapter XXIII.). He tells us he is abandoned by God and man, and that he has committed unforgivable sins. He affirms that his bowels are always stopped up, that his brain is rotten, or that his limbs are paralysed. Similarly, in excitement, the mood is joyous. The patient experiences a sense of physical well-being that, to him, justifies the superlatives he uses. We learn that he is possessed of untold wealth, that his strength is unlimited, that he requires no sleep, and can break every athletic record.

Any of these delusions may be *fixed* or *fleeting*. Fixed delusions do not change, and are firmly adhered to by the patient; fleeting delusions come and go, constantly changing and giving place one to another. Fleeting delusions are common in states of delirium, confusion, and dementia.

Delusions may be Systematised or Unsystematised.

Delusions when unsystematised are not co-ordinated with other processes of consciousness, but stand alone and appear to exercise no control over conduct. The delusions may be fixed, but patients are content to state their beliefs and cannot support them by argument or experience. A patient who states that he has not a whole bone in his body, but nevertheless goes about his affairs as usual, has an unsystematised delusion.

Systematised delusions, on the contrary, are closely assimilated to all the facts of consciousness, are supported by arguments, and by lavish illustrations from experience. Moreover, these delusions govern conduct, which the patient is ready to justify with close reasoning. Systematised delusions may be compared with a neoplasm, which thrives at the expense of the surrounding healthy tissues. The primary delusional ideas extend and produce

secondary delusions, so that the mind becomes entirely occupied with a delusional system, and healthy mental function becomes impossible.

The psychopathology of delusions is very closely related to hallucinations, and it is not surprising to find that hallucinations of the senses frequently exist with delusions. In fact, a delusion may result from an hallucination. These days of wireless installations furnish apt illustrations, for it is common to find that a patient who hears voices in hallucination, believes that wireless messages are being transmitted to him, or that malicious statements about him are being broadcasted by his persecutors. A similar association of perverted ideas is seen when hallucinations of taste result, as they commonly do, in delusions concerning poison introduced into food. The combination of delusions and hallucinations possesses clinical importance, and in the examination of a case exhibiting delusions, an attempt should be made to determine the presence or absence of hallucinations of the senses.

CLINICAL SIGNIFICANCE OF DELUSIONS.

Face to face with a patient who has enunciated some insane judgment, a practitioner is confronted with a variety of problems. He will be required to settle the disposal of his patient, and he will be asked to answer numerous questions by anxious friends, regarding causation, diagnosis, and prognosis. He will need his patience and tact in a greater degree than when physical sickness alone calls him to a household. Among the first questions which he must ask himself is this: Will this patient, by reason of his delusion, be likely to exhibit some gross disturbance of conduct? The first step toward a solution will always be to obtain as accurate a history as possible. Some delusions take long to develop, while others appear suddenly, spreading consternation in the family of the patient. On inquiry there may be evidence of previous attacks, or indications that the disorder has been growing over a period of time even though its onset may appear to be sudden. The second step should be a careful physical examination, which may reveal important clinical signs. Many delusions have of themselves little diagnostic value, and are merely the psychological accompaniments of organic brain degenerations which an adequate examination will disclose.

But there are delusional ideas which have very definite value as clinical guides, and which are specially liable to find expression in some antisocial act, such as self-destruction or other crime. Perhaps first in importance are the delusions of past sin, unworthiness, and moral and financial ruin. These are met with in depressed states and many lives, some of them valuable, are thrown away which might be saved if medical men recognised that such ideas, even when some degree of insight remains to the patient, are very prone to result in suicide. There is a tendency on the part of the public, and also of practitioners, to regard suicide as a fortunate solution in such cases. This view cannot be opposed too strongly. Many of these fatal incidents occur in patients suffering

from recoverable mental disorder. Delusions of financial ruin and sin are very frequent in men at the involutional period of life—say, from 55 to 65 years of age—and are sometimes accompanied by auditory hallucinations such as accusatory voices. Sudden and impulsive suicide only too often occurs in these patients, and proper supervision and care should be undertaken at the earliest possible moment. Speaking generally, patients of any age afflicted with delusions strongly reinforced by hallucinations of hearing must be considered to be in an uncertain state in which errors of behaviour are probable. The charge is in position, the train is laid, and a denunciatory "voice" may be the match that fires the train.

Depressing religious delusions occur in epileptics, and both epileptics and defectives by reason of their unstable mental state are liable to impulsive activities of an antisocial nature.

Delusions of suspicion, and persecution also, require special attention from the physician. Delusions of persecution occur in several insane states, notably paranoid psychoses. If there is a complex delusional system, the patient often fixes the origin of his persecution on some one person or body of persons. Not infrequently a history is obtained in these cases of letters written to the police or to prominent public men demanding protection. Such situations are dangerous and homicidal attacks may follow. Delusions of persecution which occur in senile dementia should be treated with watchfulness. A surprising number of criminal assaults are made in old age as a result of persecutory ideas. Unjust marital suspicions and delusions as to the fidelity of the partner occur most typically in senile states and in chronic alcoholics, and are often accompanied by a wealth of confabulatory detail. Such delusions may provoke assaults either on the married partner or on an imagined paramour.

Many persons entertain ideas of suspicion whose lives closely approach the normal. Patients who exhibit a tendency to regard external events as possessing some peculiar personal significance are said to suffer from ideas, or delusions, of reference. Many persons feel that they are stared at in buses or trains, and feel themselves to be the subject of conversation where two or three people are gathered together in talk. A patient with delusions of reference will believe the chance cough of a stranger to convey a signal for some movement to his detriment or he will translate every newspaper article as dealing with his life and difficulties.

Grandiose delusions of health and wealth, common in excited states, may cause hardship through the extravagance of the sufferer. His friends often think him wonderfully well, and even admire his sudden business success, the truth being that he is wasting his strength in riotous living and jeopardising his means by wild financial schemes. Unhappily, the practitioner is sometimes obliged to stand by and see a patient dissipate his wealth, as there is not sufficient ground to justify certification until the damage is done. And the doctor may have the queer amusement of seeing the patient add to his means by

embarking upon a totally unreasonable venture which, for a time at least, succeeds.

Delusions of a bizarre and fantastic character met with in young people suggest schizophrenia or dementia præcox (see Chapter XVII.); they are of grave prognostic import and may be accompanied by hallucinations. Some of these young cases show a tendency to have persecutory ideas concerning their parents, and young men especially occasionally make attacks upon a parent, generally the mother.

A delusion, though not necessarily translated into conduct, is a serious sign of disorder. The presence of delusions appears to suggest mental weakness, and in practice many patients do in fact show evidences of mental deterioration. But others, though deluded, remain acute and well informed on general matters, and appear able to form shrewd and accurate judgments on matters of business. A medical man may be asked to give an opinion as to the ability of a patient to make a will or otherwise decide questions relating to property. It may be noted here that the presence of delusions does not necessarily debar a person from arriving at proper decisions concerning his estate, the nature and extent of which he may appreciate quite accurately. In such cases it is advisable to obtain a consultation with a fellow practitioner, and careful notes should be made at the interviews with the patient. Such interviews should be made separately, and if there is difficulty, on more than one occasion.

THE LEGAL ATTITUDE.

In conclusion, a very necessary warning may not be out of place. It is most essential that a practitioner should make quite certain that the statements of a patient, however unlikely they may sound, are in fact *insane* delusions, or judgments which cannot be generally accepted. Religious beliefs in particular should receive the most careful scrutiny before being accepted as delusional. Disastrous consequences result if apparently delusional statements can be proved to be facts, or reasonable judgments. Great care must be exercised in writing the certificates required by the existing Lunacy Acts, and if delusions are to be quoted as facts indicating insanity, the physician must satisfy himself that the instances he gives can safely bear the scrutiny of a court of law.

Delusions are of great interest to the psychologist and contain much that is valuable to the psychiatrist, but they obtain a somewhat false importance in legal hands. For this reason insane delusions must receive the closest attention from the practitioner who may be called upon to convince a court of law of the insanity of an individual. The lawyer is not inclined to accept pathological excitement or depression, or even obvious dementia as evidence of insanity. But jury and judge alike are immediately satisfied of the unsoundness of the mind of a patient who has expressed an insane delusion. For this reason a doctor who is asked to examine the mental state of a patient should make a written record of any insane delusions that he may elicit, the notes to be made during or immediately after the examination and filed for possible future use.

CHAPTER XI.—SYMPTOMS IN ADULTS:

(1) ILLUSIONS AND PERCEPTIONAL EXPERIENCE; (2) HALLUCINATIONS.

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Illusions and Perceptual Experience.—Definition of Hallucinations.—Clinical Significance of Illusions and Hallucinations.

ILLUSIONS AND PERCEPTIONAL EXPERIENCE.

ILLUSIONS and hallucinations are mental aberrations which belong to what is termed the perceptual order of experience. We may think, desire, or indulge in reverie and imagination, but when we come to live, to handle the reality of existence in and among the world of objectivity as it affects us, we are entirely dependent upon our perceptions to guide us, and it is because of this dependence that the phenomena of illusions and hallucinations assume such importance in mental disease. For the patient who experiences them they have the full value of normal perception; he sees, feels, hears as clearly and as vividly as we do, and consequently his ideas, his feelings, and his conduct are disturbed in accordance with the distortion of the world around him produced by the abnormality of the perceptual processes.

Illusions are common in perfectly normal people; in fact, it can be argued that the greater part of life is illusory. We take so much of our mental equipment for granted that few realise to what extent illusions occur. If we examine the nature of our appreciation of existence we find that, granting the fact of consciousness as axiomatic, sensibility is in the first place dependent upon the various sense organs and sensory nervous pathways. Until we approach the matter psychologically, we are content to dissect and reassemble the physiological apparatus and, while marvelling at the complexity and efficiency, to leave it as a problem in chemical physiology and wave motion. At the most, such explanations deal only with the simple appreciation of a disturbance of the sensory surface, a sensation of the stimulation of the retina or of the cochlea, as the case may be.

Experience of reality to the human being is, however, not a matter of consciousness of the million and one separate stimuli which must be affecting the sensorium at every moment of the day; we should be hard put to it if our conscious sensibility were limited thus to the sensory surfaces of the body. As far as it is possible to relate perception to sensation it appears as if, by a combination of inhibition and facilitation within the nervous system, the mass of potential sensation at any moment is reduced, analysed, and organised to such an end that the final presentation in the conscious mind is a coherent orderly impression not referred to the sensory surface, but projected

away into the environment. We see a table and not an arrangement of light rays impinging upon the retina; we perceive a pen and not merely a sensation of smooth, hard roundness affecting our hands.

It is true that we can stop and attend to the individual sensations underlying the perception, just as we can take in the effect of a picture or attend to the splashes of paint of which it is composed. In doing that, however, we lose the effect; the picture shows us, to choose an instance, a ship at sea, but the splashes and daubs of paint are splashes and daubs and no more, and the same considerations apply to perception in general in relation to sensation. Perceptual experience is a necessity of life for the active being.

Perception involves much more than sensation; it is a higher and more complex order of function. It is generally recognised that just as the painter has to learn to combine and arrange his dabs of colour, so the infant has to acquire the perceptual from the sensory mode of experience. Except for certain cases of gross early mental defect it is to be assumed that most individuals develop their perceptual capacities sufficiently well to provide a satisfactorily approximate representation of the objective world, though people vary much in this respect.

Memory plays a large part in perception. We should not perceive the picture of the ship unless we were prepared by memory to do so; otherwise we should simply see the blotches of paint and wonder why the painter arranged them in such a pattern. It is because of the storing of previous impressions of ships that we are enabled to perceive the picture as such and thus can invest it with a meaning—an aspect of perception which has led to its definition as sensation plus meaning.

Perception Subjectively Affected.

The subjective factors, affecting the function of perception, of capacity and memory are relatively fixed for each individual, but there are others concerned which are highly variable. The state of mind is very inconstant; at one time we are angry, at another afraid, and so on, and the kind of feeling according to the degree of intensity at the moment modifies the perception to a great extent. Thus to the terrified man in the dark every shadow is liable to be perceived as an enemy and every sound as a footfall. The desire or the aim holding the mind at

the time may very seriously affect the perceptual representation. When we are anxiously awaiting the arrival of an important letter or eagerly anticipating a friend, we are very likely to have several disappointments before the event can be realised. The wish is said to be father to the thought, but it is not so generally known that it also colours our perception of reality.

In instances where the actual sensory basis is relatively weak and when the attention is not definitely engaged, the subjective factors play a greater part in the building up of the perception of the moment; and as these conditions often apply it follows that the common objective world is personally conditioned to a certain extent in each individual case. We all suffer from illusions of some kind, but unless we encounter some gross incompatibility with the generally accepted order of things, we go on implicitly relying upon what we may gather through our senses.

The effect of illusory experience is that we err in our handling of life, and that we are liable to form erroneous ideas and conclusions in regard to the nature of things around us. Walking upstairs in a dim light, who has not at one time or another experienced the shock of treading upon an illusory step, and who has not in times of mental stress construed indistinctly heard conversation as applying to himself? The abnormal individual is affected much as the normal, only to a far greater extent. His feelings and desires are unbalanced and out of proportion, and consequently the disturbance of perception by the subjective factor is all the more marked. The senile patient will hoard all manner of rubbishy objects, simply because, as they belong to him, he perceives them as of great value. The angry, irritable patient has the illusion that every movement made near him is directed against him, and he will accordingly impulsively attack those around him. In the condition known as paranoia, owing to an unbalanced self-consciousness the patient perceives a reference to himself in every event however innocent; he goes through life a marked man, gradually estranging himself from all his friends and associates, and gradually building up a set of erroneous ideas or delusions which fit in to his distorted impression of the world.

Normal Attitude Towards Illusions.

It is to be noted that normally we destroy our illusions, if they lead us into difficulties, by investigating more fully and so correcting our former impressions. We light a lamp to dispel the shadows, we smell the flower whose artificial nature we suspect, and it might well be asked why the insane patient does not so dispel his false perceptions. The answer is not difficult in the case of the emotionally excited patient, for he cannot control his impulses, and as he perceives so he must act; but in the case of the cool, thoughtful, and deliberate paranoiac it is not in the least easy to see why illusions should persist unchecked. Such a patient, however, presents a certain analogy with the normal man under special conditions. At a conjuring entertainment and at the theatre we are presented by the performers with a series of illusions, but we do

not insist on correcting our impressions—in fact, the better the illusions and the more we are deceived the better we like the show, and the longer we want it to go on. There is no doubt that the state of desire is most important in regard to the manner in which we react to our illusions, and in the case of the paranoiac patient it is to be assumed that he sees the world as he would have it and has no wish, and therefore no capacity, to alter it.

DEFINITION OF HALLUCINATIONS.

Hallucinations differ from illusions in that the sensory basis is negligible or absent. Whereas the illusion is amenable to correction by a further sensory investigation, the hallucination is unassailable because there is no real object to examine. Nevertheless, because the phenomenon is of the nature of the perception, the patient must perforce treat the experience as appertaining to reality. It is a grave error of judgment to regard the hallucinated patient as "imagining" things and to argue with him from that point of view, and yet it is so frequently done. To the patient the visions, the voices, and the electric currents which he perceives are as real as, if not more real than, the chair in which he is sitting or the physician to whom he is talking. To tell him otherwise, to accuse him of imagining, is only annoying and insulting to his intelligence and does no good whatever.

Hallucinations may arise in any one or more of the modes of sensation, and they vary in intensity and definition through a very wide range. Quite commonly many senses are affected, and in consequence the patient has an entirely new and fully developed set of realities added to the otherwise normal world. Thus the suspicious, deluded man sees his persecutors, hears them talking, smells and tastes the poisons they are putting in his food, and feels the electric shocks they are producing in his body. In some cases the disturbances may be disconnected and intermittent, while in others they are continuous with the conscious life and highly systematic.

Hallucinations and Dreams.

The nearest experience of normal life to the hallucination is the dream. In dreaming we have a set of vivid experiences which may be most fantastic and absurd or which may be quite orderly. While we dream they are real, and it is only when we wake that we appreciate their dream nature. To us the consciousness of waking life is sufficient to dispel the dream, but the hallucinated patient has to mingle the two. It is characteristic of the abnormal mental phenomenon that it takes priority of the normal, and so with the hallucination. The patient must attend to the voice and the vision, and, if they are incompatible with his ideas and beliefs or with his normal perceptions, then the normal go by the board. No matter how solid the wall of the room may be, if the patient hears a voice speaking from it then it is hollow, and he will prefer to believe that the most elaborate devices have been instituted at enormous expense and trouble, so that electricity may be turned upon him, rather than have the slightest doubt as to his false experiences.

The term hypnagogic implies the mental condition of partial sleep. Hypnagogic hallucinations emphasise the relation between the abnormal perception and the dream, for they occur in the interval between sleeping and waking life, and it is interesting how, in the normal person, reality and dream intermingle in the dozing state which so often precedes or follows sleep, and how difficult it may be for a moment or so to disentangle the one from the other. Hypnagogic hallucinations are of importance in clinical psychiatry in that they are often the first symptoms of a commencing toxic exhaustion psychosis, and they indicate the need for taking the patient seriously in hand so as to prevent further mischief.

CLINICAL SIGNIFICANCE OF ILLUSIONS AND HALLUCINATIONS.

The importance of the hallucination, as with the illusion, lies in the effect on the conduct. Guided by his false perceptions the patient will behave in such a way as may possibly be harmful to himself or to others, and only by knowing or suspecting the nature of the hallucinosis can we anticipate what his behaviour may be and so guard against the harmful potentialities. Because hallucinations are such potent determinants of behaviour it behoves us to treat every hallucinated patient very carefully. Such a patient cannot be depended upon to control his behaviour in conformity with convention, however self-possessed he may be. A sudden dominating hallucinatory voice commanding him to cut his throat or kill his friend will be obeyed

unquestioningly, and we have only ourselves to blame if such a tragedy happens after we have ascertained the fact that the patient is hallucinated.

We do not know the cause of either the hallucination or the illusion with any certitude, but fatigue and toxic states undoubtedly predispose. The form of the morbid perception is certainly determined by the subjective factors to which reference has been made. Many are of the nature of wish fulfilments or of anticipations. The sound of running water in the ears of the man dying of thirst, the smell of cooked food in the nostrils of the starving adventurer are cases in point, while the state of the man who hears his carefully concealed and intimate secret thoughts shouted from the house-tops is only explicable by the constant dread of their being discovered. It must not be forgotten that a physiological disturbance of a sense organ or tract may not be appreciable objectively and may form the basis for either illusion or hallucination. In fact we know that there is no hard-and-fast line to be drawn, for instance, between cases of otosclerosis with tinnitus and hallucinations. Some patients complain of odd buzzing and crackling noises, others say that the sounds are those of running water or the ringing of bells, and some at times have difficulty in knowing whether the sounds are in the ears or whether they are actually coming from outside. It is quite possible that the patient who hears voices or sees visions may be suffering from some slight sensory stimulus, which, associated with the subjective factor, gives rise to the hallucinatory experience.

CHAPTER XII.—SYMPTOMS IN ADULTS: SELF-SATISFACTION, SELF-DEPRECIATION, CONFUSION.

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Persistent Self-satisfaction.—Persistent Self-depreciation.—The Feeling State and its Manifestations.—Confusion, apparent and true.

SELF-SATISFACTION and self-depreciation are two highly complex feelings or states of affectivity to which most normal individuals are liable, and they exercise a profound and far-reaching effect in modifying the conduct. The human being, in addition to those instinctive traits which he shares with the lower orders of animal life, possesses a highly differentiated consciousness of self, the development of which appears to be the natural subjective correlate of any complexity of social existence. Self-satisfaction and self-depreciation normally arise as the result of the success or failure of efforts which have a particular bearing on the social relationships.

That an individual should experience either the one or the other will depend upon three general factors, all of which seem to be of equal importance and which may be stated as follows:—

1. The development of the self-regarding sentiments. By these sentiments we mean those systems of belief which the man has adopted as a standard by which he judges himself. They are the product of factors which are both innate and acquired during the lifetime. The influence of the home, of the school, and in later years of the experience of a broader life plays a great part in the moulding of the self-regard, and in most normal individuals these sentiments are changing subtly until maturity is reached.

2. The success or failure of the life effort. Many a child has been spoilt by unbroken success, and the reverse holds true also. The same phenomenon is to be seen in people of later life. We say of some men who have been specially favoured by circumstance that success has gone to the head; their self-satisfaction has become intolerable to others. In the same way self-depreciation is equally unfortunate, though it is the convention that a mild degree of self-depreciation should always be manifested as a matter of courtesy in all social intercourse. Later on it will be necessary to call attention to the distinction between the experience of personal feelings and the manifestation of them, which is a very different matter.

3. The degree of intellectual insight or self-criticism. This is a two-fold factor depending in the first place upon the actual standard of intellectual attainment and in the second upon the habit which the individual has acquired of using his intelligence in judging himself. Many individuals

of quite high intellectual gifts are absurdly self-satisfied in that they seem to be blind to their own faults, while individuals of poor capacity realise their dependence upon others and may hold an unnecessarily poor opinion of themselves.

In the normal individual the two states should alternate in accordance with circumstance, and usually it is found that the negative feeling tends to predominate more and more as age advances and as the intellectual outlook widens. A persistence of either is therefore of the nature of an idiosyncrasy or eccentricity of character, and when the chronic feeling state is obviously militating against the success of the individual then it is to be regarded as pathological. Even when alternations are concerned, however, there may be abnormality which then consists in the intensity with which the feelings are experienced.

It will be convenient to deal with these morbid departures separately.

PERSISTENT SELF-SATISFACTION.

Apart from the grossly psychotic patient, persistent self-satisfaction is an indication of a low level of mental development generally. The insufferable young man or woman, the conceited individual of later life who is so satisfied with himself and all his possessions, are cases in point. Such individuals are usually indifferent to the trials and tribulations which affect the majority of their friends and acquaintances. Their attitude is that this is the best of all worlds and they cannot see why other people should not be just as satisfied as they are. Or else they know exactly how matters should be run and suggest methods of dealing with difficulties which totally ignore the rights or feelings of others. Included amongst these are the various fanatics, religious and otherwise, who cannot see any point of view other than their own. Such individuals are definitely lacking in the higher social sensibilities and their egocentricity blossoms out unrestrictedly in consequence.

In the definite mental disorders self-satisfaction is a prominent symptom in all early dementing conditions. In general paralysis of the insane the patient passes through a phase of expansion of the personality in which his conceit passes all bounds. Every thought and every feeling is so coloured that for him to think of an object, an achievement, a capacity, is for him to possess it. Hence arise his

delusions of power, of wealth, and of grandeur, and hence is derived the little inhibition he places on his conduct. He is so satisfied with himself that he feels he can do no harm and no wrong. All delusions of grandeur do not indicate that the patient is a paralytic, and similar developments to those described above arise in cases of dementia due to organic brain lesions of other kinds, in chronic alcoholic dementias, and sometimes in presenility.

The later stages of the biogenic group of disorders, dementia paranoides, paraphrenia, and paranoia, are also characterised by a self-satisfaction, with appropriate delusional developments, which seems to arise as a compensating mental process. The morbid self-interest with the resulting antagonism and suspicion of the environment of the earlier stages of these disorders is gradually replaced by an expansion of the personality. The patient thinks about his worries and troubles, he asks himself why everybody seems to be against him, and he finds the answer in his own greatness and distinction. Morbid self-satisfaction of a transient kind is also associated with certain intoxications, of which alcoholism and cocaineism are examples.

PERSISTENT SELF-DEPRECIATION.

The negative state of self-feeling is, in a mild degree, perhaps the normal condition of the mature intelligent man or woman. Whoever, by his knowledge of life and of the scientific conception of things, is brought face to face with the realities of the universe and with the insignificance of all human effort cannot feel any great measure of self-satisfaction. In a pathological form, however, self-depreciation is seen in individuals of quite good capacity who by their humility or fear of asserting themselves fail to take the place in life which should belong to them. In some cases it will be found that such a man originated in a lower social stratum, and that he has never been able to lift himself and so suffers a constant feeling of social inferiority. In others, it may have been that a hard childhood has made them afraid to take the responsibility for thought and action. Again, some individuals appear to have a temperamental idiosyncrasy which can have no other explanation than that of heredity or innate disposition.

Self-depreciation is characteristic of the psychoneurotic, and is a prominent symptom in the case of anxiety or of obsession. In the one the persistent state of apprehension and in the other the chronic indecision successfully prevent the individual from indulging in any positive self-feeling. Among the major mental disturbances self-depreciation is the chronic attitude of the depressed patient. Grief, remorse, sorrow, fear are all emotional reactions which are to be found in the various types of melancholia, and these all attune with a self-depreciating attitude. The only form of depression which is not so associated is that of self-pity. In addition it must be noted that states of extreme fatigue and exhaustion not uncommonly bring with them a negative feeling tone as regards the self, and many patients with chronic physical infirmities tend to humbleness rather than to self-assertion.

Alternating States.

It is characteristic of the adolescent that he should suffer intense variations of self-feeling, that he should experience the heights of satisfaction with life and plunge into the depths of self-mortification. As his experience widens he takes life more easily, more philosophically as we say. Some individuals never appear to mature, they keep their youthfulness and volatility even to an advanced age and we recognise them by their variable disposition. The biogenic psychosis of adolescence, dementia præcox, is frequently ushered in by pathologically intense alternations of this character, and the hebephrenic form of the disorder is particularly associated with morbid and intense variations of the self-feelings, which arise and subside for no apparent reason. Alternations of positive and negative self-feeling are prominent symptoms in the manic-depressive psychosis, the manic, or excited, phase being accompanied by an intense self-satisfaction, while the depressive, or retarded, phase is associated with an equally intense self-depreciation.

THE FEELING STATE AND ITS MANIFESTATION.

It does not always follow that the self-satisfied individual will openly indicate his attitude in his behaviour or that the self-depreciating personality will always be humble. Again, the boasting, self-assertive man may have quite normal feelings. In social life many members of society are prepared to take an individual not for what he is, but for what he makes himself out to be, and frequently a man or woman definitely adopts either an appearance of self-satisfaction or of humility as occasion demands. Of all the forms in which self-satisfaction may be expressed, boasting is perhaps the most obnoxious—that is, once the boaster has gone beyond the limit of what may be regarded as being humorous. Where boastful speech or conduct is the direct expression of the feeling tone it is to be assumed that there is some degree of failure of development. Children are very prone to show off, to bring out any little matter of which they are proud so as to impress others, and when the boasting tendency is found in later life it is looked upon as childishness. This is particularly marked in cases of dementia. The general paralytic or other dement is often childish to a degree, and his insistence upon his wealth, his rank, and his power is ludicrous but pathetic in the appeal it makes to the observer. Boastful conduct is, however, not always an indication of the true state of feeling of the individual concerned. A display of force by one member of a community, or by a particular group such as a faction or even a whole nation, possesses a value in that it intimidates possible opponents. The playing upon the susceptibilities of others is an old trick employed by Nature long before man was ever evolved; only upon such an assumption can the ferocious and terrifying appearance and behaviour of some quite harmless species be explained. In the community of human beings boasting has a particular value under certain circumstances, and not uncommonly it is

found that the boastful individual is quite conscious of his deficiencies but is deliberately adopting the attitude either to cover his fears or as a method of securing freedom of action which he knows quite well he can obtain in no other way.

In conclusion, it is to be remarked that though we may deprecate self-feeling, though we may admire the ideal of a minimal self-consciousness, yet from a broader biological view of the human race we must not overlook the importance of the driving power that is derived from the pleasure of self-satisfaction and the displeasure of the negative feeling. It is conventional for us to admire the social existence of the colonised insects such as the ant and the bee. With them every individual has his or her appointed task for which Nature has provided the equipment both in function and in structure. From the queen bee down to the worker every member of the hive displays an energy and a persistence of effort which is entirely directed towards the survival of the colony and its perpetuation from year to year. The interdependence of activity and of functional life can be assumed to be as near perfection as anything which Nature has to show, and however we regard the bee we cannot but read the life-history as an example of complete self-effacement in the interests of the community. Although pure instinct undoubtedly rules, yet the insects show a considerable capacity for variation of conduct which is intelligent, as McDougall has pointed out; but this control of behaviour which implies a certain measure of conscious appreciation is never apparently used for personal ends. From the standard of life of the hive this is no doubt an admirable and most satisfactory state of affairs, but it has resulted in a fixed mode of life. The hive has existed for untold years and, so long as insect life is possible, will continue existing without growth or expansion of any kind.

It is the factor of personal incentive steadily operating within each member of the community which affords the only possible basis for extension of the whole, and it is the strong personal factor in human life which has accounted in the past for the comparative unrest and instability of the social systems which have arisen from time to time in the history of the human race. At times the effect has been to disrupt and break up the order that has been achieved, but, on the whole, civilisation has shown a steady tendency towards development, and while personal feeling remains a characteristic of human nature no one can dare say what future development may be in store. Self-satisfaction and self-depreciation are the feeling tones which correspond to the urge of the personal factor in a social life, and it would be a sorry day for the race were they to be eliminated entirely from the consciousness.

CONFUSION.

As with many terms of popular usage confusion has many applications. It may be taken as descriptive of that state of affairs which exists in the absence of, or where there has been a departure

from, an order which may be either of form, sequence, or process. Thus we may say that a picture is a confused mass of colour, that a certain piece of music is a confused volume of sound, or that a defeated army made a confused retreat. Often the actual confusion is within ourselves and not in the object or process which we are considering; the picture to the artist may be perfectly clear, the musical production to the composer may be quite intelligible, and the retiring army may be acting on a preconceived plan. In such a case we really mean that we cannot understand and that the object is confusing to us.

APPARENT CONFUSION.

In applying the term to the mind in relation to mental disorder it is necessary to discriminate between the various connotations and to distinguish the several conditions which are loosely included under the one caption of confusion. In the first place confusion may be more apparent than real. Examples of this occur in ordinary life, and we may consider the behaviour of an individual who is deeply engrossed in some train of thought. To the extent of his subjective absorption he is out of touch with the incidents which are taking place around him; we speak to him and he returns an irrelevant answer which may be quite nonsensical, he may bump into things if he moves about, and he may be quite oblivious of time or space. In certain mental conditions, such as the phantasy states common in the disorder known as dementia præcox, the subjective absorption of attention is extreme, and the actions and responses of the patient appear to be highly confused. Similarly in some systematic hallucinatory cases the distraction of the hallucinatory experience produces the same result, yet in no instance is the patient actually confused, his train of thought is perfectly clear and orderly.

In situations of difficulty where the conduct is very much a matter of choice rather than inclination, such as awkward social moments, the behaviour of the individual is often apparently confused. So much so that confusion and shame are popularly associated together. Here the individual is acutely conscious of the circumstances, he is certainly embarrassed, and is consequently hesitating and inconclusive in his behaviour; but there is no actual subjective confusion, he is only too well able to realise his difficulties. In certain cases of dementia præcox similar embarrassments occur to a striking extent, and the patient may behave in a manner which seems hopelessly confused to the onlooker.

TRUE CONFUSION.

True confusion is a very different matter, and refers to that condition in which the thought processes are themselves broken up or interfered with so that conceptions cannot be formulated. It may arise in various ways, and we may for convenience deal with the causative factors as objective and subjective, and divide the latter into psycho-physical and pure physiological.

Objective Causes.

The orderly sequence of thought and, more fundamentally, perception largely depends upon the orderly sequence of events around us. A disorder of the environment, or an unexpected or violent disturbance of the surroundings, must set up a confusion within the mind. In a vivid, intense light to which we are unaccustomed, or in the midst of an uproar of sound, it is extraordinarily difficult to think clearly. The constant auditory stimulus during a bombardment was responsible for much confusion during the war. In this category must also be placed such factors as that of constant intense pain. The subject is interesting in relation to the whole question of shock, for there is no doubt that intense stimulation of the sensory nervous system is definitely inhibiting to the activities of the higher centres of associative function.

Apart from intense objective stimulus, a sudden discontinuity of the environment placing an individual under entirely new and unfamiliar surroundings is generally followed by a certain confusion of thought. Until a man has had time to appreciate his new situation, to grasp the significance of things in their novel arrangements, his thought processes are much impeded and disturbed.

Subjective Causes.

The psycho-physical causes of confusion consist of emotional disturbances. Intense emotional responses interfere seriously with the thought processes and also with the perceptual capacities. Up to a certain point the influence of the emotional state is to restrict the field of thought and perception, and the restriction may proceed until the patient is incapable of thinking beyond the repetition of a short phrase of formulated words or of perceiving more than one limited point in the environment. Intense states of grief, remorse, joy, &c., are transitory in normal individuals, but when they are met with no one can fail to realise the inability of the subject to think or perceive clearly. In mental patients suffering from emotional disorders the emotional state may persist over periods of months or even years, and the intellectual difficulty constitutes one of the most serious elements of the disability. In the most intense emotional disturbances, paroxysmal outbursts of rage, horror, or fear, all capacity for thought is lost, and a state of utter confusion may exist. This is shown by the behaviour of the individual during the attack and by the fact that he retains no memory of the associated event subsequently.

Physiological Causes.

The most common causes of confusion are physiological in that the actual pathways of nervous conduction underlying the psychological processes of association are affected. These are fatigue,

toxæmia, and trauma. We are all liable to be confused if we are faced with a difficulty beyond our power of comprehension, and the congenital intellectual defective shows confusion very readily. Here there is a central nervous system which has suffered damage or has not developed on account of some traumatic or toxic influence early in life. The same considerations apply to any interference with nervous function later on in life. A cerebral injury with concussion is invariably associated with a suspension of function and confusion which may or may not be permanent, and which may constitute a dementia according to the severity and extent of the trauma.

Toxæmic conditions may arise either from the ingestion of toxic material such as alcohol, coal-gas, or an alkaloid, morphine, belladonna, or from the elaboration within the organism of toxins such as are present in uræmia and diabetes. Again, invasion of the body by micro-organisms is commonly followed by a febrile reaction and a toxæmic mental disturbance. Of these conditions confusion is the cardinal mental symptom, and indeed, when true confusion is found in the mental patient some toxic factor should be suspected. Even in fatigue it is highly probable that there is some physiological disturbance of the nature of a toxæmia at work. In certain toxic states the confusion may be a secondary rather than a primary result. In acute alcoholic delusions—delirium tremens, for example—the patient is confronted with a series of intense hallucinatory experiences which in themselves are so disorderly and inconsequent that quite apart from any central disturbance he would necessarily be distracted and confused in thought.

In conclusion, then, the term confusion is not to be applied without due regard to what is meant, and care should be taken to differentiate between the apparent and the true. When the patient is really confused in that his thoughts are disorderly and impeded, then a toxic factor is to be sought. Except in such cases where the toxic or traumatic process has irretrievably damaged the central neurones—e.g., general paralysis of the insane, arteriopathic dementia, and gross brain lesions—true confusion carries with it a fairly hopeful prognosis. This is so for two reasons. First, the indication is that there is some adventitious toxæmia present causing the mental disturbance, and that by some means or other it may be removed and so permit the organism to return to normal function. Secondly, from the psychological aspect, while the patient is confused he is not storing up impressions nor is he developing and fixing any delusional beliefs. When the toxæmia is removed he is able to pick up his life again without any secondary psychological implications resulting from the period of his illness, and this is a very important consideration in an individual who has passed through a mental disturbance.

CHAPTER XIII.—SYMPTOMS IN ADULTS.

STUPOR.

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Anergic Stupor.—Resistive Stupor.—Catatonic Stupor.—Toxic Stupor.—Indications for Treatment.

STUPOR is denoted by the failure of the individual to react to stimuli which normally have a psychological value, the alert and active organism becoming inert, unresponsive, and indifferent to the environment. In practice it may characterise the whole course of a psychotic disturbance, or it may occur as a phase following and succeeded by other symptomatic manifestations. The depth of the stupor varies greatly in different cases and from time to time in the one patient, so that it is rarely that the patient cannot be induced to show some sign of conscious reaction. In general there is a depression of all physiological function down to a point, in extreme cases, where only that metabolic activity proceeds which is sufficient to maintain life. In such patients the heart beats, but there is bradycardia with a low tension pulse; the lungs are expanded, but the respiratory movements are slow and shallow; digestion is carried out, but very slowly, and the evacuation of the bowel and the bladder is entirely automatic and uncontrolled.

The following four clinical types of stupor are recognised: (1) anergic stupor; (2) resistive stupor; (3) catatonic stupor; (4) toxic stupor.

ANERGIC STUPOR.

In the anergic stupor the patient lies flaccid and passive. In the more extreme cases no amount of stimulation produces the slightest response and the patient submits to any manipulation with complete indifference, making no sign of conscious life. If the limbs or the body be raised, they fall back into position according to the action of gravity. Only the oldest and most primitive reflexes persist. The corneal response is never lost, and the patient will cough reflexly if a foreign body or irritant is introduced into the larynx. Food introduced into the mouth, however, may not be swallowed and enemata may be retained. The general physical condition may be perfectly satisfactory, and often is. There is no change in the texture or vascularity of the skin as is often to be observed in other forms of stupor, and the urine, blood, and cerebro-spinal fluid show no pathological change. If left alone anergic patients would die of starvation, but if properly fed and treated they commonly show little or no physical deterioration, although the stupor may persist for a matter of three or four months. Some patients put on weight and improve physically during their illness.

Stupor of this type commonly belongs to the manic-depressive psychosis. It commences slowly and the subsequent recovery is gradual. It may be interposed between an excited and a retarded phase of the psychosis, or it may follow either and be the prelude to a return to normal life. In some cases excitement and retardation are not observed and the stupor constitutes the whole of the disturbance. Recurrence of the stupor after months, or even years, have elapsed after recovery is not uncommon.

As the name implies, the failure of activity is to be regarded as due to a failure of interest. The organism is in a resting phase. The condition presents certain analogies with normal sleep and with the state of hibernation to be observed in various species of animals and insects. The consciousness appears to be more or less in abeyance according to the profundity of the stupor. Patients who have recovered will say that they felt little, if anything, during their illness, that they noticed practically nothing of what was going on around them, and that they had no idea of the passage of time. Sometimes they will recount curious ideational phantasies which are strikingly like dreams.

RESISTIVE STUPOR.

In this form of stupor the patient appears quite indifferent to stimuli, much as in the last, but so soon as any attempt be made to interfere with him physically the passive attitude is abandoned and a powerful resistance is encountered. If, for instance, the hand is drawn away from the body, the flexors of the arms contract, while if the hand is pressed towards the chest the extensors resist strongly. In extreme cases it is almost impossible to alter the attitude or pose of the patient, and the contracting muscles seem never to tire. Often the patient will lie with the head held above and away from the pillow and may maintain this posture for weeks at a stretch. In other cases, so soon as active manipulation ceases, the body and limbs become flaccid once more. It is probable that there are two different conditions involved in these two general types of the resistive stupor. In cases where the muscles are kept continuously in a state of tonic contraction there is probably some special interference with the motor pathways, and such patients after recovery, if they have been conscious during the illness, will say that they could not move. It is possible that such

cases have a certain relation to the condition known as encephalitis, and the writer has met with cases of that disease where the Parkinsonian syndrome, usually restricted to a failure of facial expression, has been extended to affect the musculature of one or more limbs and even the trunk. Tremor of a coarse variety is usually a correlated phenomenon in such cases.

In the other type the mental condition is very different. The resistance afforded is always so definitely opposed to the passive movement attempted that there can be no doubt as to the conscious direction of the muscular effort. Resistive stupor of this form is always encountered as a development in the course of a long psychosis, and is the expression of the intolerance of the patient for his actual environmental surroundings. Such patients are fully conscious and perfectly aware of what is going on around them; they are the subjects of delusional developments of the nature of phantasy, or they are melancholics of a certain type. Where the mental content is one of phantasy the patient almost invariably belongs to the dementia præcox group, and the resistive stupor is the extreme form of negativistic behaviour; spontaneous effort is only evoked by physical interference and then is directed, opposed, and negative to the environmental influence, and such cases occur mainly in young subjects.

The melancholic stupor, on the other hand, is more common in the involutional period of life when it is frequently met with in the course of an involutional depression. Here the resistive stupor is the attitude adopted by the patient as a means of expressing his sense of hopelessness and his belief in the futility of life. He commences by repulsing efforts made to sympathise with him or to help him, and he ends by a complete self-absorption with active resistance to any manipulative interference; to any other approach to his consciousness he maintains an attitude of perfect indifference. The prognosis in the resistive stupor is poor as opposed to that in the anergic stupor, which is fairly good.

CATATONIC STUPOR.

This is a curious and very interesting phenomenon, which is to be observed in certain cases of dementia præcox of the variety to which the name "catatonic" is applied. In extreme cases the patient is cataleptic. It is characterised by the tendency of the patient to retain any pose or posture into which he may be placed. As a rule, in the dementia præcox patient this form of stupor develops out of the resistive, described above. The patient gradually ceases to react to a passive movement by opposing it, the limbs and the head are found to be more easily manipulated, but instead of rigidity giving way to flaccidity, its place is taken by a curious wax-like malleability to which the term *flexibilitas cerea* is given. With complete catalepsy the behaviour of the patient is most striking. He may be posed in any attitude, his limbs may be placed in any relation, and while he remains perfectly indifferent he holds the position, and may continue to do so for hours on end,

without apparent fatigue. The mental state is similar to that described in the præcox form of the resistive stupor. The prognosis is comparatively good in these cases, although the stuporose phase may last up to six months in duration. Apart from dementia præcox, catalepsy is sometimes seen as an episode in the course of hysteria, and it can be produced in suitable subjects by deep hypnosis. In the more severe psychosis there are certain other signs, such as marked vasomotor disturbances, alterations in the texture and vascularity of the skin, and changes in the facies which serve to establish the nature of the case. Also it is rare for the cataleptic state to persist for more than a few days at the outside in any other than the dementia præcox patient.

TOXIC OR CONFUSIONAL STUPOR.

This type of stupor is closely related to that condition, more familiar to students of general medicine, known as coma. The essential nature of the disturbance is the interference with the conductive function of the nervous system by the presence of some toxic material which may be derived from faulty metabolism, faulty excretion, from the presence of infective micro-organisms, or from some poison ingested or absorbed. A certain proportion of cases of acute confusional insanity due to alcohol, uræmia, meningitis, or general systemic infection by tuberculosis, to cite a few examples, tend to show a diminution of activity. From being restless and incoherent in movement and speech, the mental function becomes depressed, and finally a state resembling that of anergic stupor is produced. The confusional state is always to be distinguished from the pure anergia by the evidence of general physical disorder. The patients are invariably and obviously seriously ill. The pulse is rapid and poor in volume, the skin is muddy and sallow, there are sordes around the mouth, the tongue is dirty, and the bowels are constipated. Often there is a certain amount of pyrexia, and examination of the body fluids rarely fails to reveal some pathological condition.

In some cases where the toxic disturbance is recent and severe, as in acute alcoholism or acute uræmia due to surgical interference with the urinary tract, the patient may commence with a marked emotional disturbance and a vivid hallucinosis, from which he passes in the course of a few hours into a stupor which strikingly resembles the catatonic state. Such rarely persists beyond a few days and is almost invariably followed by a phase of acute confusion with excitement for which the physician should be prepared. The slowly developing confusional stupor is, however, a much more protracted disturbance and lasts from one to six months. Provided the toxic cause can be ascertained and dealt with, the prognosis is not too bad and may be regarded as hopeful, though a certain number of cases may show a degree of resulting dementia or may suffer from a chronic hallucinosis as an after-effect. In a not inconsiderable number of patients a fatal termination occurs.

INDICATIONS FOR TREATMENT.

In the anergic patient all that is required is to ensure that sufficient food is being taken and that the general health of the patient is being kept at a good level. In all but extreme cases where tube-feeding is necessary, a good nurse will succeed in inculcating habits of swallowing, defæcation, and micturition. Such patients can be treated at home if the situation permits without any risk being run, although the physician must be on his guard against the development of an excited or depressed phase.

With the resistive and catatonic stupors the case is different. The mind of such a patient is acutely active, and the indifference to the environment is more apparent or assumed than real. In either case the stupor is likely to be rudely and abruptly broken by impulsive activity of a most tempestuous nature, and, the impulse having been expended, the

stupor may return again, as deep and profound as ever. Such cases require institutional care save in exceptional circumstances. The impulse of the melancholic patient is often suicidal and that of the dementia præcox patient either suicidal or destructive, while in both the energy and the determined character of the behaviour must be seen to be believed.

With the confusional stupor, especially where the condition supervenes in the course of a known physical illness, it is often practicable to treat the patient at home or in a nursing establishment, and we may avoid the step of certificates under the Lunacy Act up to a point. It must be remembered, however, that often it is only in the mental hospital that the patient can get that care and attention which is so necessary and vital for his recovery, and sentimental objections to certification should not be allowed to weigh too heavily in the decision as to where the patient can be best handled and treated.

CHAPTER XIV.—SYMPTOMS IN OLD AGE.

(1) LOSS OF MEMORY. (2) DETERIORATION IN HABITS.

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Deterioration in Habits.—Treatment.*

LOSS OF MEMORY.

IN order the better to understand the question of loss of memory and especially the amnesic symptoms appearing in old age, it is essential to recall to mind the essential psychological facts involved in memory. The basic elements of memory are (1) the registration of an impression upon the mind, (2) its retention, (3) its reproduction into conscious awareness, and (4) the recognition of the fact that in that thought we experienced it before. Depending upon which of these elements are at fault we may have varying forms of so-called amnesia which may or may not have a pathological source. We often hear of a complaint of loss of memory, whereas in reality there was no memory to be recalled since no impression was ever registered. One of the so-called memory defects is, therefore, one that, through lack of interest, inattention, or absent-mindedness, all of which factors are intimately related, no mental impression was received and no recollection could come about, for nothing had been retained. Retention as well as registration of an impression depends upon an innate physiological state of nerve tissue, which varies with each individual.

Even if this inborn capacity for retentiveness is good, it will vary through such factors as fatigue, exhaustion, illness, or toxic causes. But apart from these bodily relations the factor of mental association is highly important. The more the facts of our knowledge are logically related to one another, the more organised they are in the relationship, the more likely they are to be retained so that their reproduction will be easier. It is said that Darwin had a poor physiological memory, but because his biological data were so methodically and well marshalled in his mind, there was a natural great facility in their recall. Registration and retention, too, depend much not only upon the vividness of the impression received, but also upon its emotional value, the recency of the experience, and the number of times it may be repeated. Modern psychology, though, is leading us to believe that failure of memory lies more in the sphere of reproduction than in any other factor. There are scientific reasons for believing that our memories as regards registration and retention may be perfect, but recall into the conscious mind is difficult or impossible in ordinary circumstances. We know how in states of delirium, in hypnotic sleep, and through free-association, memories are brought to awareness which were long forgotten or even, perhaps, never conscious. The psycho-analytic school state that the psychological mechanism of repression is the main factor responsible for a vast amount of our faulty repro-

duction. In the pathological amnesias found in hysteria, fugues, and dual personality we have evidence of this, but as to how much it enters into our every-day forgetting is an interesting but highly debatable point. Though we are often painfully conscious of the fact that unpleasant memories will force themselves on the mind, there is the tendency to forget that which is disagreeable and out of tune with the personality. As we have noted above it is not sufficient that we recall a previous experience, but in order to be a complete memory it must be recognised that it was something that was part of ourselves. This factor does not always function. It is by no means always easy to differentiate imagination from reality. We may tell others untruthfully of an experience which never happened to us sufficiently often, that we come to really believe it ourselves, and it is by no means uncommon in mental disorders for patients to relate imagined happenings as true without consciously lying. This "familiarity feeling" may be present when it should not be or absent when it should, and we may thus have curious illusions of memory (paramnesia) which are often noted in the normal as well as in the abnormal spheres of mind. Related to many of these factors is the undoubted psychological fact that we tend to remember what we wish to remember. The wish is father to the memory.

ELUCIDATION OF SYMPTOMS.

Having briefly reviewed the underlying factors relative to memory and its loss, let us apply these principles when we can to the elucidation of the symptom of loss of memory which we find in old age. We must remember in the first instance that late impressions are shallow and evanescent. At this period of life we are naturally apt to presume that loss of memory is solely due to degenerative brain changes, and though this is in the main true, there may be, and usually are, psychological factors which are also at work at the same time which may have a practical import. Just because we note memory failure in an individual of advanced years we must not too hastily jump to the conclusion that it has its source in senile changes. It may be that there are metabolic or some physical malfunctioning apart from the old age factor. Unless there are undoubted signs of senility in the form of degenerative change, we must be chary of regarding any amnesia as due to it unless the memory disorder seems typical of this factor and we have excluded all else. We know that many individuals live to a ripe old age and possess an excellent memory. When memory symptoms, then, are marked we must presume that either psychological or marked

physical processes are at work. Since old age is in every sense a question of general regression, the memory shares in this process so that it fails in the reverse order of evolution. The inability to recall recent events progressively takes place. This may be termed impairment or loss of recent memory. At first single experiences of the immediate past are irregularly forgotten, and these memory lacunæ gradually increase until years of recent life sink away from recollection, at first in part, and then entirely. In the course of time the limits of recall are forced back farther and farther until memories of childhood life can only be brought to mind. Registration and retention of ideas gradually weaken, so that facts told to a senile patient become held for a shorter and shorter period until he does not know what happened the day before or even forgets everything from minute to minute. A social inconvenience of the onset of this state is that the patient forgets where he has put his belongings, and is thus liable to suspect others, notably servants, of stealing them. This leads to much distress and annoyance in the household unless the personnel are forewarned. One is surprised at the fact that, in spite of such a general memory loss, how more and more special personal emotional episodes may be retained in the mind and constantly spoken of. Such memory loss may be related to the fact that aged individuals may become more and more egotistical, so that they use less and less what capacity they have for attention to others. Their thoughts so constantly centre round their individualistic, instinctive needs that little else interests them. It is part and parcel of old age that interest is gradually withdrawn from the external world, and this naturally results in a lessening of mental associations being formed. The loss of the herd instinct also leads to an individualistic outlook on everything so that the memories become more isolated to the self.

One can therefore easily understand how it comes about that the senile patient is apt in his converse to be reminiscent only on early personal themes, repeating himself constantly. To the individual himself these long-gone memories recalled seem to have almost the same vividness as though they happened yesterday. They are not only memories of the past, but are lived through again. Many memory failures are the source of much emotional reaction. There is great annoyance when a senile asks for his dinner and is told he has just had it, and much of the irritability shown arises from such-like factors. The memory of facts and experiences is not only lost but there is a special tendency to forgetfulness of how to perform various simple acts, so that he cannot light his pipe or use his knife and fork correctly. In spite of this egotistical "outlook," an old man with his warped memory often shows a morbid interest in the doings of others, being dictatorial, unsympathetic, and suspicious, and at the same time he may lose the memory of the recognition of objects (motor and agnostic apraxia). Some memory falsification may possibly lead to antisocial acts which are of medico-legal interest. Our fourth factor in memory may also account for some memory disorder. Because of the dearth of

associations recalled the familiarity feeling is apt to be weakened or absent, so that the reproduction of impressions do not seem to belong to him and some particular personal experience is denied. On the other hand, this feeling may be aroused in such a way that the patient may say he has done things or experienced events which he never has. Memory gaps to all of us create an unpleasant feeling, and it is a common compensatory mechanism to fill in such voids unconsciously by fabricating memories. Such confabulations are very liable to occur in certain types of senile cases, and they may tell fantastic stories of what they have accomplished and experienced. This is aided by any suggestive influence of another. Sometimes the memory quality may be lost but appear as something quite new, and senile people may relate a story as new which only a few minutes before someone has told them (cryptamnesia). Lastly, such cases may evince memory hallucinations and may relate vivid experiences though no hallucination of the senses can be demonstrated.

EXCLUSION OF PHYSICAL CAUSES.

When faced with the problem of elucidating any case exhibiting memory loss, it is obviously one's duty to differentiate between amnesia dependent on impairment of function and that which is the inevitable outcome of organic change. In order to elicit the probable underlying cause it is not only wise, but, indeed, imperative that certain lines of investigation be carried out. These tests in the hands of a competent practitioner will, at any rate, if negative, exclude some of the more common physical causes. (a) The *blood pressure* must be taken. (b) The *blood serum* tested for the Wassermann reaction and its urea-content ascertained in ratio with that of the urine. (c) The *urine* (a catheter specimen) should be submitted to a complete chemical, bacteriological, and cytological examination. (d) The *optic discs* should be examined carefully.

DETERIORATION IN HABITS.

It is well known to students of human evolution that the more recently acquired functions and habits in life are usually the first to show signs of perversion, impairment, or disappearance when undermined by disease, and it is the review of these elaborations of demeanour and conduct which will engage our attention in this chapter.

At the onset of senescence or human bankruptcy we can readily see a similar breaking down of affairs—dissolution, the arch-bailiff, secretly commissioned by Death, silently enters the portals of human life and defiantly establishes himself as grim sentinel on behalf of life's chief creditor until the fateful day of reckoning arrives. So, one by one, man's cherished treasures are mysteriously stolen from him—now a mental derelict. Consequent upon this underlying pathological process will be seen varying degrees of disturbance of personality and conduct, each in turn causing disharmony or even conflict with the individual's worldly setting.

The two main factors upon which symptoms of habit deterioration in old age will be based are,

first, a regressive tendency to more egoistic and instinctive trends, and secondly, going hand in hand with this a tendency towards a lessening of inhibition and restraint. Many of the characteristics are found to be analogous to what we should see in a child. That old age is a second childhood may be amply confirmed in the character changes which are apt to occur. If they are marked we must presuppose that the advanced age is accompanied by degenerative processes in the cerebral area. Undoubtedly much will depend upon the previous personality of the individual, for any degenerative symptoms which appear are really due to a reversion to an earlier mental stage and an uncovering of what was previously latent in the mind. The ego tendencies will come much to the fore, and the elimination of altruistic trends will lead to selfish habits and irritability when any thwarting is attempted. Suspicion is often shown and may lead to prying and deceitful modes of conduct. Childish jealousy is apt to appear, and upon such a basis highly foolish false ideas of marital infidelity may be expressed. The sexual instinct in old age may have, as it were, a final fling in a perverted way. This we may understand as in some way a psychological compensatory mechanism for a function which has waned and also as desires are reanimated through inhibitory weakening. We then find old men apt to flirt childishly with young girls in a way which demonstrates the marked weakening of their sense of reality and proportion. According to earlier sexual habits of thought and experience, there may be a persistence in an exaggerated and morbid form of the sexual instinct so that not infrequently definite overt acts of lust and indecency are indulged in. Masturbation may be resorted to or sexual attacks made upon young girls. It is a common belief that prostatic enlargement is the *fons et origo* of such impulses, but it is highly doubtful but that this is only an unimportant factor, though at times a contributory cause. Indecent exposure is a form of sexual delinquency which is by no means uncommon in old age. These symptoms at this period of life are of great medico-legal importance, as they are apt to show themselves often at an early stage of deterioration when any other senile changes are little in evidence, and often because of fair mental powers the individual seems to be duly responsible for his action. Such sexual offences, in fact, may be the first given indication that mental degeneration with its accompanying lack of content is setting in. Such cases, however, are not dealt with harshly by the law if adequate supervision for the future is shown to be possible.

In seniles, too, we may meet with a perverted interest in the bodily excretions which may lead to dirty habits which are unnecessary to detail. In early stages of deterioration there may be a good deal of insight into the acts we have spoken of with consequent depression and remorse. The senile may consciously realise a conflict in his mind, but with such impulses his awakened self-control is powerless to cope. Later there may be no such moral feelings and perverse acts are shamelessly carried out. Such types are apt to be careless in all their habits of toilet and dress. Ideas of

cleanliness are forgotten, no pride is taken in appearance, and filthy practices are apt to be indulged in. In severe deterioration we not uncommonly note the habit of hoarding rubbish which seems to be a perverted way of allowing an outlet for the instinct of acquisitiveness. In those whose personality leads in such a direction, crimes of acquisitiveness are sometimes committed by senile dements. It has already been noted elsewhere that emotional depression is a likely accompaniment of the involuntional period, and in psychopathic types the factor of suicide has to be thought of. In all civilised states the suicide-rate reaches its maximum level over 65 years of life. Where dementia is much in evidence, homicide is, according to Sullivan, a notably frequent form of the criminality of old age. This may occur from associated delusion of jealousy, or may be committed without any delusion in an impulsive outburst. Deep-lying subconscious factors here must be at play.

TREATMENT.

From the foregoing detailed description it will be readily appreciated that general treatment will assuredly resolve itself into common-sense principles, according to the degree of conduct disorder and of dissolution. The failure, whether physical or mental, will require patient and sympathetic companionship, and nursing attention in the milder cases, with firm control and even restraint in those in which conflict with surroundings has arisen. In a great number of instances the patient can be nursed and cared for under home conditions, especially if the financial status is assured, but occasionally it will be found necessary for statutory proceedings to be taken and the individual placed in an institution.

In the former case one finds from experience that as the mental deterioration increases it is a far kinder, and indeed a wiser, plan to allow the patient to wean himself from the activities of family life rather than subject him to the constant irritation or persuasion or coercion of an over-zealous nurse, which might be regarded as whipping a tired horse.

However, should the demeanour or conduct of the patient necessitate the exercise of a greater degree of restraint and control, as always occurs eventually in the psychoses associated with senility, one of three courses can be pursued. In each certification under the Lunacy Act will be necessary. (1) The individual under certificates can be admitted either to a private asylum or a registered mental hospital. (2) If a medical practitioner or even an experienced layman be willing to accept the responsibility, the patient can be placed in his charge in a private dwelling-house in the category of a single-care patient. (3) Should the individual, for financial reasons, be deemed a rate-aided or Poor-law case, the procedure becomes a simple one. On the mere application to the relieving officer of the district, the patient is removed to the local infirmary (now termed hospital) and detained whilst there on a justice's order for observation, to be transferred later to a county or borough mental hospital.

Information as to suitable private and public institutions can always be obtained from the Secretary of the Board of Control.

PART II.—CLASSIFICATION.

CHAPTER XV.—IDIOCY : IMBECILITY : FEEBLE-MINDEDNESS.

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The Nature of Mental Deficiency.—Causation.—Clinical Varieties.—The Three Degrees of Defect.—Diagnosis.—Prognosis and Treatment.

THE NATURE OF MENTAL DEFICIENCY.

THE terms idiocy, imbecility, and feeble-mindedness are applied by statute to the three grades into which it is convenient, and for some time past has been customary, to divide persons suffering from mental defect. Since they connote a difference of degree and not of kind, and since persons in each grade possess many features in common, it seems well to give a brief account of the condition of mental defect as a whole before describing these different grades.

Mental deficiency, or amentia, is a condition in which the mind has failed to attain a "normal" degree of development. It is one of the three groups into which all cases of mental abnormality are divisible, and it is necessary to distinguish it from the other two—namely, from mental disorder, of which the best-known variety is insanity, and from mental decay or dementia. Since every community consists of individuals varying very greatly in the extent of their mental development, it is necessary to explain what is meant by "normal," and to state what is the criterion adopted to differentiate the normal from the mentally defective. This is particularly important for the reason that it is a matter regarding which there is much confusion and misconception.

It is often assumed that by the "normally" developed mind is meant that which has attained a certain standard of school knowledge, and that inability to reach this standard is the criterion of mental deficiency. This is not so. It is true that many defectives, as defined by Act of Parliament, are also lacking in scholastic attainments, but this is not invariable; and, on the other hand, there are many individuals of very poor scholastic ability who are by no means legal defectives. The definitions given in the Mental Deficiency Act of 1913 make it quite clear that the standard of normality is that of capacity for independent adaptation to ordinary social requirements, and that mental defect is a state in which the individual is without this capacity save under some degree of care, supervision, and control. In other words, the criterion is not primarily one of educational, but of social, disability. Provided this social incapacity is due to a defect of mind (and it may be pointed out that the legal definitions use the comprehensive term "mental" and not the more restricted one "intellectual" defect), also provided the defect has been present from birth or from an

early age, then the person is a mental defective within the eyes of the law.

The words "from birth or from an early age" often cause difficulty. They are frequently taken to mean that the defect must have been evident from the first few years of life. Such an interpretation often renders it difficult, or even impossible, to deal with an undoubted defective under the Act, and in my opinion it is too narrow. The purpose of these words was to differentiate the mind which had failed to reach the normal developmental standard from the one which, having attained this standard, had become disordered or was in process of decay—from the insane person and the dement in fact. As is well known, however, mind is not normally complete until well on into the second decade; either intrinsic or extrinsic factors may operate to arrest its development at any period short of this, and I should regard any age prior to that at which mental development is normally completed as constituting "an early age" for purposes of certification.

CAUSATION.

From the point of view of causation, mental defectives are divisible into two chief groups—namely, primary and secondary.

In *Primary Amentia* the cause is intrinsic and consists of an impairment of the developmental potentiality of the germ cell. This impairment constitutes what is known as the neuropathic diathesis, but its actual manifestation in the individual is dependent upon a number of factors. In consequence of these it results that some members of the stock appear normal, others suffer from a psychosis such as insanity, others from an early deterioration such as dementia præcox or other form of dementia, others from various degrees of structural imperfection or grades of amentia. It would be out of place to discuss the origin of this neuropathic diathesis here, and I have dealt with it fully elsewhere; the important point about it is that, being germinal, it is transmissible. The great majority of all cases of mental deficiency, probably nearly four-fifths, belong to this primary group.

In *Secondary Amentia* the cause is extrinsic. The germ material is sound, its developmental potentiality is unimpaired, and the development of the embryo or child is proceeding normally when it is interfered with by some external influence. These adverse influences may operate before, during,

or after birth. Those operating before birth are usually trauma, some form of infection, or some special nutritional defect. Those occurring during birth are usually meningeal or other intracranial hæmorrhage, consequent on difficult or abnormal labour. Those acting after birth consist chiefly of direct trauma to the head of the child, as by a fall or blow, or of some infective process causing meningitis or encephalitis. The proportion of cases of secondary amentia is probably only about one-fifth of the total number of mental defectives. There is no doubt, however, that a considerable number of these cases die soon after the incidence of the injury or infection, and were it not for this their proportion would be considerably higher. It may be remarked that since secondary amentia is not germinal, but is due to an adverse agency acting directly upon the developing offspring, it is not transmissible.

CLINICAL VARIETIES.

Since mental defect is not a specific disease, but an imperfection or arrest of development produced by many different causes, it naturally assumes different clinical forms. Those most commonly met with are as follows.

1. *Simple*.—This is by far the commonest variety of primary amentia and consists of those patients who, whilst usually characterised by stigmata of degeneracy, do not present any other special distinguishing features which enable them to be separated as do the other types. Simple aments may be of any of the three grades—i.e., idiocy, imbecility, or feeble-mindedness.

2. *Microcephalic*.—This group of primary aments does not consist of more than about 2 per cent. of all defectives. Their characteristics are a skull of small size and peculiar shape, with a very receding forehead, a dwarfed body, a happy disposition with considerable gift for mimicry, and a liability to epileptic fits. Microcephalics are usually of imbecile or idiot grade.

3. *Mongolism*.—The cause of this is not known; it does not appear to be germinal and it is probably some adverse agency which is in operation during the early weeks of intra-uterine existence. Mongols form a fairly numerous class, probably comprising nearly 10 per cent. of all aments. The actual proportion of mongols born is greater than this, but many die in the early years of life. Their proportion has increased during recent years. They are often mistaken for cretins, whom they somewhat resemble. Their chief characteristics are a small round head, mongolian type of palpebral fissures with other ocular anomalies, a large protruding and fissured tongue, a squat, flattened nose, large, flabby, and boggy hands with peculiar palms and little fingers, very lax joint ligaments, a marked tendency to catarrh of mucous membranes and to tuberculosis. They are usually of imbecile grade.

4. *Cretinism*.—This variety of defect is due to lack of thyroid secretion. The characteristic signs appear during the first or early years and consist of marked mental and physical retardation with

certain well-known special features which enable them readily to be recognised. In the absence of treatment the cretin remains an idiot or low-grade imbecile, but under thyroid administration this condition can be greatly ameliorated and in some cases cured.

5. *Amentia due to Vascular or Inflammatory Lesions*.—In this group the amentia is secondary to, and symptomatic of, a lesion of the brain. The adverse factor is usually in operation at birth or during the early months of life. It may occur, however, and produce amentia at any time before development is completed, and during recent years many cases of late origin have been so caused by encephalitis lethargica. Persons suffering from this variety of amentia do not present any of the stigmata of degeneracy which are usual in the primary group; but many of them are either subject to epileptic fits or are paralysed to some extent. The degree of mental defect varies from a very mild grade of feeble-mindedness to one of gross idiocy, dependent upon the extent and location of the lesion.

6. *Amentia due to Hydrocephalus*.—This is really a special variety of the preceding group, but it is sufficiently common and distinctive to merit a separate category. Hydrocephalics vary in the degree of their defect from idiocy to feeble-mindedness and they usually die young. Their distinguishing features are well known.

7. *Sclerotic Amentia*.—This variety is characterised by the presence of tumours and areas of dense sclerotic tissue throughout the brain. Many of these persons are epileptic, and are subject to a peculiar symmetrical growth on the face known as adenoma sebaceum. They are usually of imbecile grade.

8. *Syphilitic*.—In this variety the mental arrest is brought about by cerebral syphilitic lesions. It is usually of imbecile grade and a proportion of these cases develop adolescent general paralysis during the second decade of life.

9. *Amaurotic Family Idiocy* (and other forms of progressive cerebral degeneration).—In these diseases amentia is merely an incident in the progressive mental deterioration, but it is necessary to bear them in mind for purposes of diagnosis and prognosis.

10. *Epileptic Amentia*.—Many cases of amentia are complicated by epilepsy. In the same way, however, that frequently repeated fits in a person of normal mental development may induce dementia, so may they produce amentia in a child whose development is yet incomplete. Such cases constitute epileptic aments, and the degree of arrest may vary from idiocy to feeble-mindedness. There is reason to think that epileptic fits occurring in a child under the age of 7 years and persisting, will result in some degree of mental defect.

THE THREE DEGREES OF DEFECT.

While it is necessary that the practitioner should have some knowledge of the chief clinical varieties which have been mentioned, the matter of most importance to him is that of the degree of defect

present; and this will now be considered. It may be remarked that although the three degrees into which amentia is divided are now recognised and defined by statute (Mental Deficiency Act, 1913), there is nevertheless no hard and sharp line between them, nor are these definitions in themselves adequate for purposes of differentiation.

1. Idiocy.

Idiots are defined as "*Persons so deeply defective in mind from birth or from an early age as to be unable to guard themselves against common physical dangers.*"

Idiocy represents the lowest development of mind compatible with life, and the deficiency is so great that the condition is usually recognisable shortly after birth. The idiot is often misshapen and repulsive in appearance, and he may be partially paralysed and subject to epileptic fits. In the first months he is either abnormally restless or unusually placid. He does not look about him like an ordinary child, he does not respond to his mother's caresses, he is late in sitting up, in standing, and in walking. He may never learn to become clean in his habits or to speak more than a few monosyllables. He may be able to understand a few simple words of command, but he has no real understanding of his surroundings. He is incapable of any work or of intelligent play, and he is often very destructive. He frequently develops certain stereotyped habits, such as body swaying, head banging, finger sucking. He has to be washed, dressed, and fed like a young baby. Fortunately, idiots are the least prevalent of the three grades of defect, and the majority of them die before attaining mature age.

2. Imbecility.

Imbeciles are defined as "*Persons in whose case there exists from birth or from an early age mental defectiveness not amounting to idiocy, yet so pronounced that they are incapable of managing themselves or their affairs, or, in the case of children, of being taught to do so.*"

This definition is not a very good one as it is equally applicable to the feeble-minded grade. Speaking generally, we may say that the imbeciles stand above the idiots in that they have sufficient understanding to protect themselves from common physical dangers; while they stand below the feeble-minded in that, although they can perform simple routine tasks which they have been taught, they cannot perform work which will contribute at all materially to their maintenance. From the educational aspect imbeciles can often be taught to read and write simple words of one syllable, to count upon their fingers, to tell their name, to say whether it is morning or afternoon, to recognise and name objects, and to say for what they are used; but they cannot describe objects, they cannot usually do simple addition or subtraction sums, and they cannot carry on a conversation. They can be taught to be clean in their habits and to wash, dress, and feed themselves with only a slight amount of supervision; but they have not

sufficient understanding and intelligence to adapt themselves to any new surroundings or conditions.

3. Feeble-Mindedness.

The feeble-minded are defined as "*Persons in whose case there exists from birth or from an early age mental defectiveness not amounting to imbecility, yet so pronounced that they require care, supervision, and control for their own protection or for the protection of others.*"

The feeble-minded are not only more numerous than idiots and imbeciles, there being nearly four times as many as of these two grades together, but they are a much more important class. This is due to the fact that the mildness of their defect makes diagnosis a much more difficult matter, also that, while it renders them more capable of useful work, it makes them more potent for harm. Of course, the lower members of this grade merge into the imbeciles and are distinguished without difficulty, but the higher members seem at first sight so little removed from the normal that considerable difficulty in diagnosis may be experienced. In the majority of these high-grade cases, examination will show that the scholastic attainments are meagre, and a considerable number will be found to have been educated in "special" schools; this, however, is not invariable, and there are many whose school attainments are not inferior to those of the less educated, but by no means defective, members of the ordinary population. Moreover, persons suffering from this mild grade of feeble-mindedness do not present the physical imperfections and the stigmata of degeneracy which are so common in idiots and imbeciles, and many of them are capable of regular employment and even of earning sufficient to pay for their maintenance. How, then, do they differ from the normal individual, and in what respect are they mentally deficient?

The life-history of these persons will unfailingly demonstrate their social incapacity. It will show that, although the more stable of them may be in regular employment, they are only doing routine work which does not require of them any new adaptation. It will often show that they are not regarded as capable of bearing responsibility, and that they are not in receipt of the standard wages for the work they are doing. It will show that, although they may be earning enough to pay for their keep, they are quite incapable of laying out the money earned so as to keep themselves. In other cases the defect is accompanied by a considerable amount of mental instability, and then the life record is one of waywardness, impulsiveness, and incessant change superadded to the general inefficiency. Situation after situation may be found for such individuals, but they either throw them up without any adequate reason or they are dismissed because they are "more bother than they are worth." In short, the whole life-history of these persons is such as to demonstrate their need for care, supervision, and control, either for their own protection or for that of others.

A psychological examination shows that this social incompetence is due to defect of mind. The

precise nature of this varies in different individuals, but there is always a defect in those mental activities of discrimination, comparison, reasoning, prevision, planning, and control, which collectively constitute what is called wisdom, nous, "gumption," or common sense. In the higher grades of feeble-mindedness the defect may be confined to these processes of mind. In a small proportion of cases it is accompanied by a defect of moral feeling, and we then have not only social inefficiency but anti-social conduct. In the larger number of cases it is accompanied by a defect in the perceptive processes of mind concerned in educability, and the individual is then unable to make progress in school and is lacking in ordinary scholastic attainments.

DIAGNOSIS.

The problem of diagnosis differs somewhat according to the age of the patient, and is best considered at three life periods—namely, (1) infancy, (2) school age, (3) adolescence and adult life.

(1) *Infancy*.—At this age the practitioner will usually be consulted because the infant or young child is backward in development. It must be borne in mind that, although the defective child usually exhibits signs of mental retardation, the retarded child is not necessarily defective. There are some infants whose development naturally lags behind; there are others in whom such retardation is due to physical ill-health or malnutrition. In every case, therefore, a careful routine examination must be made in order to exclude any such physical cause. At the same time inquiries must be directed to the possible existence of any abnormal happening during or after birth, or of any illness suggestive of cerebral or meningeal inflammation. Assuming that there is no evidence of any of these, and that the mental backwardness is primary and not consequent on either a local brain lesion or a general condition, it then has to be considered whether it is merely retardation, from which the child will gradually emerge, or is mental defect. In deciding this point, considerable help will be afforded by the presence or absence of stigmata of degeneracy and by the nature of the family history.

If there is a definite neuropathic inheritance, and if the child bears evidence in his body of other germinal imperfections, then it is in the highest degree probable that the mental retardation is due to an impaired developmental potentiality and that he is mentally defective. In the absence of any such evidence, further observation will be needed before a diagnosis can be made. It may be said, however, that even in such a case one would regard any very marked backwardness, especially in the matters of speech, walking, and the acquirement of clean habits, and particularly if accompanied either by abnormal restlessness or torpidity, with very grave suspicion. The recognition of the characteristic signs of the various clinical varieties which have been mentioned will be a further help in diagnosis. By attention to the foregoing points it should be possible to diagnose all but the

milder grades of defect in the first few years of life.

(2) *School Age*.—During this period, in addition to the foregoing data, further evidence is available in the nature of the child's response to school instruction. This evidence may be very valuable, but it requires to be interpreted with care, and the practitioner must be especially warned against assuming that mental capacity can be measured like yards of cloth, and that the serial mental tests which are now so much in use are infallible and all-sufficient diagnostic criteria. It is perfectly true that in a majority of legal defectives the response to schooling is subnormal. This, however, is often so in the case of non-defectives, whilst on the other hand there are certain types of defectives who are not obviously abnormal in their school response.

A far more valuable indication of the presence or absence of defect is afforded by the application of tests directed to certain particular mental processes, such, for instance, as the extent and accuracy of observation, the capacity for comparison, discrimination, judgment, prevision, and planning; also by the ascertainment of the child's range of knowledge regarding common things and events of his environment apart from school instruction; and by his general ability to adapt himself in a satisfactory manner to his surroundings. Perhaps this last is one of the most important of all, for any marked failure in adaptation at this age will probably mean a defect in those qualities which are necessary for adaptation in later life.

I have not alluded to the subject of mentally defective children as defined by the Education Act for the reason that these form a special class dealt with under official arrangements.

(3) *Adolescence and Adult Life*.—Diagnosis at these ages depends mainly upon a consideration of the data already mentioned, and no difficulty will be experienced in the case of idiots and imbeciles.

With regard to the feeble-minded, diagnosis in one respect is easier at this age because of the longer life-history available. It may not be unnecessary again to emphasise the fact that if this history shows the need for care, supervision, and control, and if psychological investigation shows that this is due to a defect of mind which has existed from birth or from "an early age," then the individual is a mental defective within the meaning of the Act. In another respect, however, diagnosis at this later age may be more difficult, because of certain conditions which may somewhat closely resemble the milder degrees of mental defect. The chief of these conditions are adolescent instability and other states of mental disorder, adolescent general paralysis, dementia præcox, epileptic dementia, and the after-effects of encephalitis. Each of these should be passed in review and excluded before deciding that the case is one of amentia. (See article on Adolescent Instability, p. 30.) It may be remarked that many high-grade defectives suffer from instability during adolescence, and that this complication often brings to light a

social incapacity which has hitherto escaped notice.

Considerable difficulty may be experienced in differentiating between a mild grade of feeble-mindedness and the lowest grade of the normal, and in order to do this very careful consideration must be given to the case in all its bearings. The essential difference lies in the fact that whereas there is some niche in the social fabric in which it is possible for the normal person to maintain an independent existence, this is not so with the feeble-minded. Experience will show that in whatever circumstances he may be placed his mental defect prevents a satisfactory independent adaptation, and that without some degree of oversight failure inevitably results.

PROGNOSIS AND TREATMENT.

Although mental defect is incurable, nevertheless considerable amelioration may result from appropriate treatment. By this I mean that a child who, without treatment, would probably not progress beyond the idiot grade, may be developed by this means to the grade of imbecility or feeble-mindedness. The advantages of this, in the lessening of the control which is needed, in the improvement in cleanliness, self-help, and personal habits, and in the increased happiness and capacity for usefulness, are obvious. The expectation of life in defectives is decidedly less than in the case of normal individuals and, generally speaking, it is inversely proportionate to the degree of defect. A majority of the lower grades die before reaching maturity, while many feeble-minded live to the fifth or sixth decades, or even longer.

With regard to treatment, it is first of all necessary to remedy, where possible, any physical defects, and to bring the body into the best possible state of health by appropriate medical or surgical means. In certain clinical varieties more direct and special treatment may be indicated; but apart from this, treatment in the main is neither medical nor surgical—but educational. This is a point which cannot be too strongly emphasised. There is a great tendency for these cases to get into the hands of osteopaths, electronic practitioners, even psychoanalysts, and other such persons, and for large sums of money and much valuable time to be wasted which would have gained far more satisfactory results had they been devoted to education. This education cannot begin too soon, and its aim is to develop to the maximum the potentiality which is innate in the child. At first it will be in the hands of the mother or an intelligent nurse, by about the fifth or sixth year it will be necessary either to engage a suitably trained governess or to send the child to a special school. In addition to the schools provided by the education authorities there are now many suitable private schools of this kind in the country. After leaving school at about the age of 16 years the question of the patient's future will arise. A decision as to this will depend upon social and financial considerations as well as upon the degree of defect and special characteristics which are present. Some persons may be provided for at home, others may be found suitable outside employment, and in the case of others institutional care will be advisable. These are matters upon which the opinion of an expert may be obtained with advantage.

CHAPTER XVI.—THE SCHIZOPHRENIC-PARANOID SERIES; PRELIMINARY CONSIDERATIONS.

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Introversion.—Schizophrenia.—The Paranoid Disposition.

TAKEN as a whole the cases of functional psychosis classified within the above categories form a continuously graded series. At present no name for the whole series exists comparable to the expression manic-depressive psychosis. Freud has tended to use the term paraphrenia with this meaning, but unfortunately it is already widely current in a narrower sense as the name for a group of cases intermediate between those forming the extremes of the whole series. Possibly the general adoption of some such term emphasising the unity of the whole series would do more to clarify psychiatry than the wealth of Græco-Latin polysyllables hitherto employed to give a spurious air of reality to artificial subdivisions of this group.

The unity referred to is not constituted by simple gradation in respect of a single abnormal type of reaction. It consists rather in the fact that cases within the series exhibit an intermixture in varying measure of three anomalies in habitual reaction—viz., introversion, schizophrenia, and the paranoid disposition. As an introduction to any detailed description of these types of psychosis it may therefore be advisable briefly to discuss the above anomalies.

INTROVERSION.

Under this term may be grouped all indications of generalised diminution of the response to external impressions, and particularly of affective responses to such. There is a decrease in the distinctive quality of perceptions derived from the outer world and of their tendency to arrest attention and to evoke emotion.

SCHIZOPHRENIA.

Logical thought, appropriate feeling, and expedient action are dependent on a conscious synthesis of present impressions, past experience, and future aims. This synthesis must be comprehensive and also selective. In schizophrenia there is a reduction of the tendency to such comprehensive and selective synthesis. The resulting condition has been well described as intrapsychic ataxia. Association tends to be unduly determined by isolated and superficial rather than by numerous and complex connexions. It is not persistently modified as in manic-depressive psychosis by the constellating influence of one dominant feeling. But the transient emotion of any kind aroused by some passing event provokes disproportionate response, or the influence of one remote episode of an emotional character may affect the reactions of the present with abnormal frequency and intensity. There is a special increase

in the influence of mere habit. The most characteristic feature of all is that which has given rise to the term schizophrenia (splitting of the mind)—viz., the occurrence of mental processes which are not connected by conscious links with the rest of the patient's thoughts and actions. In many cases it is, in fact, impossible to trace the origin of such schizophrenic manifestations. In minor degrees of the condition such occurrences may be occasional. When the disorder is progressive there may eventually be almost complete fragmentation of ordinary logical processes, so that the thoughts, feeling, and actions of the patient become entirely disjointed and devoid of intelligible sequence.

Schizophrenia might perhaps be regarded as the most fundamental anomaly of the series of syndromes we are discussing. Introversion is probably only a special case of it, the detachment from the outer world having the same origin as the disconnexion of endogenous mental processes. In the morbid introvert it is not the power to appreciate the mere nature of the environment that is defective. His defect consists rather in a reduction of the associations that normally give each fresh experience its emotional value in virtue of its significance for the future or its relation to past incidents.

THE PARANOID DISPOSITION.

In spite of apparent diversity manifestations of the paranoid disposition probably have a common origin as secondary modes of reaction to the patient's awareness—whether dim or clear—of his own primary defect—viz., a certain degree of schizophrenia. The latter therefore forms the motive of the reaction and at the same time determines the degree of its abnormality. From a sense, however vague, of his own inferiority is derived a sort of distrust of both the world and himself. The inferiority is, of course, relative. It may depend on the exalted standard of conduct which the patient sets up for himself or on disparity between his over-weening ambitions and the moderate achievements of which he is capable. The germ of the paranoid disposition is often seen in the sullen and suspicious attitude of the future patient during youth. This is merely an exaggeration of a type of reaction (especially towards the unknown) common among animals and children, especially those that have early experienced ill-treatment. The negativism seen in dementia præcox and the diffuse querulousness of paranoiacs are examples of the same tendency in generalised form. Most delusions in dementia præcox, paraphrenia, and paranoia also originate

as different modes of reaction to the consciousness of relative inferiority. They may consist of distorted conceptions of the nature of this defect (e.g., hypochondriacal delusions), attempts to repudiate it, or to account for the causation of either recognised mental defect or for its consequences in terms more palatable than the truth.

Morbid Projection.

Among the general abnormal trends exhibited by cases of the whole schizophrenic-paranoid group one of the most obvious and distinctive is that towards morbid projection. Under this term are grouped a number of somewhat different tendencies. In one group of patients the very occurrence of what are really the patient's own mental processes is referred externally. His actions or the expression of his wishes and his self-reproaches may be attributed to others. In many cases before development of definite projectional symptoms one finds an obsessional state. The sense that certain of his mental processes are foreign to himself, the lack of conscious connexion between these and the rest of the personality, might be regarded as a manifestation of schizophrenia, but it often proves a halfway stage to positive external reference.

In a second group of patients we find that though the internal origin of their ideas and decisions is fully recognised the responsibility for their causation is ascribed to some external influence. In a third class it is merely the knowledge of passing thoughts or of memories that is falsely projected.

More or less independently of this general disposition to external reference of what is purely subjective, there may be found a varying degree of tendency for mental products arising without immediate external stimulus to possess that peculiar vividness which characterises impressions derived from the outer world. The latter abnormality is, of course, the condition of the occurrence of hallucinations. These are extremely common in cases belonging to the series under discussion. But it should be recognised that the tendency to morbid projection and that to hallucinosis though often combined are independent and may occur quite separately.

On the one hand, we find a number of patients, most commonly among those classed as paranoiacs, in whom a strong inclination to morbid projection shows itself in delusions of persecution and so forth, but in whom hallucinations are entirely absent. On the other hand, so-called pseudo-hallucinations into the subjective nature of which the patient has complete insight may occur for years as an almost isolated abnormality. On the whole, hallucinations tend to occur earliest and in greatest abundance in those cases where the paranoid tendency is associated with a high degree of schizophrenia. It would be pleasantly simple if one could regard a generalised decrease of the power to discriminate mental processes of internal and external origin as the conditions of hallucinosis. But as indicated above there is no such constant correlation.

Morbid projection of one kind or another is the most constant mark of the paranoid state, the

feature, for example, which serves to distinguish this from the melancholic type of reaction. In the latter misfortunes, whether real or imaginary, are accepted in a fatalistic spirit or regarded as a well-earned retribution for the patient's own faults or failings. In so far as the patient ascribes responsibility to others he is paranoid.

Over-compensation.

The second general tendency exhibited by a large proportion of patients with the paranoid disposition is that towards over-compensation. By this term is implied the substitution or accentuation in consciousness of the converse of some disagreeable truth regarding themselves or their circumstances which they manage partially or wholly to ignore. This tendency in its extreme form gives rise to grandiose delusions, but numerous minor illustrations of it occur and will be mentioned later.

Rationalisation.

An attempt to render experience a clear and self-consistent whole by deriving one's judgments and feelings from the facts of experience is the ideal (if not the normal) form of thought, in fact, the main function of the highest level of the nervous system. In patients with the paranoid disposition there is a supernormal inclination to reverse this process by taking the feelings as the data and then misinterpreting current experiences or falsifying memories in the light of their prejudices. The length to which this process of false rationalisation is carried varies inversely with the degree of schizophrenia which coexists. It is the relative proportion of the two anomalies of reaction that determines the difference between the delusions of patients classified respectively in the categories of paranoia, paraphrenia, and dementia præcox.

Symbolism.

In cases where the loss of any urge to rationalise feelings and judgments is carried furthest, the extravagance of delusions reaches its heights. In such one often finds an early tendency to accept as literally true statements what are obvious symbolisms. Such symbolisms often bear a striking resemblance to comparisons which are consciously employed by the sane as metaphors or allegories. A very common and simple example is the replacement in consciousness of the sense of moral guilt by the idea of being verminous, infectious, or physically dirty in some way. Many of the apparently meaningless acts of dementia præcox patients—e.g., incessant hand-washing—originate in the same way.

Following this general analysis of the characteristic features of the schizophrenic paranoid series taken as a whole, it will be best to discuss in a more objective and detailed way the ætiology and symptoms of dementia præcox as representing one end of the series, to give a briefer comparative account of paranoia which stands at the other extreme, and of paraphrenia as intermediate between the other two. Finally, the prognosis, diagnosis, and treatment of the whole group will be treated jointly in Chapter XIX.

CHAPTER XVII.—DEMENTIA PRÆCOX.

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Ætiology.—Prodromal Symptoms.—Modes of Onset.—Manifestations of Introversion.—Manifestations of Schizophrenia.—Manifestations of the Paranoid Disposition.—Delusions.—Hallucinations.—Bodily Signs and Symptoms.

THE mental abnormalities exhibited by patients classified under this heading are at first sight so heterogeneous that it is difficult to see any rational basis for the clinical fact that such symptoms commonly coexist. The matter is simplified if one postulates that the fundamental character of the syndrome consists in the predominance of introversion and schizophrenia.

It will be found possible to classify the essential symptoms of actual cases as examples of one or other anomaly. In fact, it might be said that the connecting link between different cases of dementia præcox consists in the very disconnexion of mental processes observable in all. This disjointed quality is evident in regard to thoughts, feeling, and action, and especially in lack of normal correlation between these.

The disconnexion colours and modifies all the delusion formation, and hallucinations as well as mental processes which are not related to these. It is the lack of sequence in thought and the discrepancies in the feelings that give to the mental processes of dementia præcox their curious resemblance to dreaming. Jung says, "Let the dreamer walk about and act like one awakened and we have the clinical picture of dementia præcox."

Frequency.

About 10 to 20 per cent. of the total number of certified admissions to ordinary mental hospitals are patients who ultimately show symptoms that most observers would regard as indisputable evidence of dementia præcox. Owing to the fact that most such patients are admitted young and have relatively little tendency either to die or to recover sufficiently for discharge, they tend to accumulate so that typical examples form perhaps 50 per cent. of the chronic inmates. In the absence, however, of any clear and especially quantitative criteria serving to delimit the disease, such figures vary greatly in the opinion of different observers. The differences of opinion even as to chronic cases have been increased by the introduction of the term paraphrenia. Further, it is very uncertain what proportion among those cases that recover from a severe psychosis should really be considered transient examples of dementia præcox. There are practically no figures as to the occurrence of minor grades of the syndrome merging into

normality and into various types of neurosis—i.e., as to frequency of those degrees of the disorder most important to the general practitioner.

ÆTIOLOGY.

Age.—In about three-fourths of the cases that ultimately exhibit the characteristic chronic syndrome the onset of well-defined mental symptoms (leading to medical advice being sought) dates from the period between 15 and 25. Cases occur in quite young children. I have seen such a case in a child of 6, who presented the typical abstraction coupled with the mannerisms and fragmentary delusions. On the other hand, though the term dementia præcox was in the first place based on the view that onset in adolescence was an essential feature of the disease, it is now universally recognised that cases ending as obvious examples of dementia præcox, and especially of the paranoid variety, frequently start after 25 and may do so as late as 40. The name dementia præcox, though consecrated by use, is in every way an unfortunate one, but if retained at all should be taken as implying that the so-called dementia usually develops early in the history of the disease rather than that it necessarily occurs early in life.

Sex and Race.—The sexes are fairly equally affected. No race seems to be exempt from similar degenerations, though exact details of the clinical picture are considerably modified by the degree of culture—e.g., by the predominance of verbal thought in civilised man, and of concrete imagery in more primitive races.

Family.—The high proportion of mental disorders in other members of the family is the most striking feature in a series of histories. This is usual but not constant; absolutely sporadic cases certainly occur. Attempts have been made to show that dementia præcox occurring in a family does so in the proportion to be expected of a Mendelian recessive character. Such attempts are so far not convincing and seem unlikely to succeed on account of imperfect delimitation.

Some researches appear to indicate a certain tendency to "anticipation" in this and the rest of the functional psychoses—i.e., to occurrence in succeeding generations at an earlier age. According to this view dementia præcox would be apt to occur in those belonging to a family where insanity

had appeared in previous generations in old age or at the menopause, and it would be liable to be followed by the occurrence in succeeding generations of the less specialised types of amentia. The statistics in favour of this view are not free from possible sources of fallacy.

On the whole, there seems a distinct tendency for transmission of functional psychosis to be "similar." One finds many families where emotional instability of one kind or another is widely prevalent, but in which this is coupled with high intelligence and no lasting impairment is ever seen in any member. On the other hand, one meets with families where numerous members have been either paranoid or have shown characteristic dementia præcox symptoms.

Apart from the occurrence of clearly certifiable mental disease in the family of those suffering from dementia præcox, there can often be elicited history in the relatives of minor character anomalies such as commonly appear as prodromia in those who later develop the syndrome in an obvious form. The possibility must be borne in mind that the presence of such peculiarities in the parent may play some part in producing abnormal reaction habits during the impressionable years of childhood by imitation or otherwise.

Physiological Stresses.—In certain cases first symptoms become manifest soon after childbirth—from a few days to several months. In a smaller proportion they appear during pregnancy.

That toxæmia and infection in some cases play a part is suggested by certain features. Among these are the occurrence of acute phases, either at onset or later, in which the mental state is one of hallucinatory confusion or delirium and closely resembles that seen in cases where toxic factors play a predominant part. The general metabolic disturbances of dementia præcox are sometimes extreme, and certainly they are not always explicable as resulting directly from conduct. All attempts, however, to demonstrate that external toxic agencies, whether specific or not, are constantly or even very frequently responsible for dementia præcox have so far failed. Efforts have been made to trace this and other "functional" psychoses to bacterial toxins absorbed from the alimentary canal, the tonsils, the gums, the nasal accessory sinuses. Each of these sites enjoys its unenviable repute for a year or so in turn. During the same time corresponding treatments are alleged to produce remarkable results. The vociferations of the alleged specialists are presently followed by silence until the time of the next "discovery."

Though structural anomalies of endocrine glands can be demonstrated fairly constantly post mortem, as pointed out by Mott and his co-workers, there is no satisfactory proof that such are primarily responsible for the mental changes. It is equally possible that such lesions are concurrent manifestations of the same morbid tendency which affects the nervous system or even that they are secondary results of this.

There has been a tendency to regard the disease as in some direct and specific way connected with

internal secretions of the sexual glands and the evolution of these at puberty; attempts at treatment have been based on this.

Apart from the fact that none of the preparations given can be shown to have any physiological activity in the laboratory, it would seem that their use is based on an unproven and improbable theory. Neither castration nor any organic disease of the generative glands is known to produce with any frequency the clinical feature of dementia præcox.

In some cases subsequently developing dementia præcox premonitory symptoms precede puberty by many years, and in other cases the first origin seems to date from long after a normal sexual maturity. It is quite possible that any correlation which exists between the internal secretions of the sex glands and dementia præcox may depend on the influence which the latter have in activating the mechanism of the sexual instinct and so in promoting the common conflicts of adolescence connected with sex. Such a view would not ascribe any specific rôle to the genital glands, and it seems that other conflicts of the same period are almost equally important—e.g., those associated with separation from the guiding and protecting influence of the parents and the need to achieve independence and self-support.

Recent Mental Stress.

On the whole, one would say that though sudden shocks may occasionally seem to be the starting-point of dementia præcox in fairly typical form, they more often initiate attacks of the acute confusional or manic-depressive types, and when dementia præcox results it is frequently as a sequel of a primary phase of such form. More prolonged stresses are often held responsible. Overwork for an examination or disappointment in love is frequently adduced as the exciting cause. In at least a large proportion the alleged trauma is consequent upon the existence of the disease (possibly in minor degree), though often progress seems to be accelerated and certainly form is determined by the shock. But in a large proportion at least the overwork has been necessitated by a mental inefficiency already existing, and the love affair held responsible is often on inquiry found to be entirely a one-sided product of phantasy. When recent stresses cited as causes are not the consequences of the disease they will usually be found to be commonplace ones, such as the death of parents, and quite inadequate except in view of a grave constitutional predisposition mainly responsible for the disproportionate reaction.

Masturbation has, of course, no such direct and physical influence in the production of mental disease as is ascribed to by popular superstition and often by the dementia præcox patient. It is possible, however, that habitual indulgence in phantasy in connexion with masturbation, and the prolongation of conflicts concerning this habit for years, may play a considerable part in determination of the fundamental mode of reaction in predisposed individuals. At least it may be said

that the detailed form of the symptoms is related to the topic in an enormous proportion of cases.

Relation to Remote Experience.

Certain authors have tended in seeking the genesis of dementia præcox to stress the influence of experience occurring long before development of the manifest disease rather than inborn factors, and various accounts of it in psychological terms have been suggested. Except as temporary make-shifts such statements can only be regarded as satisfactory by the thoroughgoing dualist. Of most of them it may be said that they are rather generalisations as to what constitutes the fundamental anomaly in mental functions or description of the earliest manifestations than attempts really to account for the disease.

According to Adolf Meyer, the shut-in personality which constitutes the essence of the disease originates in habitual faulty modes of reaction to experience. Exceptional causes for the initial adoption of the said habit cannot be demonstrated in most cases, and such a view does not seem to account for cases of acute onset in those previously normal.

In Jung's earlier works the disease was regarded as primarily due to the formation of a "complex." In the original sense of that much-abused word it implied a system of wholly unconscious ideas living an autonomous and, as it were, parasitic existence in the mind and monopolising an undue proportion of mental energy. The "deprivation" symptoms that are usually considered fundamental in the disease would, according to this, originate rather in the second place by a process akin to distraction. It would be difficult to account, at any rate, for all cases in such terms—e.g., cases of dementia simplex supervening on congenital defect. Jung's later work has tended to stress as the fundamental characteristic of dementia præcox an habitual tendency to introversion—i.e., a deviation of interest away from the outer world and towards purely internal mental contents leading to production of complexes and of phantasies finding distorted and fragmentary expression in symptoms. The origin of the introvert disposition is ascribed to early unpleasant experiences, perhaps of a banal kind, but effective in virtue of an innate hypersensitiveness to such. This view might possibly be regarded as the equivalent in psychological terms of an inherent defect in those cortical neurons whose function is adjustment to new or exceptional situations. "Innate sensitiveness" might correspond to subjective awareness of such a defect.

Coupled with introversion in dementia præcox, according to Jung, is a tendency to far-reaching regression leading to the reactivation of elements existing in what he terms the "collective unconscious"—those inherited mental dispositions common to the whole human race and originating during its evolution. Such are also considered the source of myths, and Jung traces resemblances between the latter and the symptoms of dementia præcox. By Freud the tendency to introversion is regarded as due to regression towards auto-erotism.

He traces the origin of this condition to an accentuation and fixation in infancy of narcissism or some earlier phase of sexuality—due, at least, in part to experience of this period.

On the whole, the most widely held views of the disease is that which postulates a primary defect in the vital energy of certain cortical neurons, an inherent and often inherited deficiency in their functional reserve. This sub-normal capacity to withstand the stress of experience may lead to more or less prolonged depression or suspension of function or in extreme cases to regressive atrophy. Combined with symptoms directly due to the depressed activity of the highest level of the nervous system are others due to incoördinate activity of lower levels usually controlled and regulated by the higher adapted reactions. Responses determined by adequate synthesis of all present and past impressions tend to be replaced by less complex reactions expressive of isolated habits of thought and action and of emotional association formed in the distant past. The discovery by Mott in recent years of definite structural change in many of the cortical neurons has confirmed this view and might be held to justify the removal of at least some cases from the category of functional disorders.

PRODROMAL SYMPTOMS.

In many cases that ultimately terminate as typical dementia præcox there is a history of slight peculiarities of thought, feeling, and conduct, dating from the earliest years and clearly distinguishable from the progressive change forming the early stages of the manifest disease. These anomalies of juvenile mentality bear a certain general resemblance to the later feature of the established syndrome. At the same time it must be admitted that they are neither peculiar to the history of the disease nor constant in it. These anomalies, though more common in the childhood of future schizophrenic patients, are seen occasionally in equal degree in those whose ultimate development is perfectly normal. Further, they may have been conspicuously absent in the child that later becomes a typical case of dementia præcox. Such patients may be reported by competent and unprejudiced witnesses to have been entirely stable and reasonable. A small proportion are reported to have always been rather dull and backward at school. In a few cases symptoms of dementia præcox supervene about adolescence on definite congenital intellectual deficiency; such cases are, perhaps, particularly liable to take the form of dementia simplex. Some patients, on the contrary, have been brilliant, but even these may have shown curious traits of conduct and emotional reaction.

Such traits may be of most contrary types. Some of these children have always been dependent, unduly submissive, and given to maudlin affection and sentimentality. Others have shown tendencies suggesting the germs of future negativism, touchiness, suspicions, sulkiness, obstinacy, and a generalised resentment of advice and control. The great majority of patients are reported to have

been quiet, shy, and solitary. A few, on the other hand, have shown morbid vanity, a craving for notice, hypersensitiveness to criticism, and adoption of extravagant poses to attract attention. Excessive day-dreaming and a precocious preference for abstract and speculative thought rather than for external activity is very common. Religious doubts and terrors often occur among such children.

MODES OF ONSET.

In cases that ultimately develop typical dementia præcox the onset of definite mental disorder, which leads to medical advice being sought, may be insidious or acute. In the insidious cases, which form the majority, a progressive change of disposition has often been noticed for years, starting about adolescence or later, but not recognised as having any pathological significance. In the acute cases also the outbreak is often an exacerbation superimposed on a gradual change, though abrupt onset without any previous warning certainly also occurs. Changes leading continuously up to the manifest disease may represent an accentuation or a complete reversal of previous character. Among the commonest varieties of such progressive change are :—

(1) Loss of affection and of interest in life, indolence, slovenliness, and inefficiency, decay of ambition, or at least extreme disinclination for continued effort in pursuit of professed aims.

(2) An increasing tendency to phantasy and to preoccupation with that which is abstract and immaterial. Morbid religiosity with ecstasies, doubts, and scruples. The pondering of philosophic and metaphysical questions without serious attempts at the study of previous speculation on the subject, or recognition of the essentially insoluble nature of such problems. Dabbling in mysticism and psychical research, spiritualism, telepathy, and Christian science. Unproductive absorption in art—especially music and poetry—or in romantic novels and plays.

(3) Loss of moral control. A tendency—particularly a paroxysmal or phasic one—to masturbation, illicit sexuality, greediness, drunkenness, or thieving. Many patients become tramps or prostitutes at this stage, or in the well-to-do classes are exported by their exasperated parents.

(4) Development of a neurosis differing at first in no way from that seen where the anomaly goes no further. In many cases that for years have seemed to be typical examples of hysteria, neurasthenia, anxiety neurosis, or obsessional states commencing in youth, characteristic symptoms of dementia præcox eventually supervene.

Acute Onset.—As stated, such may occur as a sudden aggravation of previous slight prodromal symptoms or without history of such, and with or without obvious precipitating cause. Such abruptly developing psychoses may from the onset be of a form closely resembling one of the syndromes commonly seen in established cases of dementia præcox—e.g., catatonic stupor, either passive or

negativistic, or a sudden disjointed delusional state with relatively clear consciousness. On the other hand, in the acute cases the symptoms may for a time bear an indistinguishable resemblance to one of those acute types of psychoses which have a relatively favourable prognosis.

MANIFESTATIONS OF INTROVERSION.

Of the symptoms constituting the condition of introversion the affective ones are the most constant. Very early in the history of many cases eventually developing into dementia præcox there is a feeling that the world is strange and unreal. Even tidings of great importance have a remote insipid quality as if they were no concern of the patient. The bodily sensations and memories that constitute the personality also cease to have their distinctive familiar character; such changes are termed depersonalisation. At first the sense of this change may cause acute distress, but later as a rule true apathy supervenes.

Loss of natural affection usually spreads and deepens. Occasionally the cruder feelings associated with instincts in their primary form persist, such as greed, sexuality, and even maternal love. The influence of more complex forms of egotism (such as ambition) become restricted to production of phantasy. In well-marked cases every type of altruistic ideal built up during education, loyalties, honour, decency, and consideration for others may cease to have any significance for the patient. In most instances this inhuman detachment or lack of emotional rapport is clearly seen in the dearth of any sympathetic response to the emotions of others and a failure to form friendships among fellow patients.

Coupled with this loss of emotional response is an inertia in regard to all external activities. Definite aims and desires gradually recede. In some early cases there is a liability to sense of fatigue on slight exertion and to corresponding bodily signs. But later the inactivity seems to depend on simple defect of initiative and incapacity for spontaneous adaptation to novel circumstances. Many patients remain capable of routine employment but need an amount of stimulation and of direction which entirely unfits them to earn a living under competitive conditions. While, as a rule, prolonged spontaneous activity directed to a fixed purpose is markedly reduced, one occasionally sees a complicated scheme contrived and carried through in relation to a delusionally inspired plan or even to some impulse such as self-mutilation, for which the patient can give no reason.

In comparison with the negative changes in feelings and conduct, the purely intellectual defects are often relatively slight and they appear to depend largely on lack of interest. There is usually no clouding of consciousness. Passive attention may be normal; patients are often even unduly distractible by noise or trivial occurrences around them. But active attention is markedly impaired. Questions are often repeated in a musing sort of way. Intellectual laziness is prominent.

Patients are apt to reply automatically that they do not know when it is evident they really do not care.

Perception, orientation, and memory are not diffusely impaired as a rule. Replies may, of course, be unobtainable or they may be distorted by delusional beliefs or by negativism. Apart from the difficulty of getting the patient to apply himself to the task of remembering, it may be clear that there are odd gaps in the knowledge resulting from failures to note passing events during former periods of abstraction, but such forgetfulness is scrappy. On the whole, remote events are remembered better than recent. There may be remarkable preservation of accomplishments such as piano-playing, even if exercised only at long intervals, and school knowledge is usually well retained though contradictory blanks may be found. Memory of recent events is often indiscriminate. Trivialities are often remembered and events of importance forgotten. But there is no general incapacity to register and retain the memory of current events despite evident effort such as is seen in alcoholism. Associations are notably brief. Replies to leading questions, though correct, are laconic; no amplification is volunteered except perhaps in relation to delusions. There is often marked slowing of comprehension and of every kind of response.

More profound degrees of the negative type of symptoms are seen in cases of passive stupor and in the more chronic states usually styled dementia. In well-marked cases of either kind the patient is entirely motionless and mute. Questions are simply ignored. He sits or lies about doing absolutely nothing, has to be fed by hand and washed, led into the garden, to table, and to bed. The urine and faeces may be passed at intervals without regard to personal cleanliness or decency, or they may be retained until the patient is taken to the lavatory. Stupor of this kind in many cases is complicated by the presence of cataleptic or catatonic features or is coupled with negativism, but all such features may be absent. It has been suggested that such patients are preoccupied with phantasy or are definitely excluding from consciousness unpleasant reality. Questioning patients who have emerged from such a state does not tend to confirm such views. Patients usually describe a perfect awareness of passing events, but a lack of spontaneous thought and of the slightest inclination to satisfy normal cravings or to react to stimuli of any kind.

Patients may exhibit this continuous absence of any spontaneous activity for years, and in such cases it is eventually styled dementia. However, even in the most severe and protracted cases it is extremely dubious how far the word dementia is applicable in the usual sense of an irreparable and generalised impairment, especially of intellectual processes. Not only may scattered indications of considerable powers of observation and memory occur, but occasionally after years a so-called dement (most commonly as the result of bodily illness) becomes for a time lucid, coherent, and responsive in every way.

MANIFESTATIONS OF SCHIZOPHRENIA.

Intellectual Disconnexion.

Whether in those previously normal or in patients apparently suffering from a neurosis or some more benign type of psychosis, one of the earliest indications of schizophrenia is a certain inconsequence in the utterances. Spontaneous conversation without being at all rapid, as in mania, does not quite hang together. Replies to perfectly simple questions may be slightly irrelevant, tending to miss the point, almost as if the patient were slightly deaf. The meaning of sentences as apprehended is distorted by the patient's previous musings; isolated words are picked out and answers related to those without regard to their actual context.

As time goes on conversation may become more incoherent. Successive sentences refer to utterly different topics. As a rule, it is not, as in mania, a question of attention being distracted by trivial external occurrences nor of association occurring rapidly though through superficial connexions such as rhyme or alliteration. Association is largely mediate. Speech is not merely elliptic and progressive in one direction though with unexpressed gaps. On the contrary, there is an abundance of what one might term, "the knight's move" in association. Doubtless links exist determining the digression. Occasionally the gaps can be filled without undue ingenuity through interpretation by an observer sufficiently acquainted with the history. Even when this is the case the patient is unaware of the reason for the odd sequences, and usually he is quite unsuitable for any type of special investigation to elucidate their history.

Emotional Disconnexion.

In addition to the general decrease in feeling regarding the outer world, one often notes in the earliest stages a peculiar childishness in the emotions and particularly a tendency to silly giggling. Later discrepancy between the content of speech and feeling is very marked. Some patients utter a daily protest against their detention and a request for discharge utterly without any plan. They accept refusal with perfect equanimity or thank the doctor politely for his obvious evasion.

Most chronic patients discuss their hallucinations and delusions with extreme lack of feeling. Those claiming to be of royal or superhuman descent submit without demur to authority and carry out menial tasks without question. Persecuted and hypochondriacal patients may titter at the tale of their own torments. Occasionally one sees cases of dementia præcox that exhibit one persistent mood of depression or exaltation. Generally, it has no relation to any real circumstances and very little to either delusions or hallucinations. Phases resembling mania or melancholia may occur in patients who for years have been stuporose.

Isolated emotional displays of various types are common. In some cases it is a question of a disproportionate reaction suddenly flaring up, utterly at variance with the customary stolidity. A quiet

and apparently harmless "dement," who had for years been on parole about the grounds of a mental hospital looking after the cows, battered in the head of a fellow patient with a broom because the man had accidentally knocked the pipe out of his mouth. In other cases outbursts are regularly provoked by a particular type of interference or some constant stimulus such as a certain phrase. Though the reason for the excessive provocative effect can rarely be ascertained, it is doubtless due to stimulation of some complex. In other cases a storm of tears, a frenzy of anger, or peals of laughter occur without any ascertainable relation to external circumstances and even without any accompanying external action. Some such have a peculiar theatrical quality and are doubtless the accompaniment of phantasies; others are clearly responses to hallucinations which the patient refuses to discuss.

Disconnexion of Conduct.

The most distinctive symptoms illustrating the fragmentation of association which is termed schizophrenia are those disorders of conduct grouped under the terms catalepsy and catatonia. Under catalepsy are included meaningless automatic responses to external stimuli, and under catatonia equally meaningless forms of speech, expression, and action occurring spontaneously and without apparent reference to external influences of any kind.

(a) Catalepsy.

This is really a form of morbid suggestibility dependent on the suspension of any direction by internal impulses.

Automatic obedience to orders. Patients exemplifying this carry out any verbal directions entirely without reference to their obviously absurd or even dangerous nature. The condition resembles what may be seen in advanced degrees of hypnotism but goes beyond it.

Flexibilitas Cereæ.—This is by far the commonest of the cataleptic manifestations. It is a condition in which various parts of the body can be passively placed in any desired position, and are then kept in the same position almost indefinitely until exhaustion supervenes.

Echopraxis.—Patients displaying this respond by immediate reproduction of every movement of some person in the immediate neighbourhood standing up or sitting down, coughing, laughing, or performing any absurd antic in exact imitation.

Echolalia.—There are two forms of this condition. In the first, all questions or orders addressed to the patient are forthwith repeated in exactly the same words rather than answered or obeyed. In some cases it is unduly simple to regard this as a sign of passive suggestibility; often a malicious smile indicates an element of negativism. In the second form the patient reiterates exactly like a parrot phrases that he habitually hears about him in the ward, and the very tones in which these are delivered, such as "Stand for grace," "Boots on for the garden," "All to bed."

(b) Catatonia.

Under the heading of catatonia may be classified:—

Impulsive Actions and Utterances.—The tendency to performance of isolated unaccountable acts, often of a dangerous kind for which the patient can offer no explanation, exists in varying degree in most schizophrenics, and is one of the chief facts to be borne in mind regarding the need for detention. Entirely without cause and even apart from any evident emotion the patient may leap to his feet and smash a window or strike an inoffensive neighbour. Suicidal attempts often occur in the same way. A patient who seemed so far improved that he was on the verge of returning home and who had expressed his pleasure at the prospect of resuming normal life, was seen playing the piano in apparent calm and two minutes later found with his throat cut. Ejaculation of fragmentary sentences may occur in a similar way.

Catatonic Excitement.—In really typical instances this consists in prolonged meaningless over-activity in speech and action. Most cases of so-called "chronic mania" are examples of this condition rather than of the sort of restlessness seen in true manic-depressive psychosis. Differences are discussed in Chapter XIX. under the heading Differential Diagnosis.

Spontaneous fixed attitudes and expressions are commonly adopted. The head may be thrown far back or rested on the knee, one or both arms may be raised, the hands may be tightly clenched so that the nails indent the palm or fixed in the accoucheur position. The patient may stand on one leg, sit huddled up in an attitude resembling the intra-uterine posture, or kneel continuously as if in prayer. The face may be contorted in a meaningless grin, the eyes may be tightly shut, or the forehead wrinkled. Frequently the lips are protruded in the fashion termed "snout cramp." The degree of rigidity associated with such continued postures varies greatly. In some cases attempts at alteration provoke extreme resistance. All disappear in sleep.

Stereotypies may be of conduct or of speech.

Stereotypies of Conduct.—Entirely purposeless movements may sometimes be combined to form a relatively complex act. But more commonly a mere jerk or twitch of some kind is all that occurs. Stereotypies may be recognisable as vestiges of some act habitually performed in a previous part of the patient's life, or connected with a former emotional episode, or expressive of some old-standing delusion. Nevertheless, even if interpretable by the observer in such ways, they usually occur without conscious revival of any context (so far as this can be ascertained by questioning the few accessible patients who display them). Common examples of such symptoms in their more complex form are walking a fixed number of steps along a particular strip of the garden path, halting for a definite interval, turning in some peculiar manner, and so ad infinitum, or walking round the chair a given number of times before

sitting down. One patient repeatedly performs the movements used in his former occupation of signalling the varying odds from the bookmakers in the principal ring to others out on the course. Most stereotypies are more fragmentary, shaking the head, shrugging the shoulder, or dropping on the knees. Stereotyped facial grimaces are among the commonest features of dementia præcox, and in minor forms are often one of the early indications of future progress in that direction. Flickering the eyelids, lifting the eyebrows, sniffing, blowing out the cheeks are common tricks of the kind.

Stereotypy of speech is termed verbigeration. In some patients there is merely a generalised tendency to repeat themselves in the nonsensical content of their conversation and letter writing. In others a particular phrase is uttered day in and day out. One patient, with a grievance regarding his treatment during a long past attack of dysentery, twice a day accosted any doctor passing through the ward with the words, "Perhaps you haven't heard; it's hard to say; D-r-y-u-s not gone, sir; senna, salts, castor; name on bottle."

A clear distinction is readily drawn between stereotypies and the monotonous repetition of movements and phrases expressive of current emotion seen in agitated melancholics. The latter may incessantly rock themselves to and fro, wring their hands, beat their forehead, and ejaculate over and over "Oh, my God," "What shall I do," and so forth. But such gestures and phrases are not properly termed stereotypies. On the other hand, the distinction from compulsions seen in obsessional neurosis is much less clear cut. It depends chiefly on the degree of insight regarding the morbid quality of the given impulses and of tendency to resist or obey. Actually in many instances what starts as an obsession becomes a typical stereotypy.

MANIFESTATIONS OF THE PARANOID DISPOSITION NEGATIVISM.

Two main manifestations of this kind may be discriminated—negativism and delusion formation.

When first seen many patients whose attention can be readily arrested profess a spurious ignorance or give brief, guarded, or evasive replies to all questions alike that concern them personally. They may appear merely sullen and suspicious, or may be insolent, or evince evident delights in baffling inquiry by their enigmatic or untruthful replies. It is possible to regard the passive types of stupor and even those in which *flexibilitas cerea* exists as a sort of negativism, the result of a tendency to ignore the intrusion of reality or a process of withdrawal from it. Such a view, however, is theoretical and no subsequent reminiscences of the patient usually supports it. Negativism manifests itself most commonly in *mutism*, *resistiveness*, *active contrariness*, and *general mischievousness*.

The *mutism* referred to is that common form in which it occurs without stupor or, in fact, without any gross defect of response to the environment apart from the obstinate silence. In some cases

the patient will obey orders given either in speech, writing, or gesture, and he may reply to questions by signs or even in writing, though he will not speak. Others ignore every form of communication but go about their self-appointed tasks with evident appreciation of the environment.

Resistiveness.—In this the negativistic tendency is carried further. The patient offers a diffuse and blind opposition to performing any act that is proposed to him. There is generally no evidence of fear, as in melancholic resistance, nor of anger. Usually no associated tendency exists to unprovoked aggression nor even any inclination to assault the person attempting to compel obedience, but merely unreasoning rigid resistance upon which no persuasion or argument has the slightest effect.

Active contrariness is relatively rare. Patients exhibiting this do precisely the opposite of what is desired. If told to give their hand they withdraw it; if to put out the tongue, they clench the teeth; if dressed, they tear their clothes off; offered food, they refuse it; if kept from it they steal it. A struggle is necessary to get them into the room; if when leaving they are told to hurry, they stand rooted to the spot.

Mischievousness of all kinds shown by the dementia præcox patient is the outcome of the same essential attitude of hostility to the universe. Much of the violence, noisiness, destruction, and addiction to filthy practices (such as spitting about the room or smearing the walls with faeces) is attributable to a quite deliberate desire to annoy rather than to delusion or a specialised impulse. Frequently the patient is fully aware of his immunity from punishment and derives a malicious satisfaction from it.

DELUSIONS.

In advanced cases of dementia præcox the delusions (whatever their exact content) have the following common features. They are numerous but interconnexion is slight. They vary greatly from time to time. They are often utterly impossible, and bizarre; they may be mystical or meaningless even to the patient. Impossibility and discrepancy with reality are quite indifferent; there is little attempt to reconcile them with known fact. One often gets the impression that they are half-recognised as products of phantasy and held with less conviction than in paranoia. They are associated with relatively little tendency to persistent emotion or conduct in keeping with them. Gradually they become mere fragments of their former selves and degenerate into verbiage.

While the above statements are true of the advanced cases, it must be clearly understood that they are not so in the early stages. In many cases at the onset of the disease only a single false idea is present. It is much more prominent at some times than others. Even when present or at least at intervals the patient may recognise its falsity as clearly as normal people do that of their dreams. The patient may remember the origin of a delusion during sleep. In some cases hallucinatory announce-

ments which are recognised as subjective precede their acceptance for a long time. Again, in early cases there is often little or no disguise about the circumstances to which the delusions relate. Many are expression of shame in connexion with slight bodily peculiarities (e.g., hair on the face or large hips in women) or of fear (e.g., that of pregnancy after illicit intercourse or of the reputed consequences of masturbation here and hereafter). Later, as a rule, the origin of delusions becomes entirely mysterious as they progressively diverge from their original form.

Depressive delusions are, on the whole, rather uncommon, particularly those of the apprehensive type so prominent in melancholia. Occasionally one sees ideas of impending punishment, in men particularly often the fear of castration. Extravagant self-accusations frequently occur, usually expressing the sense of guilt regarding some commonplace lapse. The patient may declare himself guilty of the sin against the Holy Ghost, of innumerable murders, of having caused a war, or of various sexual perversions that have never occurred. Frequently patients identify themselves with some notorious criminal of the recent or remote past. In many cases such ideas are found coupled with persecutory ones and later to recede in favour of the latter.

Hypochondriacal delusions may concern every organ or bodily function, and generally in dementia præcox they tend to concern several. An attempt to find a physical explanation for the recognised mental defects is at the bottom of most. Worries about the bowels are a little less common than in melancholia and are often replaced by those concerning masturbation. This is held responsible for mental decay, for sinking and shrinking of the eyes, for liquefaction of the brain, paralysis of the spinal cord, or for the patient being rotten with syphilis.

Expansive delusions are extremely common. In many cases the stage of definite delusions is preceded by one of indulgence in phantasies which are still recognised as such by the patient. Other patients gratify their craving for distinction by ostentatious absorption in obscure and occult subjects, by the adoption of eccentric clothes and hair-dressing, hyper-refined manners, affected articulation, and pompous phraseology. The later expansive delusions mostly represent in the first place the fulfilment of fairly normal aspirations—for power, admiration, affection, or sexual gratification.

Female patients assert that they are princesses or celebrated film actresses. They discuss their royal marriage or describe their numerous lovely children by various fathers.

Men claim immense bodily strength and vast achievements. They feel they have some vague but vast mission from God or the king or identify themselves at once with the Deity and with several earthly potentates both living and dead. Such claims are contradictory and absurd and coexist with knowledge of real identity and history. One patient, at the end of a contest with a medical officer regarding their respective distinctions,

remarked, "Well, anyhow you weren't discharged from Banstead Asylum as Jesus Christ in your own right with a roll of green baize under your arm."

In a fair proportion wish-fulfilling delusions represent the results of over-compensation—i.e., direct and obvious reversals of painful truths. The young woman, who has been seduced and deserted, describes her wedding, the prostitute claims to be the Virgin Mary, the exhausted mother of several children by a drunken reprobate denies her marriage and resumes her maiden name. A good many patients blot out the whole of their unhappy lives and return to babyhood in behaviour, articulation, and content of conversation.

Persecutory delusions form the most prominent feature in most cases in accordance with the general tendency to projection that characterises the whole group of psychoses discussed in this chapter. In general the persecutory delusions resemble those of paranoia.

The distinctions depend on combination with the delusional state of a large element of schizophrenia and are listed above. Here it may be said that in many cases a notable thing is the total absence of any theory as to the identity or motives of alleged persecution. There is not merely ignorance but indifference, and when this is present it is quite pathognomonic.

HALLUCINATIONS.

Though these are an almost constant feature of dementia præcox description of them must be brief. The visual type is relatively rare except in acute phases with confusion; such are much less characteristic of the whole series of syndromes under discussion than those associated with clear consciousness of the environment. The commonest varieties are auditory, olfactory, and visceral; among the latter those referring to sexual organs are particularly common. The true sensory vividness varies enormously. Combined hallucinations (i.e., correlated false perceptions apparently derived from two or more senses at once) are very rare. The false auditory images are usually brief. Long scenes and conversations are much less common than in hysteria.

Commonly at first the meaning is plain to the patient; in fact, it may be this rather than a set form of words that is "heard." Later the sayings of the "voices" fail to convey anything to him. Occasionally from the first the patient hears words or phrases for which he can give no explanation; this is particularly significant of dementia præcox. Hallucinations may be pleasing or annoying just as delusions may be grandiose or persecutory; most commonly they are unpleasant (e.g., abuse, accusations, or threats). Emotional accompaniment is usually intense at first; it tends to fade in time as a rule, though this is not invariable. The same is generally true of influence on conduct.

BODILY SIGNS AND SYMPTOMS.

The account of bodily signs and symptoms in dementia præcox must be reduced almost to a brief catalogue.

Headache and various paræsthesiæ, both somatic and visceral, are common in early stages.

Marked *fluctuations of weight* are seen, especially during confusional and catatonic phases.

Insomnia or less commonly sleepiness may occur. Among the most frequent anomalies is amenorrhœa in women. The appearance of menses suggests cessation of an acute phase, but by no means always the likelihood of recovery.

Cyanosis and œdema are usually seen in advanced cases. They are often but not always referable to posture and immobility—e.g., œdema of the angioneurotic variety may occur on the face. Among other trophic disturbances the author has seen the hair go entirely grey during an acute phase and regain its normal colour after this.

Among rarer symptoms apparently due to the disorder are ptyalism, diarrhœa or constipation, polyuria, or oliguria. The pupils are often dilated during progressive phases and especially in young patients. Some diagnostic significance is attributable to absence of the psychic pupillary reflex. Fibrillary tremors are often seen about the face and the tendon jerks are commonly exaggerated.

Four clinical types of dementia præcox were originally discriminated by Kraepelin—viz., dementia simplex, catatonia, the paranoid form, and hebephrenia. Roughly, it may be said that the distinction between the first three corresponds to a relative prominence in the clinical picture of one or other of the three fundamental anomalies mentioned in the introduction.

In *dementia simplex* (which is always insidious in origin) those symptoms that have been classified

under the heading of intraversion are most prominent and the whole morbid change may be confined to such.

Catatonia is characterised by predominance of the grosser schizophrenic symptoms and particularly meaningless speech and conduct. Excitement often alternates with stupor. The onset of this form is fairly often acute and then the prognosis is relatively favourable.

In the *paranoid forms* the delusions and hallucinations of the typical form are the most striking feature. They may be combined with signs of negativism.

Hebephrenia seems an entirely unnecessary category. In the cases relegated to it symptoms illustrating each of the fundamental anomalies of reaction are fairly equally combined. As Bleuler says, "It constitutes the big trough into which are thrown the cases that cannot be classed with the other three forms."

Of late years Kraepelin has tended to multiply subdivisions of dementia præcox—in accordance partly with the actual syndrome and partly with the course. Such distinctions are quite valueless; every combination is possible and transition in different cases complete. This is true even in regard to the relatively simple subdivisions mentioned above. Further, it should be remembered that alternation between the four subdivisions is extremely common, particularly in early stages. They would therefore be better described as phases than types of the disorder, though a few cases from the first and many in the end are fixed in their form.

CHAPTER XVIII.—PARANOIA; PARAPHRENIA.

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Paranoia: Ætiology.—Onset and Symptoms.—Syndromes resembling Paranoia.—
Paraphrenia: Ætiology.—Onset and Course.

PARANOIA.

THE cases grouped under the name paranoia represent the other end of the scale from dementia præcox in the long series forming the subject of these chapters. The exact use of the term by various authors has varied greatly and it might perhaps best be employed to cover the whole group of cases in which delusion formation occurs as a fighting mode of reaction to dissatisfaction with the self or circumstances without marked and generalised mental impairment. Kraepelin, however, whose classification has been widely adopted, uses the term in a much more restricted sense. He defines paranoia as follows: "The insidious development of a permanent and unshakeable delusional system resulting from internal causes which is accompanied by perfect preservation of clear and orderly thinking, willing, and acting." He further says definitely that hallucinations do not occur in the disease.

The effect of this definition is, of course, to exclude from paranoia not only (a) cases attributable to any organic cause (e.g., certain alcoholic cases), and (b) those showing any general deterioration (relegated to the categories of dementia præcox and paraphrenia), but also all cases in which any of the following conditions are features of the case.

(1) Presence of hallucinations; (2) well-defined relation to external experience; (3) acute onset; (4) recovery.

Whether the distinction of a group restricted in such ways is not entirely artificial may well be doubted, but it will perhaps be best first to describe the cases more or less conforming to Kraepelin's definition and later to mention under the heading of "Syndromes resembling Paranoia" a number of cases with a general similarity as regards the actual delusional state present but differing in other particulars.

ÆTIOLOGY.

Paranoia in the limited sense is rather commoner in men than in women. The exhibition of mental symptoms so obviously morbid as to lead to medical advice being sought occurs usually about middle age, but in reality the exact date of this happening is accidental. It is often determined largely by the manner and degree in which the patient's conduct is affected by his delusions and their consequent liability to attract public notice.

A history of certifiable mental disease in one or other parent is ascertainable in about one-fourth of the cases; the presence of minor degrees of abnormality in parents, brothers, or sisters is

far more common and often the whole family is described as "cranky." In typical instances the disease is but the final outcome of a thoroughly abnormal character. The patient has always been self-centred, jealous, moody, prone to take offence, and given to over-estimation of his abilities and rights, and to brooding sullenly about any thwarting of his ambitions.

ONSET AND SYMPTOMS.

Preceding the development of well-marked delusions, there is often a period of depression, insomnia, and impaired capacity for work. The patient gradually becomes irritable and vaguely suspicious and begins to suspect general unfriendliness on the part of those around. The natural consequences of his own behaviour tend to afford some justification for this. In the next stage delusions of reference usually appear. The patient thinks he is shadowed, he fancies he sees slighting glances cast at him, people passing in the street seem to mutter about him or to spit scornfully. Passages in the newspapers are thought to be cryptic references to the patient's case, and film stories disguised representations of his life. At first he may profess himself unable to ascribe any cause for the widespread hostility, but gradually he identifies and motives of those primarily instigating the alleged conspiracy dawn upon him. Eventually in the commonest type of case there develops a complete system of false beliefs closely connected by pseudo logical reasoning and more or less self-consistent but utterly at variance with actual fact. Usually there is a central delusional core which remains relatively unchanged, but to this additions are made by continuous misinterpretations of past and present events. Any trifling disturbance of health such as a headache or slight digestive upset is regarded as the effect of poison secretly administered. Every trivial occurrence such as a loud noise in the room is deliberately contrived to annoy him. All the events of his past are regarded in the light of his preconceptions and become further evidence of a persecution which the patient now perceives to have been directly against him for years. Not only is an absurd significance given to real though remote incidents, but in addition pseudo memories in keeping with the delusions frequently appear. In some instances the ascribed motive of the persecution is some delinquency which the patient admits, such as masturbation, having contracted syphilis, child-birth before marriage, or infidelity after it. Usually, however, the enemies are regarded as not merely

desiring to blackmail but as spreading utterly false charges.

Elderly women long devoid of sexual attractions may complain that they are accused of habitual current immorality. In most cases it is easy to interpret such beliefs as being due to the projection of wishes or memories that are repugnant to the personality, accompanied by such exaggeration or distortion as to render them deniable. In the sort of degree illustrated, persecutory delusions in paranoia may be extravagantly improbable, but they have not the utterly bizarre quality of those in dementia præcox. Conclusions, however absurd, are reached and linked by a process of conscious reasoning. Fresh delusions do not suddenly appear out of all traceable relation to those previously existing.

The patient spends most of his time reconciling his delusions with one another and as far as possible with his correct knowledge of reality. The delusions are associated with strong emotion entirely in proportion to their content, and conduct is usually quite in keeping. In the early stages many patients make complaints to the police, others write to the King or some important official. Occasionally the first symptom attracting public notice is a murderous assault. This may be made directly upon one of the fancied enemies, but in other instances upon some prominent personage with a view to attracting notice to the case. In explanation of the motives of their enemies, patients frequently cite the desire to rob them of an imaginary fortune to which they are rightfully entitled, or to filch the proceeds of their marvellous inventions. In the large proportion where suspicion falls on the husband or wife, adultery is usually imputed and the truth concerning such cases may be extremely hard to estimate. Most of those cases where pseudo-reminiscences trace the plot back to childhood end in a phantasy of noble birth and adoption by the reputed parents. Occasionally from the beginning the grandiose delusions are more prominent than the persecutory, and in many they ultimately become so with the result that the paranoiac achieves a considerable measure of happiness.

So far the presence of delusions has been emphasised as the main characteristic of paranoia. The absence of certain other mental abnormalities is equally distinctive. Generally, as noted, the delusional system is a relatively circumscribed anomaly. It is doubtful whether in any case there is quite the perfect preservation of clear and orderly thinking apart from it which is demanded by Kraepelin's definition. Even in other matters apparently unconnected with the delusions most paranoiacs occasionally at least show defects of judgment and wisdom of the same kind as underlie the delusions themselves, a tendency for bias to affect all conclusions in abnormal degree. As indicated below such a generalised disposition may be far more prominent than that to formation of systematised delusions. It is, however, certain that in respect of indifferent matters and as regards laboratory tests many exhibit complete preservation indefinitely of practically normal powers of

attention, perception, and memory. Often they are capable of literary, artistic, or scientific work of great merit, and betray no trace of the incoherence and slowness of association which occurs in dementia præcox. Thought, feeling, and action are congruous whether in relation to delusions or apart from them, and there is a total absence of those strange forms of conduct, meaningless even to the patient himself, that characterise dementia præcox.

Types of Paranoiacs.

Two main classes of paranoia have been distinguished by Kraepelin—the ego-centric, in which the delusions centring round the patient's own personality predominate; and the eccentric, in which the morbid tendencies find expression in activities which are ostensibly of a more impersonal kind.

The first group is divided according to the main theme of the delusional system into persecuted, querulous, exalted, religious, amorous, and hypochondriacal. It must be admitted that such distinctions are very artificial. Probably a feeling of persecution is absolutely universal and some degree of exaltation is almost equally so, even if it does not express itself in clearly delusional ideas as to the identity or destiny.

Cases might perhaps be better divided (a) into two primary classes, those in which the two fundamental mechanisms of *projection* and *over-compensation* respectively predominate; (b) within each class into those in which such tendency shows itself mainly in relation to a well-defined and circumscribed system of delusions or in a more diffuse manner. This division is practically important in two ways. It largely corresponds to conduct and therefore to practical consequences, and it tends to distinguish the obviously certifiable and familiar types from others that often form most difficult problems.

In the cases with a well-defined persecutory system, whether the alleged malignity of enemies affects health, fortune, or domestic relations, the limitations of the hostility may be very marked. The patient may be an amiable member of the asylum community in no way disturbing its peace, content placidly to recount his grievances to any sympathetic listener. In many cases, if the imaginary persecutors are sufficiently inaccessible, such patients may be perfectly harmless outside.

On the other hand, in the diffuse persecutory or querulous type the patient is an almost intolerable nuisance in any environment. These are the patients in whom the tendency to include everyone and every passing event in their resentment is most marked. Outside the asylums they form the class of people who quarrel with all their family, are constantly involved in litigation, who are prominent as "workhouse lawyers," always "agin the Government," and constantly nosing out fancied corruption in high places. A certain type of journalism thrives by pandering to such people. In the more definitely insane cases they are a curse to the asylum that is compelled to keep them. Every trivial annoyance in the ward is a studied

insult, they declare that letters are kept from them, and visitors prevented from coming to see them; they make false accusations of ill-treatment against the nurses and of neglect by the doctors. They spend their time chiefly in quarrelling with fellow patients, in agitating among them, or in the composition of letters full of elaborate silly sarcasm.

The cases with fixed grandiose ideas regarding identity or destiny hardly require further discussion. Many are quiet, happy, and harmless, and remain at home if they do not insist on drawing public notice to their claims. The cases with less defined exalted ideas correspond to Kraepelin's group of eccentrics or mattoids. They are guided by the great principle that if one cannot be intelligent one can at least be original. As pseudo-altruists, cranky reformers, and so inventors of new religions, they achieve the prominence for which their self-esteem craves by membership or even leadership of small cliques. Forming the fringe of every new movement, however praiseworthy in itself, national revolutions, Communism, women's suffrage movements, psychical research, &c., is a group of such more or less insane people.

SYNDROMES RESEMBLING PARANOIA.

If Kraepelin's somewhat arbitrary definition of paranoia be accepted there must be excluded from the group a large number of closely allied cases differing from its requirements in respect of (a) the presence of hallucinations, (b) causation, (c) course. A brief reference to such cases follows.

(a) According to Kraepelin, cases with hallucinations are not paranoiacs. It must be admitted, however, that numerous cases occur differing from paranoia in no other respect than existence of hallucinations. In some perfectly intelligent persons hallucinations develop first, and these may for years be accompanied by complete insight as to their subjective character. Later insight decreases and a systematised delusional state is built up. In other patients delusions occur first, hallucinations later. No tendency to introversion or fragmentary mental processes may ever appear.

(b) The distinction of cases of purely internal origin is entirely artificial. Paranoia, like normal character, is invariably the result of reaction between the self and the environment. Bleuler definitely describes it as a "situation psychosis." In quite a large number of cases it becomes manifest in obvious relation to some disappointment or misfortune, though the patient's temperament may have been partially responsible for the misfortune.

(c) Acute onset is sometimes seen. Circumscribed and systematised delusions may develop with or without hallucinations, but certainly without confusion or any progressive mental impairment. Such cases may entirely clear up. There is a large group that might reasonably be called recurrent paranoia. In such there may be not merely recession in prominence of delusions for years, but during the interval the patient may profess complete and humorous insight into those formerly present, and his conduct may show no sign of their influence.

PARAPHRENIA.

The clinical pictures of typical cases of dementia præcox and of paranoia are extremely different. It must, however, be admitted first that cases which at their onset exhibit symptoms that are indistinguishable from the early phase of paranoia may later develop in varying degree the detachment and generalised disconnection which are the characteristic features of dementia præcox. Moreover, cases intermediate between the two types occur in endless variety, and it is to cover such cases that Kraepelin has invented the category of paraphrenia. It includes a large proportion of the chronic delusional states seen in asylums. Kraepelin defines paraphrenia as "that fraction of the totality of paranoid states which do not in a few years manifest the characteristic dementia of dementia præcox nor the full characteristics of paranoia."

ÆTIOLOGY.

A history of heredity is less frequently obtained than in dementia præcox. This is probably connected with the fact that the age of onset in cases that deteriorate in the dementia præcox fashion is as a rule earlier than in those that stabilise as cases of paraphrenia. Very rarely can relation to an adequate psychic strain be traced.

ONSET AND COURSE.

There is often a history of queer early disposition. The onset of definite abnormality is usually insidious, though it may be rapid in degenerates—e.g., in prison psychoses. The earliest symptoms, as in paranoia, are usually a general change in mood. The first indication may be enervation, quietude, and self-absorption. Then develop gloominess, feelings of general suspicion, and rancour, followed by ideas of reference and eventually by definite delusions of persecution and grandeur. The latter are, on the whole, more extravagant than in paranoia, and there is less tendency to rationalisation. The effort to reconcile the delusions with one another and to render them self-consistent is less marked. Hallucinations of various senses are an essential feature, especially auditory ones. Usually their content is intelligible to the patient and emotionally significant. On the other hand, as compared with dementia præcox, one may say there is more tendency for the delusions and hallucinations to form a circumscribed anomaly. The appreciation of the real surroundings is clear except in so far as it is directly perverted by delusions. There may be identification of persons and scenes in the present environment with imaginary ones. But comprehension of speech is normal and statements on indifferent topics are often clear and concise, even when those relating to delusions are confused and disjointed and full of neologisms. On the whole, disorders of thought predominate over those of feeling and action. In so far as the latter are affected it is in a manner that is in keeping with the delusions and based on conscious judgments, however absurd and however misguided. Entirely inexplicable emotional displays and conduct for which the patient can give no reason are absent.

CHAPTER XIX.—THE SCHIZOPHRENIC-PARANOID SERIES: GENERAL CONSIDERATIONS.

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Prognosis.—Individual Forecasts.—Differential Diagnosis from Organic Mental Disorders; from Other Types of Functional Psychosis and Neurosis; from One Another.—Prophylaxis and Treatment.

PROGNOSIS.

It is difficult to formulate concisely the statistical prognosis of cases included in the groups paranoia, paraphrenia, and dementia præcox, and still harder to lay down clear indications for individual forecasts in a given case.

Statistical Prognosis.—The difficulties here arise from partly imperfect delimitation of syndromes to which the names are applicable and partly from confusion as to how far bad prognosis forms part of the definition. Naturally, if one begs the question by including a fixed prognosis in one's definition of the disease (as in the case of Kraepelin's paranoia) and by ignoring similar cases that develop more favourably, a spurious appearance of uniformity is produced. In practice, if not in theory, there is apt to occur a reservation of the terms paraphrenia and dementia præcox until time has demonstrated the incurable or progressive nature of the particular case with almost complete certainty. If perchance recovery occurs, it is concluded that the diagnosis was mistaken. All findings based on such modes of thought are the valueless result of argument in a circle. The fallacy is quite similar to what used to occur in connexion with the word "consumption" before we knew that tuberculosis of the lung occurs and undergoes spontaneous cure in a large majority of the population. However much such statistical methods may invalidate exact figures, at least it is certain that if in an unprejudiced way all patients certified with symptoms of the schizophrenic or paranoid type who had since passed into a chronic state with more or less dementia were contrasted with all those that had presented much the same symptoms on admission to an asylum, but had been discharged, then the former would vastly outnumber the latter. The prognosis is therefore genuinely bad. But it is obvious that this only indicates the prognosis in schizophrenic and paranoid states of such severity and duration and with such anti-social effects as to have led to certification. All statistics are vitiated by the fact that there is no record of collective experience regarding patients with such symptoms that never reach the asylum or even the psychopathic clinic. The author's impression is that large numbers of adolescents pass through phases in which there are symptoms of minor severity but bearing a general resemblance to dementia præcox, and that dementia præcox

as seen in asylums is but the pernicious form of a very common variety of maladjustment that often ends favourably.

Degree of Deterioration.—It is almost a truism to say that if evidences of introversion and schizophrenia occur early in life and early in the disease they are liable to reach a high ultimate degree of development. In other words, cases admitted as dementia præcox exhibiting catatonia or the delusions characteristically coloured by schizophrenia are naturally most prone later to exhibit "dementia." The degree of dementia seen varies from almost complete absence in the persistent true paranoia through varying grades in the paraphrenics and dementia præcox patients to permanent stupor.

Frequency of Complete Recovery.—This is a totally different question. It is just such extreme conditions as catatonic stupor that most frequently disappear completely. The early conditions least likely to be followed by recovery are dementia simplex and insidious paranoia. Intermediate delusional states provide a fair proportion of recoveries. Paranoid dementia præcox is commonly said to be very unfavourable, but this is because the description of it in most text-books corresponds to a terminal condition.

Remissions.—In a proportion of well-marked cases, far greater than is usually recognised, the course is marked by frequent remissions and relapses or by complete intermissions. These may be of any length up to several years, and this is true of all types of dementia præcox, paraphrenia, and paranoia. In many of the two latter, however, the discharged cases during the interval outside show an occasional sign that they are merely repressing their delusions or refusing to let them affect conduct. Similarly, many cases of dementia præcox after "recovery" or during intermission show some signs of deterioration and inefficiency.

INDIVIDUAL FORECASTS.

We have very few data for such. We have no idea what determines recovery in most cases, but we can note certain features in the history and certain details of the symptoms that render it more or less likely.

(1) *A history of previous attacks* followed by remission may, of course, be taken as indicating a similar probability in the present one, whatever the type of symptoms.

(2) *Duration* of the present attack is the most important fact. Unless this has lasted six months at the date of examination, practically nothing but a statistical guess is possible. Continuous presence of either introversion, schizophrenic, or paranoid symptoms for a year implies a very poor chance of complete recovery.

(3) *The more rapid the onset* and the more clearly related to traumatic experiences, the more hopeful the outlook. Caution has already been suggested in regard to accepting the causal connexion of experiences.

(4) The more the symptoms represent *the gradual evolution of an abnormal personality*, the worse the prognosis. Yet here there are many curious exceptions. It is not uncommon to see a psychosis superimposed upon extreme eccentricity or definite neurosis, and to find not only recovery from the superadded symptoms but attainment of a degree of normality that had been absent for years.

(5) *Family history and remote peculiarities of character* (apart from recent progressive changes) are rather against the probability that an attack will prove an isolated incident followed by no recurrence. But neither is necessarily against recovery from the present attack and later relapse, particularly if the illness in relatives or the anomalous character traits in the patient have shown any intermittent tendency.

(6) Though, as emphasised above, remittent course is seen in every type of the group we are discussing, and though intermission is by no means either constant or peculiar in manic-depressive psychosis, yet on the whole and statistically a phasic course is commoner in the latter.

Hence, whereas the presence of schizophrenic features renders it more probable that a mental breakdown otherwise suggesting manic-depressive psychosis will ultimately progress in the direction of dementia, conversely the presence of a large element of consistent and persistent emotion renders the prognosis more favourable as regards the attack. The matter cannot be put more strongly than that.

On the whole, similar remarks apply as regards the kind of clouding of consciousness seen in confusional insanity. It is hallucinations combined with clear consciousness of the real environment that are ominous.

As regards development of dementia, signs indicating likelihood of this would be a tendency to sit about quite unoccupied, though in no way stuporose; increasing apathy regarding the admitted illness and its consequences; irrelevance in impersonal conversation; lack of interconnexion and of elaboration of delusions (e.g., lack of curiosity as to motives and identity of persecutors); the occurrence of mental processes that are meaningless to the patient; and, above all, stereotypies. At present there are no means of accurately forecasting in the early stages of the disease the intensity of the deterioration that will occur in a particular case. Attempts are being made to formulate some prognostic test of a physical kind—e.g., anomalies of the hæmoclastic crisis. At present results though encouraging are indefinite.

DIFFERENTIAL DIAGNOSIS FROM ORGANIC MENTAL DISORDERS.

The diagnosis of the conditions dementia præcox, paraphrenia, and paranoia involves three separate processes: (1) Distinction from organic mental disorders; (2) distinction from other types of functional psychosis and neurosis; (3) distinction of each of these three syndromes from one another.

1. Distinction of these syndromes (by hypothesis functional) from various organic diseases. Such diagnosis will in practice turn mainly on the history of an essential organic cause or on the demonstration of clinical or laboratory evidence of organic changes. Only to a minor degree will details of the mental state be confirmatory.

General Paralysis.—The mental state rarely resembles that of dementia præcox except superficially. A small proportion of cases start with persecutory delusions commonly rather like paraphrenia than paranoia. The diagnosis will turn on neurological signs and on laboratory investigation of the cerebro-spinal fluid suggested by these.

Other forms of neurosyphilis not uncommonly coexist with dementia præcox. Usually the association is due to the patient's mental disorder rendering him more liable to contract the infection. If delusional ideas exist they often refer to the venereal disease or the organic signs. The mental disorders directly due to cerebral syphilis itself rarely resemble any of this group; the element of intellectual dementia is usually greater.

Arterio-sclerosis.—A large proportion of patients in this class have paranoid symptoms. Such are, perhaps, more liable to be coupled with amnesia for recent events. Diagnosis will mainly turn on high blood pressure, tortuous thickened vessels, and concomitant changes in the fundi, in heart, kidneys, &c.

Epidemic Encephalitis.—The mistake between this and dementia præcox is frequently made. Usually it is an unjustifiable one—e.g., the diagnosis of encephalitis is risked on the strength of a moderate phase of stupor. It should, I think, be reserved for cases with well-defined history of onset with fever (preferably accompanied by delirium or somnolence) or of diplopia, or in which distinctive physical signs like ocular palsies and Parkinsonism are actually present.

Post-encephalitic psychoses are extremely diverse and are reported sometimes to resemble dementia præcox very closely. With a considerable experience the author has not seen one convincing instance of such a sequel or of any paranoid psychosis following encephalitis. As a rule, in psychoses following encephalitis the symptoms mostly affect behaviour; inhibition, restlessness, and moral changes are the three commonest after infancy. Some of the commonest symptoms of the schizophrenic paranoid type are very rarely seen—e.g., delusions, the characteristic hallucinations, true meaningless catatonic symptoms, or negativism. Even the inhibition and apparent accessibility are usually utterly different to an experienced eye from those seen in dementia præcox.

Epilepsy.—Motor convulsions or attacks of unconsciousness resembling petit mal are seen in a few cases that otherwise exhibit the syndrome and common course of dementia præcox—minor attacks being the commoner. Undoubted cases of true epilepsy occasionally have phases of a mental state resembling dementia præcox, and more rarely persistently exhibit the same; much more commonly the mental state is paranoid. Diagnosis will usually turn on (a) expert observation as to the characters of the fits, (b) history as to whether fits or psychoses developed first. It may only be possible after watching the patient for a considerable time. The typical dementia of old-standing epilepsy differs considerably from advanced schizophrenia.

Alcoholism in quite young patients may rarely cause a clinical picture like that of dementia præcox. In older ones it is very commonly responsible for symptoms of paraphrenic type. Those like true paranoia are less frequent, hallucinations being usually a prominent feature. Prominence of true amnesia and disorientation in time and place accompanying the persecutory delusions favour alcoholism, as does rapid subsidence of at least the confusion after separation from drink.

DIAGNOSIS FROM OTHER FUNCTIONAL PSYCHOSES OR NEUROSES.

Before discussing this in any detail it would be well to make clear that the various functional psychoses and neuroses separately named are really nothing but categories which have been invented for the grouping of cases according to symptoms when no other classification is possible, and categories into which particular cases fit with more or less accuracy and completeness. The naïve, though attractive, simplicity of the view that the number of such categories is determined by the natural existence of a corresponding number of distinct diseases (until lately awaiting discovery by Kraepelin and others) is obsolete.

Terms like dementia præcox and manic-depressive psychosis are at most the names of *syndromes*, dependent on one fundamental psychological anomaly or on a common combination of such. One might say they correspond to names in neurology for symptomatic groups such as "ataxia paraplegia," which may be due to variety of causes, rather than to ætiologically distinct entities like tabes and disseminated sclerosis.

Moreover, transitional cases abound, and the relegation of any particular patient—e.g., to the category of manic-depressive insanity or dementia præcox, or even to the larger groups of neurosis or psychosis—is in many cases a question of personal judgment and choice.

The course of nervous diseases depends in the main on the cause. It is true that empirically one finds a certain limited correspondence between differences in the form of mental syndromes and their course. It has been grossly overrated, and there are so many exceptions that the correspondence only amounts to a statistical difference as to probabilities. But unless this at least is implied, differential diagnosis of functional neuroses and psychoses would be as futile as a controversy

whether a certain colour was greenish-blue or bluish-green. Further, it is very important to recognise the exaggerated impression which is current as to the frequency of the occurrence that a given patient's symptoms persistently and without variation conform to one type, so that his proper diagnosis is always the same. For example, there is not a single type of neurosis which may not precede or alternate with any type of psychosis, and every one may even constitute the clinical picture during some part of a single psychotic attack.

Accepting for purposes of classification the distinction between neuroses and psychoses, one may distinguish within the class of functional psychoses in addition to the schizophrenic-paranoid group two other main types, the manic-depressive and the confusional, and within the class of neuroses the types known as hysteria, neurasthenia, anxiety neurosis, and obsessional states. Diagnosis from every one of these may be necessary. To discuss this in typical cases would be merely to recapitulate the characteristic symptoms of each. What is proposed is rather to refer to problems that actually arise in practice.

Firstly, three general principles may be laid down.

(1) There is practically no early case, whatever its present form, that may not develop eventually the form and customary course of the schizophrenic-paranoid group. This can never be excluded by the mere absence of anything or by the mere presence of signs indicating another reaction type.

(2) The probability of such development can only be diagnosed by the positive presence (at least in minor degree) of some of the characteristics indicating the schizophrenic or paranoid type of reaction.

(3) There are no such symptoms which are pathognomonic, which taken alone indicate that a given case will assume a form in which such reactions predominate. Here more, perhaps, than anywhere in medicine the clinical picture as a whole must be considered. Above all, symptoms must be considered in their setting and combination—e.g., it is the combination of hallucinations with clear consciousness of the environment, anergia with indifference, that is significant.

Distinction from Manic-Depressive Psychosis.

We owe especially to Kraepelin's later work the clear unifying conception of this as a group in which the predominant abnormality consists in the continuous existence (whether throughout life or for one or more periods of variable length) of a generalised tendency to excessive emotional reaction in certain particular directions—viz., joyous exaltation or depression or to each of these at different times. The degree of the abnormality varies greatly, but in pure cases of the type symptoms are practically confined to derivatives of such emotional excess. Inhibition of thought and conduct on the one hand, or facilitation on the other, may coexist with these changes of internal reactions without any constant relation

between the two anomalies. Other abnormalities whether intellectual or in the sphere of conduct are intelligible in the light of the emotional state and consciously related to this. This type of anomaly is markedly phasic and there is relatively little tendency to permanent deterioration of any kind.

All sorts of combinations of the manic-depressive with the paranoid and schizophrenic reactions may occur. If these combinations are permanent or recurrent, diagnosis is an unimportant question of the choice of names. There are a good many cases with repeated attacks in which the patient is haughty, hostile, and complaining as well as over-active, in which he develops persecutory ideas of a reasoned kind lasting throughout the attack and perhaps the same in repeated attacks. It is a matter of custom whether such should be called recurrent mania or recurrent paranoia. The chief point is that the more joyous self-satisfaction and hyperactivity prevail the better prognosis. The most important problem is to define the minor indications of schizophrenia in early cases superficially resembling pure mania or melancholia which may suggest a greater probability of chronic course. Many such cases are at first absolutely indistinguishable.

The first indication on which one would lay stress are:—

In Cases like Mania.—Abrupt onset and cessation of excitement or of paroxysms of such. A lesser degree of consistent and persistent emotion and of continuous pressure of activity. Lesser relation of abnormal acts to exciting stimuli. The speech and acts of mania are the expression of sense or power, resentment of control, or mere playfulness. Those of catatonic excitement are more completely unintelligible and often monotonous. Real delusions of grandeur are rare in the manic though playful boasting is common. Hallucinations are also rare in mania as long as consciousness is clear.

In Cases like Melancholia.—The larger the schizophrenic element the more associations tend to be disorderly as well as slow. Bizarre character of delusions is important; those of pure melancholia have generally more relation to ascertainable fact. Any reduction of distress regarding the real inhibition or the painful contents of delusions and hallucinations would be significant. So would any tendency to project responsibility for the illness, to complain of external influence. True stereotypes are most important; the distinctive, meaningless character of these has been stressed.

Confusional States.—In such the characteristic defect is at the perceptual level. Attention is not necessarily much impaired, though the effort is usually painful and the failure to appreciate the nature of what is seen and heard often causes distress. Patients wear a worried and puzzled expression. Amnesia is very marked for current events and disorientation more or less complete. Illusions as well as hallucinations are usually prominent, often predominantly visual, intelligible to the patient, and associated with intense continuous emotion.

Typical confusional states may occur as an intercurrent exacerbation in long-standing cases of dementia præcox. Here no question of diagnosis arises. They may also occur as the initial phase of what subsequently develops into dementia præcox. The practical problem that really occurs is one of prognosis. What indications may first suggest a bad outlook? One would suggest increasingly placid acceptance of the ignorance of the environment, indifference to hallucinations, fluctuating mood, tears and then inexplicable giggling, meaningless acts and phrases, negativism without apprehension.

Distinction between Hysteria and Dementia Præcox.

In many early cases of mental disorder it is extremely difficult to decide whether it will develop on the lines of one or other of these syndromes. The difficulty is much rarer in regard to cases that show definite conversion symptoms—i.e., objective, pseudophysical conditions, paralyses, blindness, vomiting, and so forth. Such are infrequent as prodromata of dementia præcox, though subjective hypochondriacal symptoms are common. On the other hand, the mental condition during an hysterical somnambulism may be practically indistinguishable from an acute phase of dementia præcox. The main grounds on which diagnosis may be based are these. Dissociation, including disorientation and inaccessibility, and disconnexion are more paroxysmal in hysteria, more continuous in dementia præcox. Occurrence of hallucinations, with clear consciousness perhaps in intervals between acute phases, favours the latter. In intervals the schizophrenic will tend to be detached, abstracted, and inert; the hysteric tends to be ostentatiously emotional, rather histrionic, craving notice for symptoms or for creditable performances and gifts. Symptoms vary largely according to the influence of people liked and obligations disliked by the patient. Stress has been laid on absence of the psychic reaction of the pupil in dementia præcox. Certainly no weight could be given to its continued presence.

Neurasthenia and Anxiety Neurosis.—These two correspond probably to minor disturbances of the highest mental level and over-activity of the most fundamental defence mechanisms of the second thalamostriate level. Their essential features are respectively morbid fatigability and hyper-activity of the mechanisms of fear, and they form the primary departure from the normal in nearly every psychosis, organic or functional. To this rule the schizophrenic paranoid group is no exception. Depersonalisation, incapacity for concentration, loss of interest, affection and energy, readiness of mental and physical fatigue, headache and insomnia, tremor, sweating and tachycardia, the typical symptoms of neurasthenia are also among the commonest early complaints of the future schizophrenic or paranoid patient. Vague, formless dread, exaggeration of normal timidity regarding noise, crowds, strangers, darkness, and simple tasks, fear of insanity and true phobias, and the physical signs of fear which form the

syndrome of anxiety neurosis, also occur early in progressive psychoses. It is when the physical symptoms are tending to disappear and the patient is ceasing to complain of fatigue or fear but manifests a dull apathetic anergia that one begins to fear dementia præcox. A tendency to project causation is generally an early sign of bad prognosis. Explanation takes, perhaps, most commonly the idea of being drugged in paranoia and of being affected by mysterious spiritual influences in dementia præcox.

Obsessional States.—Obsessive ideas and compulsions often occur in the early stages of dementia præcox. In many cases there is a long period of doubtful insight when the obsessions are not prominent, belief when they are. This, with indifference, both as to occurrence and content of the obsessions, should be regarded as constituting a warning of probable development into hallucinations, delusions, and catatonic actions. A very large number of cases remain intermediate in type between constitutional psychasthenia and the schizophrenic-paranoid group.

Diagnosis between the various members of the schizophrenic-paranoid series is a futile proceeding unless it involves a forecast at least in terms of statistical probabilities as to (a) recovery, (b) probable terminal state. These points have already been dealt with in the section on prognosis.

PROPHYLAXIS AND TREATMENT.

Efforts should be made to correct in childhood the anomalous character traits which in some cases prove to be the prodromal signs of a later psychosis. This is obvious since they are likely to be the source of much unhappiness, even if they never lead to a definite mental breakdown. Success in such modification of character is frequent. But it is at present quite impossible to say whether after such an achievement one would ever be justified in claiming to have averted a psychosis. We have no possible means of judging whether this would have developed apart from treatment. With regard to the established disease in the schizophrenia-paranoid group, it is quite certain that we have no specific treatment. Glandular extracts of all types have been tried and many efforts have been made to arrest the absorption of bacterial toxins supposed to be causal, to counteract them by vaccines or to promote artificial leucocytosis. The results of all such are entirely unconvincing.

The more elaborate forms of psychotherapy, such as psycho-analysis, are impossible to undertake owing to the practical impossibility of obtaining the patient's coöperation. There is a distinct danger that attempts may aggravate delusional states. The patients are also, as a rule, quite refractory to all forms of therapeutic suggestion, including hypnotism, and also to such methods as electrical treatment of which the value is mainly suggestive. In many cases the chief duty of the practitioner is to persuade relatives to accept the

inevitable and to abstain from wasting money on vaunted "cures" that have no chance of success.

The aim of treatment in most cases, therefore, resolves itself into care rather than cure. During acute progressive phases, as a rule, treatment is much better carried out in an institution than at home. It is entirely symptomatic and resembles that described elsewhere as suitable in acute mania, melancholia, and confusional psychoses. Measures to promote sleep, artificial feeding, attention to bowels and bladder, and precautions against injury to self or others will be necessary in many cases. It is important to distinguish such phases (which should, as in any other acute psychosis, be treated by absolute rest) from simple progress of the more chronic tendency to introversion requiring stimulation.

In the chronic stages much may be done by suitable occupation, amusement, and exercise to check the progress towards so-called dementia. This brings up the question of institutional or home treatment for the chronic case. It is here that the interests of the patient are apt to conflict with those of his family.

It should first be recognised that the possibility of certification by no means coincides with the need for it, and there are many patients whom it would be perfectly easy to deprive of their liberty that live harmless and relative happy lives out of an institution. It is probable that on the whole progress tends to be less rapid in cases of dementia præcox that are kept at home than in those sent to a mental hospital, unless at the latter the staffing is such as to render practicable a very high degree of individual attention.

On the other hand, one sees many cases where the interests of the healthy members of a family are sacrificed in the attempts to keep at home a hopeless mental cripple that would be equally happy in an institution. This is sometimes prompted by genuine affection for the patient coupled with preposterous ideas of the sort of treatment prevalent in mental hospitals. In other cases aversion to accept the supposed family stigma of insanity is the chief motive.

Among the special types of cases where institutional care is most advisable may be mentioned all cases of dementia præcox where either continuous restlessness or impulsive tendency is well marked, and especially those where the impulses seem to involve serious risk of injury to self or others. Among delusional cases an important question is the identity of the supposed persecutors. Where the hostility is against members of the family removal is generally necessary, whereas in other cases the wife or husband may easily be able to check any tendency to outrageous conduct towards strangers. Many paranoiacs, while upholding the complete truth of their beliefs, show a curious discrepant readiness to seek medical advice and act upon it.

It is the querulent paranoiac with no clearly defined delusions that is often at once the patient whose segregation is most desirable and most difficult.

CHAPTER XX.—INVOLUTIONAL CONDITIONS.

By J. G. PORTER PHILLIPS, M.D. LOND., F.R.C.P. LOND.,

PHYSICIAN SUPERINTENDENT, BETHLEM ROYAL HOSPITAL; PHYSICIAN FOR AND LECTURER IN PSYCHOLOGICAL MEDICINE,
ST. BARTHOLOMEW'S HOSPITAL.*Principal Character Changes.—Typical Depression.—Diagnosis from Manic-Depressive Insanity.—Treatment.*

AT the involutional period of life in both sexes there are not only physiological changes going on in the body preparatory for a fresh stage, but also important concomitant psychological factors which are liable to upset mentation and thus produce certain types of mental disorder. At such an epoch there may be an exacerbation of pre-existing tendencies, so that previously unrecognised cases of dementia præcox or manic-depressive insanity may be resuscitated. There is a prevalent idea that the climacteric in women has relationship with some special mental disorder, but apart from the psychological factors at this time which may result in abnormal mental symptoms we know of no definite psychosis. What part any endocrine change may play we do not know, but there is no reason for believing that such a physiological process by itself, if carried out under apparently normal conditions, should be a causative agent in mental disease. We have a right to presume that some involutionary degenerative process may be present, but we are usually ignorant of its nature, and, it will be seen later, we may have good grounds for explaining involutional disorders in both sexes on a psychogenic basis. Climacteric changes per se are more likely to result in a psychoneurosis rather than a psychosis.

PRINCIPAL CHARACTER CHANGES.

By far the greater number of the mental disorders of the involutional period are those of depression and anxiety. Briefly we may review the mental factors at play which are so liable to bring about these abnormal reactions, for we have little or no evidence that definite bodily changes play any causative part, though in chronic cases such may secondarily come about. It is not so much a question that at the involutionary period a man's life is on the downward grade physically as one of possibility of his being able to adapt adequately to the problems which naturally result. Hitherto, he has been busy in his work and home and his ego instincts have been swallowed up in these outlets. As life's forces begin to wane, he becomes more

individualistic, and his interests tend to revert to himself as he finds he has not the energy to maintain his old activities. There are many who can direct their interests in other channels, but many cannot, and especially those who are predisposed become depressed. As the mental energy becomes directed inwards instead of outwards, there is a regression to all egoistic trends and a shrinking away from the herd and outer world. Mental regression leads to the reactivation of old emotions and experiences, which easily engenders mental conflicts difficult to adjust to. There is not only a *tedium vitæ*, but this is intimately mingled with vain regrets, ideas of faults of omission and commission, and these in the face of a declining life and lack of opportunity to make good may take on an exaggerated and pathological aspect.

The involutional period brings life's failures into the mental foreground. Unsatisfied ambitions and ungratified love play a vital part. The sexual factor frequently plays an important rôle, so that impotency or waning potency in the male and the climacteric incapacity to conceive in the female are barriers to one of life's great driving forces. The instinct of self-preservation becomes specially powerful and contrasting emotions towards death are felt. On the one hand there is a philosophical acceptance of that state of passivity and on the other hand a fear reaction against it. The weakening of the herd and self instincts lead inevitably towards depression, and death fears lead to anxiety. It can be specially noted that ideas of death very frequently enter in some way into the involutional depression. The anxiety is a defence against it, but suicide is often sought as a solution of the intolerable situation. The great restlessness and insomnia, too, are probably protective reactions against death. Sleep in many ways is akin to death, and there is thus fear of any state of unconsciousness.

With such a psychological background it only wants some precipitating cause to light up a psychosis in predisposed soil. On the decease of a loved one, a business reverse, a loss of money, or

some such situation, a depressive psychosis becomes manifest. Mere retirement from business may be enough, and we frequently meet with men who, on withdrawing thus from life's activities, go downhill and become pathologically depressed because their outward interests are suddenly cut off. Some extra strain or physical disease may also be a precipitating source.

The psychological mechanisms which were previously at play now find full vent. There is such a withdrawal of external interest that the world begins to seem unreal, introversion and regression reanimate pre-existing mental material, so that conflicts resulting in psychotic symptoms ensue. It will serve no useful purpose to pursue the psychological analyses of the psychoses of the involutional period further, but it is necessary to survey these factors, since prophylactic treatment at any rate is largely founded upon them.

TYPICAL DEPRESSION.

We might now describe the most typical form of depressive psychosis that is so common at the involution. Following upon some disturbing event the individual is noted to manifest worry over matters of health and finance which is quite disproportionate to any real basis for such a morbid preoccupation. Insomnia becomes marked and after a varying period definite psychotic symptoms appear. Depression is profound, and feelings that things do not seem real and that the personality is somehow altered are often expressed. The delusions which are soon manifested point directly or indirectly to ideas of death and bodily disease. The fear of death is projected, and then an intense apprehension that the patient will be tortured or executed. Every sound or passing event may be morbidly taken as an indication of approaching doom. Connected with these there are false ideas of financial ruin, that the world is all changed, and that the unpardonable sin has been committed.

Delusions of a hypochondriacal nature are very pathognomonic. The gullet is stopped up, his insides are rotting, he is shrinking daily, a foul disease he has will infect the world, &c. Nihilistic delusions, too, are common. Nothing exists, he has no blood, everyone is dead. Orientation usually remains good even in the severest cases. Great restlessness, anxiety, and apprehension are continuous, with weeping, whining, and episodic dramatic exhibitions of fear. The whole attention is riveted upon the delusional content and sleep is very poor. Hallucinations in relation to death ideas may be present. Feeding is difficult and marked wasting comes about. The danger of suicide is great. Personal habits are often childishly faulty.

DIAGNOSIS FROM MANIC-DEPRESSIVE INSANITY.

It is clear that there is much in common in such a clinical picture with the depression of a manic-depressive psychosis, but in involutional melancholia, as it is commonly termed (often previously referred to as agitated melancholia), there is not usually the difficulty in thinking, the retardation of thought, the inert state, which are all more

diagnostic of the manic-depressive state. The intense anxiety, hypochondriacal delusions, and fear of impending death are more peculiar to the involutional state. The prognosis is believed, through the work of Hoch and MacCurdy, to depend largely upon certain points to be noted in the clinical picture. They found that certain symptoms went hand in hand with probable recovery, while the presence of others had a bad import. The emotional reaction to the "death" ideas should be natural, and if there were a lack of emotional response in the form of fear recovery was unlikely. The absurdity of any hypochondriacal delusion led to a poor prognosis, and especially if combined with auto-erotic indulgence.

Other factors leading to the opinion of non-recovery are non-coöperation, spitefulness, destructiveness, or assaults. With these provisos the outlook is more favourable. Though we have here pictured a typical case of a definite psychosis, which is the commonest form to appear at the involution, all grades of depression and anxiety short of this may be met with. According to the factors of mental soil, stress, and environment, a definite psychosis may or may not appear, though in varying degree of intensity the same psychological mechanisms will be at play.

It must here be pointed out again that all likely physical causative factors should be excluded by the systematic examination of the patient—e.g., blood pressure, urine analysis (chemical, bacteriological, and cytological), optic discs, blood-serum reactions, and pancreatic efficiency.

TREATMENT.

The point to impress upon the medical practitioner here is that at this period of life any such depression may easily lead to suicide and should not be regarded lightly. The newspapers constantly bring this fact to our notice. At the outset, therefore, one must stress the importance of early investigation and treatment of such cases. A mere cursory dismissal with the advice "not to worry," go for a change, and the giving of a nerve tonic, will be quite sterile of results. The patient who is thus treated will realise he is not understood and feel that if that is all his doctor can do for him he is indeed hopeless. It is impossible to prove how much prophylaxis may be successful, but in all probability a study of the psychological considerations given above should materially help in obviating the development of a possible psychosis. This will mean that external interests must be found and encouraged, and the immediate environment of the patient studied with this end in view. The giving up of life's activities must be obviated, some work continued, and interest developed in other spheres which will, of course, vary with each individual. Hobbies should be indulged in so that introversion of the mind is rendered less likely. The herd instinct must not be allowed to wane and social activities should be kept up.

In the early stages the coöperation of the patient must be sought by pointing out to him the rationale of all this advice. It may be that introversion and

morbid introspection have already aroused conflicts which may be better handled through psychotherapeutic talks with a medical psychologist, provided, of course, the patient is accessible mentally. In such cases more will be done by this measure than any other. Not too great dependence must be placed upon medicinal treatment, though mild soporifics may be required and be helpful. Any physical disorder should be corrected, but the medical man must be on his guard here, for it is likely that such symptoms may be of mental origin, and if the patient is led to believe that his trouble is in the bodily sphere, he will not attempt to adopt those other adjustments which are so necessary to his well-being.

Should matters progress for the worse and delusions appear, early certification and care in a mental institution will be necessary, because of the skilled supervision needed in matters of food and general hygiene and for the prevention of suicide. There are many reasons, too, why such cases are better away from a home environment. Artificial feeding is often required and must be carried out by skilled hands. It is easy in such cases to wait until definite signs of malnutrition have set in through not realising that little food has been taken over a long period. Insomnia must be combated from the start, and though opium preparations are often prescribed by general practitioners in such conditions, the danger of the opium habit must be borne in mind.

From a wide experience I have found the following a very useful sedative mixture:—

R	Ammon. bromid.		gr. xv.
	Sp. ammon. co.		℥ xv.
	Liq. arsen.		℥ iii.
	Liq. morphinæ bimeconatis		℥ ss.
	Aq. cinnam.		ad ℥i. t.d.s.

It must be remembered that owing to the marked tendency to intestinal stasis in these states of depression all drugs of an accumulative character should be avoided—e.g., sulphonal—unless aperients are habitually given. If hypnotics are indicated amylene hydrate (℥i. to aq. dest. ℥i.) will be found safe and effective; in addition, resort may be made to the use of soneryl, gr. 1½, nightly.

In some cases of restlessness and insomnia marked relief may be obtained by the rectal injection of ammonium bromide, gr. xxx., and acid. acetosalicyl. gr. xx., potass. citratis gr. x., aquam ad. ℥iii. Warm baths and hot packs are useful for the quieting of excessive agitation.

As I have already noted, these involutional depressions are to be differentiated from a manic-depressive psychosis, but though the clinical pictures are in many ways similar, it is probable that prophylaxis can do more in the former condition. Senile psychoses may emerge imperceptibly into them, and we may find symptoms of senility and arterio-sclerosis in all such states.

CHAPTER XXI.—MANIC-DEPRESSIVE PSYCHOSIS.

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History.—Clinical Varieties.—Etiology and Pathology.—Symptomatology.—Mania and Melancholia: the Manic and Depressed Phases.—Diagnosis.—Prognosis.—Treatment.—Suicidal Tendencies.

GENERAL FEATURES.—HISTORY.

THE modern conception of the manic-depressive psychosis includes the majority of cases formerly termed mania and melancholia, as well as some that are confused and stuporous. Although extremely diverse in clinical appearance, they present common fundamental characteristics, viz. :—

(1) Emotional disturbance, so marked that these mental disorders are often spoken of as the "affective psychoses"; (2) a striking tendency towards recovery from the attack; (3) a tendency towards relapse, the attacks recurring at irregular intervals or exhibiting a regular periodicity; (4) absence of any decided mental deterioration, even after repeated attacks; and (5) usually an innate constitutional predisposition.

In the great majority of cases no cause for the illness can be ascertained and no pathological findings give any explanation of the symptoms. In spite of this, the manic-depressive psychosis may be looked upon provisionally as a clinical entity, the recognition of which is of great practical value.

The connexion between manic and melancholic states has long been recognised. Willis referred to it in the seventeenth century, and in 1850 and 1854 Falret and Baillarger described *folie circulaire*. The present conception of the manic-depressive psychosis is due to E. Kraepelin, who showed that no line could be drawn separating circular insanity from isolated or occasional attacks of either excitement or depression. By following individual histories he found that it was impossible to distinguish between the simple, periodic, and circular cases, and, moreover, that in the same patient attacks of confusion and perplexity sometimes replaced emotional disturbance. He consequently grouped together under one head (1) manic states with the essential symptoms of exalted mood, flight of ideas, and pressure of activity; (2) depressive states with sad or anxious moods and sluggishness of thought and action; and (3) mixed states in which the phenomena of mania and melancholia were combined.

CLINICAL VARIETIES.

Kraepelin's conception of manic-depressive insanity may be more easily grasped if the cardinal symptoms are tabulated.

—	Mania.	Melancholia.
Emotional field ..	Euphoria, elation.	Feeling of ill-being, depression, sadness.
Intellectual field	Active brilliant thinking, flight of ideas.	Slow thinking, poverty of thought and ideas.
Volitional field ..	Pressure of activity, restlessness.	Retardation, inactivity, irresolution.

This arrangement of symptoms is based on a subdivision of mental faculties which, though sanctioned by long usage, is nevertheless artificial. It enables us, however, to grasp the conception of mixed states, if we imagine that the cardinal symptoms may vary in severity and that the incidence of the disease may affect the mental faculties differently. Kraepelin's description of mixed states assumes that euphoria may be associated with retardation, or pressure of activity with depression, and consequently a large number of clinical varieties become possible. He specially describes depressive mania, excited depression, mania with poverty of thought, manic stupor, depression with flight of ideas, inhibited mania. His subdivision is not accepted by many authorities, though most of them agree with his main principle that in practice, besides the clear-cut cases of mania and melancholia, we find many cases of illness which unite certain features of both conditions.

McCurdy, basing his subdivision on psychogenetic principles, describes (1) the stupor reaction, (2) involution melancholia (a form previously described by Kraepelin but discarded later), (3) manic states, (4) depression, (5) anxiety states, and (6) perplexity states.

Further consideration of the clinical varieties must not be attempted. It is obvious that the symptoms must vary almost indefinitely in accordance with the myriad factors which help to form a given personality.

ÆTIOLOGY AND PATHOLOGY.

Pathological anatomy throws no light on the nature of the disease. It has been suggested that the nervous elements involved in emotional disturbance are protopathic as opposed to epicritic; if this be so, the seat of the manic-depressive psychosis may be looked for in the optic thalamus rather than in the cerebral cortex. There is undoubtedly a constitutional factor which is often inherited. Although statistical inquiries into family records are unsatisfactory for many reasons, a bad family history can be traced in a large percentage of the cases. Not infrequently several members of one family are attacked, and the fact that the first attack usually occurs in early life also suggests inherited instability. Both sexes appear to be equally affected.

Whilst in a considerable number of cases no cause for an attack whatever can be assigned, there is reason to suppose that it may be precipitated by various physical and mental factors. With regard to the former, an illness, a hidden focus of infection, or even reflex irritation, may be the exciting cause. The resemblance between hypomania and mild degrees of alcoholic intoxication is so striking that it suggests that the disorder may be caused by some unknown toxic agent, the varying reactions of different persons to alcohol corresponding to the varying phases of the manic-depressive psychosis. Other mental states known to be due to toxæmia—e.g., febrile delirium (see p. 117)—exhibit striking differences in emotional reactions. In some cases increased leucocytosis has been demonstrated during an attack which continues for a time after recovery, but the relation of this to toxæmia is obscure, and there is no warrant for assuming that circular insanity is due to periodical development of micro-organisms. No doubt during an attack of either mania or melancholia there is considerable endocrine disturbance, but there is at present no evidence that this or a toxæmia is other than a secondary process in the development of this disorder.

From a psychogenetic point of view we find that the symptoms are regressive in character; the normal adaptations of adult life have in some measure failed and the reactions are childish or even infantile. The primitive instincts come to the fore, and as Macpherson long ago pointed out, the symptoms may then be regarded as a disorder of instinct. The ego instincts are obviously affected in mania and melancholia. The manic patient is blatantly self-centred, whilst melancholics are always selfish and yet frequently lose the desire for self-preservation. The sex instinct is disturbed in both and tends to be uncontrolled in mania and inhibited in melancholia. The herd instinct is especially weakened in depression. Patients often long to get away from everybody—to be lost on the moors or in deep woods—a longing quite distinct from any idea of self-injury.

The regressive nature of the symptoms is obvious—e.g., the flight of ideas—which is a sort of free-association, is a return to a childish mode of thought; so also is the pressure of activity.

Psychological investigations show that many of the symptoms can be traced to infantile modes of thought, but how far these and repressed conflicts can be considered causal must be left an open question. We can be quite sure, however, that every symptom has its roots deep in the personality of the patient; none is a mere haphazard phenomenon.

From the practitioner's point of view both the physical state and the psychological background are important.

SYMPTOMATOLOGY: MANIA AND MELANCHOLIA.

In describing the manic-depressive psychosis it will be best in the first place to deal with the fundamental symptoms commonly present in the milder cases that occur in general practice and which do not usually require care in special institutions.

MANIA.

Clear-cut manic-depressive psychosis with alternating phases of excitement and depression is generally a late development in the individual case. The usual history shows that early in life there have been one or more isolated attacks of either excitement or depression, followed by a long period of good health, and then by attacks at more frequent intervals until a regular periodicity is developed. Sometimes from early childhood the temperament has been unstable, short periods of cheerful activity being followed by dullness and depression. Cases do occur which exhibit no symptom of instability until after the prime of life, when an attack of excitement or of depression is the starting point of chronic alternating insanity. This is exceptional; in the great majority of cases careful inquiry will discover that in youth there has been a mental breakdown of some kind.

Regular alternations, constituting a definite cycle, are not so common as irregular changes of phase. Generally excitement is followed by depression, and indeed, after a period of great wear and tear, we may expect Nature to cry halt and give time for repair during the period of retardation and inhibition. Afterwards there is generally a fairly normal period, but this may be very short and a fresh attack of excitement begins almost without warning. Our present inability to prevent or even delay an attack in many recurrent cases is very disappointing. The duration of the attacks is also uncertain; many last three or four months with considerable regularity, but more commonly their length cannot be foretold. In an established case the symptoms repeat themselves with striking accuracy. The same trains of thought, the same strange conduct, the same emotional states emerge in every attack. It is consequently possible for relatives to take measures before the attack develops, and frequently the patient himself realises what is impending and voluntarily places himself under care.

In the intervals between the attacks there is no obvious mental enfeeblement, and after recurrent attacks over long periods there is no distinct dementia. Careful examination, however, discloses in most cases some impairment of judgment. The patients rarely have complete insight

as to the gravity of the illness. They are apt to make light of it, and expect to be trusted as fully as ever. This may be partly because they forget the details of their conduct during the attack, but more frequently they are unwilling to face the facts and successful repression necessarily involves some alteration in the personality. But in spite of this it is extraordinary how complete the recovery usually is, and not rarely it seems as if the illness has cleared the air and left the patient better than before.

THE MANIC PHASE :

Hypomania ; Simple Mania.

In manic-depressive anxiety the attacks may vary from the mild uncomplicated states to acute states of frenzy. We are dealing only with simple uncomplicated states of mental excitement at this place.

The symptoms exhibited in the manic phase result from the removal of normal inhibitions. The patient's natural characteristics are revealed, and though there is no real change in personality the general demeanour and conduct are greatly altered. He holds himself well, walking with a firm decided step ; he is self-confident, quick-witted, and observant ; his eyes are bright and his expression animated. He is talkative and may be brilliant in conversation, witty, and entertaining, but he is apt to wander from one subject to another, being easily distracted and he is a poor listener. He is elated with a feeling of extraordinary fitness and may be able to do things easily that formerly were difficult. He is full of schemes and ideas, and though he wakes early the day is not long enough for him to carry out half his projects. He never seems to tire, and wearies those about him with his restlessness and this "pressure of activity" is one of the prominent symptoms of the disorder. His good sense and judgment fail, he lacks the power of self-criticism, and resents interference. Hence he is often irritable and quarrelsome. There is generally a slackness in moral tone, he is less conscientious, less thoughtful for others, and is self-indulgent. His lack of self-restraint may be seen in extravagance, in intemperance, or in immoral behaviour.

The casual onlooker may not recognise the morbid character of the change or may ascribe it to alcoholic indulgence. But in the family circle it is evident something is seriously amiss. The character of the husband or brother is changed ; he is restless and irritable, he absents himself from home, he has become self-assertive, domineering, and extravagant. In a woman the change is equally obvious to intimate friends. The lack of judgment, the effusive interference in affairs, the unwonted vivacity and flightiness, and probably indiscreet talk and even improper conduct, give just cause of anxiety and lead to consultation with the family physician.

The position, however, is difficult, for there are no delusions or hallucinations, no defect of memory or mental confusion in many of these cases of simple excitement. The patient may be able plausibly to excuse or defend every single action, and often is quicker of wit than the physician and

ready to pounce on any minor inaccuracy or careless phrase. He may be engaged in brilliant work ; indeed, it is well known that in all realms of thought, poetry, music, and art, the removal of inhibitions has sometimes produced flights of imagination that have enriched the world.

Although the patient may be able to point out good work that he is doing, in some other direction his behaviour is abnormal. In this connexion it must be remembered a man must be judged by his former standards. The morbid symptom is the departure from his normal state, so that conduct which might be excused in another are for him of grave significance. Advice is commonly sought on account of moral changes or on account of business extravagance.

In reference to morals we must remember that the veneer of convention easily peels off and the primitive instincts are released by the removal of inhibition. This may be expressed in a number of ways, such as amorous thoughts, lewd talk, or improper and immoral conduct. During the expansive stage of manic-depressive disorder marriage is often contracted, and the possibility of imprudent alliances, especially by elderly men, gives relatives much anxiety. In business matters we sometimes find that the removal of inhibition results in brilliant financial success. It means a boldness in dealing with affairs that occasionally turns out well, and fortunes have been made during manic episodes. Far more often, however, lack of judgment, carelessness in details, associated with the tendency to speculate, result in disaster. It must not be forgotten that the increase in mental activity is essentially a regression. It is a step back into a childish stage of development, and consequently behind much blustering talk, and even threats and abuse, there is an element of weakness. The recognition of this gives hope for treatment in many unpromising cases.

THE DEPRESSED PHASE :

Simple Melancholia.

The contrast with the stage of excitement is obvious to everybody. The elasticity of carriage is gone, the body tends to stoop, movements are slow, the expression is dull, the eyes are downcast. The outlook on life is gloomy, the emotional tone depressed, often to the point of acute mental distress. It becomes difficult to attend to ordinary affairs, the mind is absorbed with unhappy thoughts and fears ; no pleasure is obtained in former pursuits. Everything becomes a burden and there is little output of work. Patients often complain of entire loss of natural affection, although at the same time they are over-anxious about those dear to them. Thinking processes are retarded and there is poverty of ideas. Yet there may be no delusions save a general sense of unworthiness, which often prevents patients attending any religious service, and deprives them of hope in this world or the next. In many cases the mental retardation is accompanied by a desire to withdraw from society, the patient does nothing, says little, and refuses to go out. He is unwilling to see strangers and avoids acquaintances. Not only does he feel unequal to

conversing with those he meets, but he is frequently ashamed even to be seen. Sleeplessness is generally a prominent symptom. He usually wakes early; for a moment all seems well and then a rush of painful thoughts prevents further sleep. The depression is most severe in the early morning; at this time, when vitality is at its lowest, he is overwhelmed with a feeling of utter incapacity and despair. He dreads another day of misery and his self-control is strained to the uttermost, and suicidal thoughts may easily master him. It is the rule for depression to be less pronounced in the evening, and worst in the early morning directly after sleep, a fact which has never been satisfactorily explained. If, however, we consider depression a disturbance of the protopathic elements in the brain it may be assumed that during the day the conscious control exerted by epicritic elements tends to correct the disorder. In sleep this conscious control is in abeyance and conceivably the unrestrained turmoil of emotion produces effects which are carried on into the waking state. In any case there is reason for thinking that the increased depression is dependent on unconscious mental activity during sleep.

The conduct of depressed persons is usually correct, and their judgment is sound in relation to matters outside themselves. But they are extremely self-centred and even selfish, careless of the anxiety they cause. Frequently they refuse advice, declaring that doctors can do them no good, that "it is all their own fault," that they have "let themselves go," and "brought it on themselves," and that nothing can be done. In the depressed phase of manic-depressive psychosis suicidal attempts are common, especially when patients have had previous attacks and feel another coming on which they cannot face. In almost every case the temptation exists and is fought against, sometimes for weeks, till suddenly, perhaps in the early morning, the suicidal impulse can no longer be withstood. In this type of case there may be little warning; the internal conflict is successfully concealed, and indeed the patient may pretend to be better. Here precautions short of removal to a mental hospital are usually futile. The alternative confronting the physician is, on the one hand, liberty and its risks, on the other, effective continuous supervision day and night. Half-measures are irritating to the subject and generally useless.

Bodily Changes.—There is always some disturbance of bodily health, which is usually more marked in depressed than in excited states. In both there is loss of weight and quickened pulse. In depression there is a general lowering of vital activity, with malnutrition and often a subnormal temperature. The tongue is furred, there is loss of appetite, often loathing of food, and at the same time there is persistent constipation. General metabolism is reduced, and by means of test-meals it has been shown that the processes of digestion are slower. These physical symptoms sometimes precede the onset of the psychosis and may give a warning of an impending attack. Similarly improvement in bodily health with gain in weight may be the forerunner of mental convalescence.

The relation of the bodily to the mental symptoms remains obscure. When constipation is marked there is necessarily some toxæmia and indoxyl will appear in the urine, but unfortunately the depression continues after the intestinal stasis is relieved. In many cases, especially at the outset of the illness, there is temporary glycosuria. Amenorrhœa is common during the height of the attack. Some writers speak of a vicious circle, such as depression, constipation, toxæmia, endocrine disturbance, disorder of the sympathetic nervous system, depression; but of this nothing definite is known. There is, however, no doubt that these bodily changes are an integral part of the clinical picture and they must not be ignored in treatment.

DIAGNOSIS.

The recognition of manic-depressive insanity is usually not difficult provided the former history of the patient is accessible; but the practitioner who only sees a first attack, or who can learn nothing of previous ones, is frequently at a loss. Moreover, it is remarkably difficult to obtain a trustworthy history; salient facts are ignored or minimised; or they may have been successfully repressed, so that the patient cannot recollect them. There is a possibility that grave states of melancholia may be concealed by the patient and even made light of by relatives. A prolonged and careful examination usually discloses the truth, but even then its full significance may only be revealed by perhaps a chance remark at parting. Many seriously depressed persons have clear insight and realise their condition, and the doctor may be suspected because they fear removal from home and the possibility of legal care.

When confronted with a case of depression, especially a first attack, the doctor's first duty is to ascertain whether there is any legitimate cause for it, and, if so, whether the reaction is wholly disproportionate. Next a careful physical examination must be made, for mental symptoms alone may mislead. Especially the nervous system must be examined to exclude the possibility of general paralysis. This is one of the commonest causes of mistake in diagnosis, but the possibility of encephalitis must be borne in mind. Depression is a common complication of severe bodily disease, chronic lung trouble, Addison's disease, and myxœdema. Secret drinking and drug addiction may also give rise to states of depression, but the clinical picture differs; there is more degradation, more mental confusion, and the depression is not sustained as in melancholia. It must not be forgotten that patients may attempt to obtain relief from their misery by alcoholic indulgence, so that the drinking may be merely symptomatic.

The conditions enumerated as likely to mislead having been excluded by the physician, there remain three forms of mental disorder to be considered before the diagnosis of manic-depressive psychosis can be reached.

(1) In *acute confusional insanity* there may be depressed states with episodes of acute distress of mind and suicidal impulses. As a rule the diagnosis is not difficult, since the melancholic patient rarely suffers from confusion, hallucinations are not

common, and generally the mental reduction is not so marked. Certain severe cases in which confusion does exist are discussed elsewhere.

(2) In *dementia præcox* there may be depressed episodes with fits of weeping, but these are usually of short duration. In manic-depressive insanity there is no dissociation of personality, and there are no grotesque delusional ideas, no absurd mannerisms, or uncalled-for impulses. In *dementia præcox* little or no explanation can be given of the tears, which may give place to merriment without apparent cause. In both states improvement may suddenly occur, in both relapse is common, but in *dementia* the recovery is not so complete. Nevertheless the diagnosis is sometimes impossible without prolonged observation. Some authorities consider that the two disorders pass into one another and that there are intermediate forms between the manic-depressive psychosis at one end of a series and *dementia præcox* at the other. Experience certainly shows that now and then a melancholic case deteriorates unexpectedly, while patients with marked schizophrenia (see p. 71) occasionally seem to recover perfectly. Nevertheless the presence of mental dissociation, in which the conduct appears to have no relation to the general personality, accompanied by mental inaccessibility, will generally suffice to make the diagnosis of *dementia præcox*.

(3) *Psychoneuroses*.—Considerable difficulty in diagnosis may arise in respect to the miscellaneous group, which includes hysteria, anxiety states, phobias, and cases of obsession, known collectively as the psychoneuroses. Many of those who fall under this heading are miserable and depressed, unable to do much work, and may be so dominated by their unhappiness as to declare that life is not worth living. The details of their condition are described elsewhere under the various headings. The victims of obsessional neuroses, however, usually attribute their depression to some definite trouble of body or mind, and believe that if this could be removed all would be well. They talk freely of their ailments and describe their sufferings at great length and are glad to have a sympathetic listener. In melancholia, on the other hand, the depression is more fundamental and is rarely located; patients speak with difficulty of their malady, and mental retardation and sluggishness of thought and action are common; they are often extremely reticent and frequently are unwilling to see a physician. With reference to the suicidal tendency, in the psychoneuroses the patient fears he may be tempted more than he can bear, but all the time wants to live and get better; but in melancholia hope is gone and with it the desire to live, and the patient is often reticent in regard to his feelings, yet believes his death would be better for all concerned.

In short, though special difficulties arise in actual practice, the overwhelming inexplicable nature of the depression in the melancholic phases of manic-depressive insanity, the previous history, and absence of any signs of hysteria, make it possible in the great majority of cases to distinguish the psychosis from the psychoneurosis. In the

latter, a psychogenic cause can usually be traced; the patient can be temporarily cheered or comforted; and the presence of some characteristic symptom—e.g., anxiety, fear, or obsession—is usually conspicuous.

The diagnosis of simple mania is rarely difficult. It is of the first importance to examine carefully the general bodily condition, especially the central nervous system. Whenever a man or woman has an attack of either excitement or depression for the first time when about 40 years of age, the question of general paralysis should be seriously considered. Having excluded organic disease, the difficulties of diagnosis in respect to *dementia præcox* already mentioned under depression arise. The graver forms of maniacal excitement described elsewhere sometimes resemble acute confusional insanity; but in simple mania there is no confusion. In the psychoneuroses there is little sign of euphoria. The mixed states described by Kraepelin are necessarily difficult in diagnosis, and it is rarely possible without repeated examination to distinguish them from the symptoms of *dementia præcox* or confusional insanity. The symptoms are more sustained; the completeness of recovery and the tendency to relapse with the repetition of identical symptoms will eventually in most cases enable the diagnosis to be made.

PROGNOSIS.

It has been already stated that the characteristics of this psychosis are the tendency to recovery and the absence of decided mental deterioration. The straightforward uncomplicated cases almost without exception get well in time. The difficulty lies in foretelling the length of the attack, and there are few data to assist in forming an opinion. A return to normal habits of sleep, increase in weight, and progressive improvement in the general health are usually favourable signs. Some patients remain depressed for years and then perhaps suddenly, for no apparent reason, the phase changes, a period of euphoria develops, which in turn gradually subsides, after which recovery may seem complete. A few patients settle into a state of chronic depression which seems as if it will last indefinitely. One such patient recovered after 30 years to relapse again three years later. The most serious danger is the development of alternating states, and this periodicity, when regular, is usually permanent. Regular alternations, without any dementia, have been observed in a patient 96 years of age.

TREATMENT.

The remarkable tendency towards recovery under all sorts of conditions leads to hasty conclusions in respect to treatment. In the old days, blood-letting, blisters, vomits, setons, purges were used as routine methods and the recovery-rate was respectable. No doubt other methods, such as exorcisms with flogging, sometimes seemed successful. In our own time, a large number of therapeutical measures and operations have been advocated by enthusiasts which one by one fall into disrepute. Not merely patients but physicians are apt to attribute the recovery to the particular

treatment last tried, whereas it may have contributed little to the favourable issue. Nevertheless, making due allowance, there is little doubt that many cases of mania and melancholia remain ill almost indefinitely under unfavourable circumstances, and that, on the other hand, improvement often dates from the removal of some focus of irritation affecting either the mental or bodily health.

The general treatment in states of grave depression and excitement is given on pp. 103 and 109. Here we need only consider two matters, the treatment of simple uncomplicated cases, and the possibility of preventing future attacks. In all cases the first consideration is attention to the bodily health, especially with regard to possible foci of infection. The condition of the teeth, tonsils, the nasal sinuses, and the alimentary canal must be carefully investigated, and in many cases X ray examination is desirable. Next, careful inquiry should be made into mental stresses that may have contributed to the illness, but any attempt at analysis during the attack is useless and may be hurtful. Neither suggestion nor persuasion avail much, but it is important to understand as far as possible the patient's own point of view.

The treatment of mild cases of *manic excitement* is extraordinarily difficult. The patient who feels well and is full of schemes and ideas, and whose judgment is affected will rarely listen to advice. But unless his conduct is extreme, legal control is impossible. The condition is essentially regressive and contains an element of weakness. The physician who is firm, especially if he is supported by wise relatives, will often succeed in inducing a patient to modify his mode of life. Plain speaking and perfect straightforwardness are essential, and on no account must the physician be party to any deception that relatives or friends may think desirable. His one hope of success lies in retaining the patient's confidence; and such patients are usually well able to appreciate sincerity and sound unbiased advice. Sometimes a united family council may present an appeal for the discontinuance of some ruinous course. In France such a council has legal powers, and though that is not the case here the influence of the whole family is not lightly ignored.

The nature of the advice to be given depends entirely on circumstances. A break with the existing mode of life is necessary, and this is best secured by removal to some country district where fresh air and exercise can be secured under favourable conditions. But it must be remembered that the activity of mind gives a fictitious appearance of vitality, and consequently it is undesirable to encourage a patient to tire himself out with much exercise or long walks. Restless activity itself is often a fatigue symptom. A quiet routine, with rest in bed for a part of each day, is to be recommended in so far as it does not irritate. Not infrequently, if the position be frankly explained, the patient may be willing to apply for treatment voluntarily in a mental hospital. This in many cases is really the wisest course and provides varied interests and a regulated life under supervision.

Alcoholic beverages are not to be recommended, and sedatives are, generally speaking, of little use. They may help over a temporary difficulty, but are usually disappointing in practice.

In *states of depression* it is usually desirable to advise patients to give up business temporarily. They often aggravate their condition by trying to ignore the depressions and wear themselves out keeping up appearances and trying to continue their work. At last their incapacity overwhelms them, they utterly break down, and often become suicidal.

The chief object is to secure as far as possible mental rest, and this generally involves also rest in bed at the beginning of treatment. Yet such patients must not be isolated, and Weir Mitchell treatment in a nursing home is injurious. On the other hand, the patient's friends will wish to divert and entertain him. They will urge the importance of a complete change, of a sea voyage, or suggest a course of gaiety in town, forgetting that all effort is irksome, even that of being polite in company or of looking at changing scenes in a theatre or from a motor.

Mild cases, in which the risk of suicide need not be taken into account, at all events at the moment, are often best at home or with judicious friends. Bed treatment in the open air is valuable, and when the distress of mind is acute, there must be companionship day and night. It is important that there should be no argument, and no attempt to explain away or make light of the patient's fears. The difficulty of home treatment lies in the anxiety of relations and their natural desire to be doing something to relieve the distress of mind. Not rarely the best treatment consists in providing a monotonous routine and persevering with it week after week. This will include staying in bed a considerable part of every day, but except in severe cases, complete bed treatment is unwise. During this period any measures necessary to promote the general health will be systematically undertaken.

Though business, exacting games, and diversions are not permitted, some occupation is desirable, such as light reading, simple games, or any interest that diverts without taxing the mind. In summer croquet and especially bowls provide gentle exercise in the open air and almost constitute a "cure." Great determination is required on the part of the physician in persevering with this prosaic treatment, and he must be prepared for others to reap the reward of his wisdom. Some friend may recommend a new nostrum, or a change of scene, and if the patient improves this gets all the credit. Nevertheless, the surest road to recovery is found in a simple routine, which lessens mental and physical strain.

Treatment with drugs is generally disappointing and tonics are of little value, except in so far as they improve the general health. There is much difference of opinion as to the value of sedatives. In some passing difficulty, such as pain, distress from bereavement, or financial losses, or a passing emotional storm, they may be helpful; but as a rule the trouble which causes the unrest is no temporary matter. The writer does not give

hypnotics for sleeplessness unless there are objective signs of fatigue or undue quickening of the pulse; and then doses of paraldehyde on successive nights may be of great value. But, generally speaking, sedatives are far less helpful in sleeplessness than attention to the general conditions, especially in arranging for suitable companionship when the mind is beset with gloomy fears. Food at night is often of great value.

The question arises whether treatment by psycho-analysis during healthy intervals or after convalescence from an isolated attack is likely to be beneficial. One or two authorities have reported successful cases, but the majority discountenance analysis in this disorder. The patients are too unstable and possess too little strength of character to undertake what is really a prolonged process of self-education. To be sure, in the manic state there is no lack of material for analysis, and in both manic and depressed states internal conflicts and infantile wishes are factors in conduct. Probably some defect in the mental make-up prevents the reconstruction of personality. Analysis may elucidate the symptoms and help to explain their development, but in this disorder it seems of little use as an agent in promoting recovery.

Suicidal Tendencies.

The responsibility of the physician in respect to suicidal tendencies is serious. In many cases the risk of accident lasts a very short time, and to continue precautions for long is irritating and even hurtful. Occasionally it is necessary deliberately to run risks because it seems a lesser evil than the alternative of effective care in a mental hospital. In such cases the physician should explain the situation to the relatives frankly. In every suicidal patient, sooner or later, this risk must be taken, but in convalescent patients the alteration in demeanour and conversation

usually gives sufficient indication of a real change in mental outlook.

In spite of every care accidents will sometimes occur; but, as a rule, they come as a surprise, and this suggests that the real state of mind was not understood. The great safeguard is thorough examination. Depressed patients, if given plenty of time, usually confide in their own doctor, and rarely attempt to deceive him. The question should be openly discussed, and this in itself is a safeguard and often greatly relieves the patient. If there is reason to fear that the patient lacks self-control in this respect, it is best quite plainly to tell him no risks must be run and that, for the present, precautions will be taken. Not infrequently this is in itself a relief, and the mental rest that follows effective supervision by day and night is an important element in promoting recovery. Half-measures are of little service and may be actually dangerous owing to the false sense of security they give.

The question of suicidal tendencies in acute cases of depression is dealt with elsewhere in the chapters considering the psychosis more in detail under its two main subdivisions (see Chapters XXII. and XXIII.).

As regards the *prevention of attacks* we can only hope this will become increasingly possible with increasing knowledge of their true cause. At present no specific treatment is known and relapses occur in spite of every precaution. Even when there are premonitory signs little can be done. Nevertheless in certain cases the attack seems to be precipitated by some unfavourable circumstance, such as a return to old surroundings, or a revival of former troubles, and in these the attack may be avoided or delayed by suitable adjustments. Young patients, convalescent from a first attack, frequently remain well for years if their mode of life be reorganised. Established circular insanity is a more hopeless problem.

CHAPTER XXII.—STATES OF MANIA.

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Simple and Acute Mania.—Physical and Mental Signs and Symptoms.—Exhaustion and Convalescence.—Chronic Mania.—Diagnosis and Treatment.—Advice to Relatives.

MANIA is a term in common use, and the maniac best fulfils the popular notion of a mental patient. The term is used here, in a limited sense, to define the form of pathological excitement that is characteristic of the manic-depressive psychosis.

For descriptive purposes three grades of mania are distinguished, the grades serving to describe the clinical condition of patients suffering from this disorder. These three grades are: Simple mania or hypomania; acute mania; chronic mania. The subdivisions are arbitrary, are merely used for convenience, and the condition must be conceived as a whole, the stages representing varying degrees of intensity. Before passing to detailed descriptions I recall the cardinal signs of manic-depressive excitement, already given in the preceding chapter. These are: *elation, euphoria*, or a joyous sense of well-being in the emotional field; *flight of ideas* in the intellectual field; *psychomotor excitement*, or *press of activity* in the volitional field. These cardinal features of mania are to be found in all cases though not necessarily in equal degree. For example, flight of ideas may be very severe, and press of activity and elation, while present, are not at all proportionate to the flight.

Simple mania has been described in the article on the manic-depressive psychosis. Here we are concerned with sketching an attack of acute mania, referring briefly to chronic mania. A case of simple mania may present great difficulties to a practitioner. Elation and press of activity will often mean embarkation on a course of extravagance and speculation. The doctor may, from observation of his patient's conduct, estimate him as insane, but certification may be impossible, and legal care and control unobtainable.

ACUTE MANIA.

ONSET AND ACUTE STAGE.

Four stages in an attack of acute mania may be recognised—namely: The onset, or prodromal stage; the acute stage; the stage of exhaustion; and the stage of convalescence.

The attack in many cases commences with an appreciable initial depression. This is slight and may only last a few days. There is loss of weight and sleep, and an inability to concentrate. Emotionally the patient is irritable, and this stage is commonly

unrecognised as the initial phase of a serious disorder and is diagnosed and treated as neurasthenia. Vague pains may be complained of, and some of them suggest a true sciatica or neuralgia very strongly. More rarely hallucinations occur, as is illustrated by a patient who suffers from periodic manic attacks and places herself under care as soon as she is visited, in hallucination, by—say—angels at night. The prodromal stage lasts two or three weeks, and gradually passes into the acute stage, though it may happen that the transition occurs in a few hours.

A patient in the acute stage of mania can best be considered from the physical and mental aspects separately. It must be insisted upon that the physical signs of mania are not in any way characteristic or important, but are actually the physical accompaniments of the affective state. It seems as if the vegetative nervous system kept pace with the mood. This is very evident in those cases of manic-depressive insanity which vary rapidly. For two or three days a patient may look well, possess a springing upright carriage, and a clear skin. Yet in a few hours, with the onset of depression, he stoops, looks ill, his skin is muddy, and his face wrinkled.

PHYSICAL SIGNS AND SYMPTOMS OF ACUTE MANIA.

In spite of his protestations of good health an acute manic patient usually looks ill. He is pale, the tongue is furred and the breath offensive. The gastric condition is often aggravated by the consumption of unsuitable and unaccustomed food, and alcoholic excess. The pressure of his activities leaves him with little time for attention to physiological necessities; meals are irregular and cut short, and constipation is the rule. There is often a coarse tremor of the face and hands, and when first seen a patient often suggests alcoholism or even paresis. An examination of the nervous system reveals a remarkable general hyperæsthesia. Sensations of touch, hearing, and smell are very acute. This sensitiveness to touch may partly account for the manic patient's intolerance for clothes, which it is common to find are discarded and even destroyed. Faint sounds and scents are detected by him which are quite unrecognisable by the normal observer. Superficial reflexes are brisk, but the

deep reflexes are variable, being usually depressed at first, and becoming brisker as treatment induces longer periods of rest. The patellar response is quicker than in the normal. Great motor excitement prevails, and incessant activity is the rule. W. B. Stoddart has pointed out that muscular movements occur at the large proximal joints, as the shoulder and the hip, and that distal joints take but a small part in the excitement of mania. The patient runs and walks from the hips. The limbs tend to be abducted, and the arms are waved from the shoulder. The manic shakes hands from the shoulder, with outstretched extended arm. His prayer is denunciatory, and he stands with arms and face upraised to heaven, in contrast to the melancholic who kneels with flexed trunk and head, and hands clasped before the breast.

Secretions are increased. Patients perspire freely, and the sweat has a curious odour which has been termed "mousy." The saliva has an increased amylolytic power, and the gastric juice shows an increase of hydrochloric acid. Mammary secretion may be so profuse as to make the nursing difficult in cases occurring during the lactational period. Urine is increased in amount, and sometimes shows a temporary glycosuria during the early days of the illness. In women menstruation is irregular, and may cease. On the other hand, when it occurs the discharge is often profuse. An increase of excitement is generally evident during the menstrual period. During the acute stage there is often progressive loss of body weight. Patients taking food well do not lose, and may even gain in weight, but during the acute phase loss in weight is more general, while an increase in weight may herald a chronic condition when it is not accompanied by a decrease in the excitement. Temperature remains normal or subnormal, though there are exceptions to be considered later.

The pulse is rapid (90 to 120) and often small. Most cases reveal a marked fall of systolic blood pressure, which rises again during the convalescent stage. Careful auscultation is rarely possible and reveals nothing unless exhaustion supervenes, when cardiac dilatation is often a sinister feature. In a few cases a mild œdema of the legs and feet occurs after a long period of excited activity and standing. An attack of mania in a person with a definite cardiac disease may produce failure of compensation, but it is remarkable what severe stress can be endured without cardiac symptoms appearing. An examination of the blood shows diminution of the red cell count and a slight leucopenia. There is no change in differential counts.

Sleep is always poor and may be actually absent for a time. One to three hours sleep nightly is a usual allowance, and may be the total sleep at night for weeks, unless treatment produces rest. Sleep is enjoyed in the early hours of the night, in contrast to the melancholic, who remains awake for a long period.

MENTAL SIGNS AND SYMPTOMS.

The mood of the patient is one of exaltation, and a joyous sense of well-being possesses him.

The mood renders him happy, and while he seems unable to feel the depressive influences of unpleasant events, he remains very sensitive to the minor frictions of life. The news that a friend or relative has died is but an excuse for planning an imposing funeral with an oration from himself. The refusal to give him a cigarette, a drink, or a motor drive may cause an outburst of rage in which he will smash everything within reach. The patient is rarely violent to others, but may slap and punch in a mischievous and playful manner. The exaltation of mood is often reflected in fleeting delusions of power, wealth, and personal prowess. It is common to find a manic patient busily occupied in exhibiting his unbounded sense of power in attempting to heal his fellow sufferers in a hospital. Hallucinations are rare, but they do appear and naturally are associated with delusional ideas. When present hallucinations may cause a mild anxiety during the excitement.

The emotional state removes habitual inhibitions, and instinctive activities become uncontrolled. The patient is at once constructive and destructive, tearing up garments and bedding with the idea of making new ones, but ending in using the rags to decorate himself. Rough joking is common, and the manic patient keeps everyone busy with all sorts of mischievous pranks. He sings and shouts, especially at night, and is often erotic and indecent. Cultured women will lose all sense of modesty, make improper proposals, and display an unexpected knowledge of vulgar sexual expressions. The habits may become dirty, and faeces and urine may defile room and person.

Perception is keen; patients notice peculiarities of character and figure in the most embarrassing way, and the practitioner will hear some shrewd remarks about himself. Mistakes are sometimes made in the identities of servants and doctors, but this must not be taken as evidence of confusion. Some chance resemblance may create the error in identity. In the hospital many patients have a habit of attaching nicknames, or the name of some historical personage or notorious criminal to those attending upon them. These nicknames persist, are often witty, and their use reappears in subsequent attacks. Orientation is remarkably clear even in acute states. Volitional attention is lacking, but instinctive attention is so easily aroused that the sign has been termed *dis-tractibility*. The slam of a door, the rattle of keys, or the sound of a distant bell will instantly disturb a patient from his talk or task of the moment.

Thinking is easy and association of ideas so rapid and so quickly translated into speech that the ceaseless conversation of the patient may become unintelligible, although some sense is generally evident. This rapid association of ideas is termed *the flight of ideas*, and the constant talking has been named *logorrhœa*. The speech is often rhyming; words with similar sounds, like hot, lot, shot, and so on, making "clang" associations. But in spite of this flighty thinking conversation is possible in most cases, and answers are quick, sarcastic, and accompanied by a show of absurd logic. These

patients are always ready to justify their conduct, and make their excuses appear most reasonable provided one is willing to lose sight of the fact that they are insane. Writing shows the same characteristics as the speech. The calligraphy is often illegible, and the untidy scrawl is profusely illustrated with drawings, while the patient crosses and recrosses the paper until the whole is covered with ink or pencil.

Just as ideas crowd into consciousness, so do they translate themselves into action. The manic patient is never unoccupied, and suffers from the characteristic *pressure of activity*. A thought is aroused, and is pursued in action until supplanted by another. Objects are grasped and discarded or smashed. The patient walks, runs, jumps, hops, sings, and in the severer grades the activity is unrelenting and may continue throughout the 24 hours. Nothing is completed; aim succeeds aim, with bewildering rapidity; actions are but fragments, and have not even the constancy of pattern of a patchwork quilt. This press of activity conveys an impression of strength, and the impression is fortified by the endurance and apparent absence of exhaustion in spite of persistent insomnia. But while "the strength of the maniac" is a phrase beloved by novelists, investigation tends to show that the strength is actually less than that of the normal subject. The appearance of strength is partly due to the utter disregard of consequences to himself and others displayed by the manic. But the endurance over long periods of time with very few hours of sleep is a feature of mania which has yet to be explained. In very severe cases activity is so incessant that abrasions and wounds may be obtained in spite of every care. No dressings will remain on, even if successfully applied. Sepsis may thus creep in and complicate the clinical picture, especially where the patients are degraded in their habits. A rise of temperature occurs, the pyrexia reaching 100° F. to 101° F. The signs suggest septicæmia. The tongue becomes brown and dry, sordes collect on lips and teeth, constipation is complete, and food may be returned even when given by the tube. The pulse rises to 150 or 160, and respirations increase to 30 or 40. The motor activity remains incessant, mental confusion becomes marked, and the outlook is grave. Such cases have been termed *acute delirious mania*, and have been regarded as severe manic types. It is more likely that they arise as septic accidents in the course of an attack of mania. A fatal result is common and post-mortem examinations often reveal meningeal infections, or unrecognised apical pneumonia.

The acute stage of mania may last for days, weeks, and months; attacks lasting years are recorded, while a few rare instances terminate inside a week. But it must not be thought that an even level of excitement is maintained, for quieter periods occur, days being sometimes passed in a dream state which once more gives way to the excitement. While some of these intermissions may promise the approach of recovery, convalescence is not reached until the next stage has appeared.

THE STAGES OF EXHAUSTION AND CONVALESCENCE.

The stage of exhaustion often suggests dementia, or the commencement of a depressive phase. The activity ceases, the limbs are still and flaccid, the logorrhœa is replaced by silence. The patient is quite unoccupied, and there is difficulty in obtaining answers to simple questions. Definite stupor appears in some cases, and these patients lie on their beds, taking no interest in their surroundings, requiring very careful nursing, and possibly artificial feeding. The exhaustion stage clears up in one to three weeks in the majority of patients, and the stage of convalescence begins.

In convalescence the exhaustion signs pass gradually, the skin clears, and the appetite returns; there is a progressive increase in weight, and the mental powers and interest in normal life reappear. During convalescence some patients exhibit peculiar tendencies to "nagging" and making trivial complaints. Some also set out to reform mental hospitals, while others appear to desire to embark on litigation. It is not uncommon to find patients who leave an institution during this stage interesting themselves in "lunacy" reforms, and commencing lawsuits to establish some grievance against those who have had to undertake their care.

The periods of sleep increase steadily, but for weeks there is a tendency to wake early in the morning. Headaches are sometimes complained of, but are not at all the feature in post-manic states that they are after melancholia. Convalescence may be disturbed by a depressive phase, and medical attendants should recognise this, while friends and relatives should be warned of the possibility, especially when the attack is the first illness of its kind.

CHRONIC MANIA.

This condition resembles acute mania, but the signs and symptoms are less marked, and the condition does not progress to recovery. The practitioner will warn the relatives now that the patient may become a permanent resident of some institution. Acute exacerbations occur from time to time, and each outbreak leaves the patient more deteriorated mentally until a terminal dementia is reached. Chronic mania is often mixed with one or more of the cardinal signs of melancholia. Chronic mixed states form a considerable part of the population of most mental hospitals. An untidy patient decorated with rags, with berries and leaves in her hair, striding restlessly about in a manic way may be found to have an expressionless face and difficulty in thinking or replying to questions. Such a type combines the euphoria and motor excitement of mania with the sluggish thinking of melancholia.

The duration of an attack of mania varies, and prognosis in the matter is always difficult. Speaking generally, the attack lasts longer in young subjects and tends to decrease in duration with age. Up to 35 six months to a year is often necessary to see an attack through. After 35 an

estimate of three to six months is more likely to be accurate.

THE DIAGNOSIS OF MANIA.

Although the cardinal signs of manic-depressive excitement have been quoted repeatedly, it must be remembered that each sign may occur in other mental states. The diagnosis, therefore, will be arrived at to some extent by a process of exclusion. The practitioner, faced with a case of acute excitement, may be reluctant to make an exact diagnosis, but the consideration of the possibilities may help him to arrive at a decision concerning the right steps to take, and the practical aspect of the case is closely related to a correct opinion as to the underlying cause.

The following formidable list contains the conditions which may be associated with acute excitement.

General Conditions.—The delirium in specific fevers—e.g., typhoid, lobar pneumonia, uræmia, and septicæmia. *Poisons:* Alcohol, and other drugs such as cocaine and Indian hemp. Transient excitement sometimes occurs after acute food poisoning. Lead and possibly arsenic may cause confusion and excitement.

Nervous Diseases.—Here we must consider general paralysis, cerebral syphilis, acute meningeal infections, encephalitis lethargica, brain tumours, epilepsy, and disseminated sclerosis.

Other Mental Disorders.—Catatonia and acute confusional states. Neurasthenia may be added, as the prodromal stage may closely resemble this condition.

The first step at arriving at a diagnosis should be to obtain as much information as possible concerning the life-history of the patient and the onset of the excitement. A history of previous attacks suggests mania. A history of fits reveals the presence of epilepsy. Careful inquiry should be made concerning the habits of the patient, the presence of alcoholism and drug-taking, the nature of his occupation, and the composition of his diet for the preceding few days. The second step consists in a careful physical examination, so far as that is possible. It will be seen that this examination will eliminate a great many of the conditions enumerated above, and in practice it will be found that the difficulty in diagnosis is mainly caused by having to distinguish excitement due to acute confusional insanity, general paralysis, and catatonic excitement. The confusional state shows much more clouding of consciousness, marked hallucinations, and frequently a very pronounced degradation of habits. Perception is impaired and pyrexia usual. General paralysis is indicated by definite physical signs, the grandiose nature of the delusions, and the facility of the patient. The results of lumbar puncture will clear up any suspicion of paresis. The excitement of catatonia often shows the flight of ideas, but the flight is less intelligible than in mania, while neologisms are often used, and the speech has been aptly termed a "word salad." Hallucinations are very marked in catatonia, and

the observer is always struck with the antics and grimaces which are a common feature of dementia præcox.

THE TREATMENT OF MANIA.

Having arrived at a diagnosis the practitioner will be required to advise as to the necessary steps to secure adequate treatment. Reference has already been made to the many difficulties that are met with in patients suffering from simple mania, but a case of acute mania requires treatment in a mental hospital, and it will be found necessary in nearly every instance to resort to certification. Treatment in a private house is always difficult and attended with grave risks, but it is invaluable that the practitioner should know the measures taken for the benefit of a patient who, for a season, has passed from his charge.

Hospital treatment aims at securing the maximum of rest. The continuous bath is most useful in controlling the motor restlessness. Most hospitals have baths of a special pattern, in which the temperature can be maintained at a given level, usually 98° F. Patients may remain in these baths for increasing periods of time; beginning with an hour daily, the duration of the bath may extend up to four or even eight hours. There are initial difficulties to overcome, but patients usually settle down to the routine and seem to like the bath. Out of the bath the patient is put to bed, and will often stay there. If the press of motor activity is extreme, a suitable padded room may prove the safest place. On no account should a patient be allowed to struggle with nurses, or incur injury by contact with the furniture or fittings of a bedroom, for an abrasion or other wound may have serious consequences.

Food should be abundant and mostly liquid during the acute stage. The manic patient is often thirsty, and liberal draughts of lemon-water or barley-water may be given with benefit. Milk is the staple article of diet, to which cream and eggs are added. Fruit may be taken, and good soups and broths make a change. Solid food can be given generously during convalescence, and wine or malt liquor can be added provided alcoholism has not been a factor in the causation of the disease. Spirits are best avoided. Tube-feeding may be necessary when all food is refused, and is rarely required for more than a few days. It should be carried out three times daily, and two of the feeds, consisting of a pint of milk, a little cream, and two eggs, should also contain a dessertspoonful of soft sugar. If the food is not digested, or even returned, a stomach lavage may help, and the feeds should be peptonised. The bowels must be regulated carefully, on general medical lines. Drugs are used to obtain sleep, and produce sedative effects on the restlessness. Sulphonal has remarkable value in mania, and should be given regularly: ill-effects are very rare, and are magnified in the medical mind. Thirty grains nightly in warm milk should be administered while insomnia is severe. The dose should be reduced for women. Three or four days are required for its effect to be produced. Bromides are of little use in mania, and if given over

long periods readily produce confusion and increase the excitement. Hyoscine is useful, especially when combined with morphine, but should be reserved for very acute states, and given only on one or two occasions to obtain rest. It is best administered hypodermically, and a large dose is recommended. An injection of 1/3rd of a grain of a morphine salt, combined with 1/50th or even 1/25th of hyoscine, will sometimes produce several hours of sleep, and the patient awakes much refreshed, and remains quieter for some days. The continued use of hyoscine is liable to cause confusion and acute hallucinations. Paraldehyde and amylene hydrate are safe hypnotics; sodium malourea (medinal) in doses of 6 gr. is useful to ensure sleep in the convalescent stage.

During the exhaustion following the acute stage a good iron tonic should be prescribed. Open-air treatment is of the greatest value as soon as the patient's mental condition allows. Rest in bed on a verandah, or, better still, in an open hut, under proper supervision may serve to cut short the later stages of the illness. Patients should be managed by a careful routine, and exciting occupations must be avoided during convalescence. Short walks and drives, bowls or croquet may be allowed. Active games, such as golf and tennis, should be forbidden until the patient is able to leave the hospital, when a sojourn at a quiet holiday resort may be recommended. Bridge, chess, and cross-word puzzles require too much mental effort, and are most unsuitable for a recent case of mania. Indoor occupation should be confined to simple tasks such as leather-work, basket-making, and occupational therapy of this kind for strictly limited daily periods. Much time may be passed quietly in listening to wireless programmes. It cannot be too strongly urged that the weighing machine should be consulted weekly. A steady increase in weight is most desirable, and loss of weight during the convalescent stage generally indicates some tendency to relapse. Before leaving a mental hospital the opportunity will be taken of cleaning up the mouth, and removing any septic condition that may be apparent. The search for septic foci at the beginning of an attack, with the resulting operations on teeth, tonsils, sinuses, and appendices, must be done with caution. This form of therapy, fashionable as it may be, may prolong the duration of the illness by increasing stresses at a time when rest is the most imperative need.

A few words may be added on the treatment of what has been described as acute delirious mania.

The condition is grave, and calls for prompt measures. The uncontrolled excitement makes treatment very difficult, and there should be no hesitation in administering an anæsthetic. Chloroform is the best, and under its influence a stomach lavage with a weak solution of sodium bicarbonate can readily be carried out. A small feed is then given, which should contain an aperient, and three or four drachms of paraldehyde. The mouth may be cautiously cleaned with a soft toothbrush and a little peroxide. The anæsthetic is then continued for 20 minutes or half an hour, and the patient left in a warm bed. Stoddart records good results in a limited number of cases, and the writer can recall a severe example in which the effect of the procedure could fairly be termed magical.

ADVICE TO RELATIVES.

An attack of mania is a serious event, and the practitioner may be called upon to advise on many matters on the return of the patient to his home surroundings. The question of occupation is often raised, and while practical considerations must govern the situation, the simpler the work the better. Late hours and excesses of all kinds must be avoided. The weight must be watched. Permission to marry may be sought by a patient who has suffered an attack of mania. Marriage will be a stress, and if attacks have recurred should be forbidden. But a practitioner can only advise, and when a long normal period of, say, two or three years has followed an attack it is difficult for him to place a ban on matrimony. There are many sides to the question, and careful consideration must be given to the circumstances, financial position, and ages of the contracting parties. It is well for an independent opinion to be sought, and the practitioner should beware of giving any hasty advice.

Throughout an attack of mania, the medical man concerned should be careful to be frank and truthful in his relations to the patient. Practitioners are warned especially to guard against the tendency to deceive a patient at the time of his admission to a mental hospital. The old trick of inviting a patient for a drive and landing him in an institution is one which is likely to cost the practitioner the confidence of his patient. And the friends, so anxious to avoid trouble, may find that deceptions only serve to alienate a member of the family.

CHAPTER XXIII.—STATES OF MELANCHOLIA.

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Simple and Acute Melancholia.—Physical and Mental Signs and Symptoms.—Chronic Melancholia.—Diagnosis.—Treatment.—After-care.

MELANCHOLIA is used here to imply the form of pathological depression found in the manic-depressive psychosis.

As in mania, three degrees are recognised as assisting description: Simple melancholia; acute melancholia; and chronic melancholia.

The cardinal signs of the disorder may be recalled, as in melancholia it is found that the degree in which these characteristic signs are present varies so much that the clinical aspects have a greater range than in the corresponding manic phases.

In the emotional field there is *depression*, sadness, or a feeling tone of misery; in the intellectual field *difficulty of thinking*, or poverty of ideation; in the volitional field, *retardation*, inactivity, or irresolution. These are the manifestations characteristic of the depressive phase of the psychosis, and form the clinical entity described as melancholia. As in mania, mixed states occur, and one or two of the depressive features may be found combined with one or more of the manic signs. The general chapter on the manic-depressive psychosis furnishes the necessary description. As a rule, there are no delusions or hallucinations present, and many cases can be managed at home, though all authorities are not in agreement as to the advisability of home treatment. Great care must be taken by the physician in charge to estimate the exact degree of depression which is present. Several visits may enable a family practitioner to conclude that the depression is deeper than is at first evident. Serious signs may be withheld by affectionate relations and friends; even suicidal attempts are kept from the physician in attendance, who must make the most persistent and careful inquiry for himself.

ACUTE MELANCHOLIA.

ONSET AND ACUTE STAGE.

This condition presents the characteristic clinical features in the most typical manner. Simple and chronic states are merely fainter pictures of the signs and symptoms about to be described. It is helpful to think of three stages in the illness—the onset, the acute stage, and the stage of convalescence.

The prodromal stage of the acute form resembles simple melancholia, and is often confused with neurasthenia or hypochondriasis. The patient complains of depression, frontal or vertical headache, and insomnia. Increasing difficulty is expe-

rienced in application to business or any usual occupations. Irritability of temper is common, and the depression increases in severity throughout this stage. Appetite for food is lost, social duties become a torture, and some patients take alcohol in an attempt to remove their increasing difficulties in living normal lives. Very often there is a marked anxiety accompanied by a feverish activity, both due to an attempt to banish the underlying depression and incompetence. The patient may complain of curious epigastric sensations, a "sinking feeling" in the pit of the stomach; or præcordial pain and discomfort may be experienced, and give rise in the sufferer's mind to the idea that sudden death from cardiac disease is impending. Insomnia and worry over this will often lead the patient to conclude that life is no longer worth living. During the course of one to three weeks the signs and symptoms increase in severity, and the acute stage is reached.

Medical advice is generally sought towards the end of the prodromal stage—that is to say, at the beginning of the acute stage. The signs and symptoms will be detailed as physical and mental. The physical state of the melancholic is usually striking, and strongly suggests some toxic condition as being the causative agent. It must be clearly understood that the condition is at present considered psychic in origin, and the physical signs are therefore secondary to the affective state. Physical and mental signs are here considered separately merely for convenience.

PHYSICAL SIGNS AND SYMPTOMS OF ACUTE MELANCHOLIA.

The patient looks ill, and the general bodily health is invariably poor. There is a history of progressive loss of weight, and some patients become very emaciated. The complexion is pale, and often described as muddy. The tongue is thickly coated with a white or yellow fur, the temperature is subnormal, and the pulse rapid. The hair appears dry and a seborrhœic condition of the scalp is frequent, the hair falling out very readily. In some cases the hair stands erect, and cannot be controlled by the brush and comb. Secretions are decreased. Sweat is absent or very much diminished; examinations of the gastric juice show a marked deficiency of secretion, especially in the pepsin. It is probable that intestinal juices are deficient throughout the tract. Constipation is therefore marked, and fæces

are scanty, dry, and hard. The constipation in severe cases is so obstinate that scybalous masses have to be removed from the rectum by the finger. In spite of the expression of misery, tears are notably absent, though patients may sob and the features be distorted as in crying. Urine is very scanty and may only be passed once in the 24 hours; it is highly coloured and contains an increase of phosphates and urates, the specific gravity is high and the reaction acid. Urea excretion is raised, and the total nitrogen output increased. Glycosuria may be present in the earlier stages of melancholia. The secretion of milk is diminished or absent in cases occurring during the lactational period. In women amenorrhœa is the rule, and menstruation only appears in late convalescence or when chronicity is established. Male patients become impotent, and in both sexes appetite for intercourse is lost. Masturbation occurs in some patients, and appears to be a reaction on the part of the patient to the general feeling of misery. It is rarely a troublesome feature, but it does sometimes produce acute feelings of remorse and iniquity, and the understanding physician can often link up some of the common delusions of sin with old onanistic habits. Headache is complained of by many melancholics. Generally there is a sense of pressure over the vertex, and sensations of numbness in the head, as if the "brain were paralysed," are present both in the acute and convalescent stages.

Auscultation reveals nothing in the majority of cases. The apex beat is normally placed and there is no cardiac enlargement. The pulse is rapid, 80 to 100; when anxiety is present the pulse may be 120 or 130. The sphygmomanometer shows an increased systolic blood pressure, in contrast to the manic phases of the disorder. The pressure may reach 160 in quite young persons, and may be much higher in older subjects. During convalescence it is found that the systolic blood pressure falls steadily toward the normal. The circulation is poor in acute cases and the extremities may be cold and even blue. The melancholic is inclined to stand for long periods, and well-marked cedema of the feet and legs may result.

An examination of the blood gives little result. There is a diminution in the red cells, and the hæmoglobin index is lower than in health. Investigations are now being carried out on blood phenomena in mental states. The alteration in the white cell counts following the ingestion of milk after fasting, the so-called hæmoclastic crisis, seems to show specific changes in melancholia. The results are likely to be important, but the investigations are not at a stage from which definite conclusions can be drawn. Melancholics make frequent complaints of abdominal discomfort. An examination of the abdomen is usually negative, unless a loaded colon be found. The discomfort is partly due to digestive disturbance and partly to a nervous epigastric sensation.

Investigations into the disordered metabolism in psychotics show that cases of melancholia exhibit marked disturbance of sugar metabolism,

shown by a sustained hyperglycæmia after the ingestion of glucose. It seems certain that in melancholia especially the blood-sugar curves indicate a slow return to normal, which corresponds to the progress of convalescence. As yet no practical prognostic significance or special indications for treatment can be deduced from the experiments. But the digestive disturbances of melancholia are very real to the patient. Coupled with the loss of muscle tone in the intestinal walls and with the hyposecretion of the mucous membrane there is a definite weakness of the abdominal wall, made evident in an interesting way in the male patients who suffer from inguinal hernia. During the attack the hernia can be observed to get larger and so becomes a source of complaint by the sufferer. During convalescence the abdominal muscle tone improves, and the hernia resumes its normal proportions with corresponding relief. Delusions concerning the intestinal contents and functions are almost usual with melancholic patients. Food is distasteful to them, and is frequently refused altogether.

The muscular system of melancholics shows striking deviations from the normal. The facial expression is one of distress, misery, or even torture. The forehead is wrinkled by a contraction of the occipitofrontalis. Vertical wrinkles at the root of the nose are often very evident and persist for a long time, giving an expression of profound introspection. At the junction of the inner and middle thirds of the upper eyelid an angle often appears, creating a species of fold in the lid which is not normally present, and which disappears during convalescence. It is known as the fold of Veraguth. The corners of the mouth are turned down and the nasal folds are marked. Facial tremors are rarely seen.

The patient stands with bent trunk and head, the eyes downcast, and the thighs and legs flexed at hip and knee. The arms are held by the side and flexed at the elbow. Some cases show a restless activity of the hands, picking the nails or clothes, and even plucking the hair or skin of the face so that sores may result. Wringing of the hands is also seen, accompanied by anxiety and apprehension and a restless pacing to and fro. The gait of the melancholic is striking, movement takes place chiefly from the knee, the steps are short and deliberate. The melancholic handshake is typical. The hand is offered from the elbow with the upper arm adducted to the side. Very little movement of the hand is observed, and it takes place from the wrist, the hand being withdrawn almost at once. Muscular movements are slow and weak, and patients complain that their limbs are as "heavy as lead." The attitude of prayer is kneeling with bowed head and trunk, in a position of abasement. Stoddart points out that the condition resembles a mild double hemiplegia, with the rigidity and paresis taking place at the large proximal joints, the shoulder, and the hip. In severe cases there is no muscular movement, the victims lying in bed, and requiring everything to be done for them. This condition is seen in the cases known as melancholic stupor, to be discussed later.

Speech is slow, phonation is weak, and articulation careless. Questions are answered slowly, and the answers are monosyllabic. In stupor speech is absent altogether. Writing shows similar characteristics; it is difficult to get a melancholic patient to write at all, and when he does the calligraphy is altered and childish, the sentences often half finished, and the patient complains that writing is laborious. The deep reflexes are slow in response. When rest is being insisted upon the tendon reflexes are brisk, though equal on the two sides. Superficial reflexes are normal or less marked than in health.

Sleep is very much disordered. The melancholic gets his sleep in the later hours of the night. Dreams are terrifying in the acute stage. In the early days of convalescence it is a common experience to hear that a patient has been dreaming that he has regained his health. Sleep may be absent in severe states of stupor. The patient is always at his worst on waking, and feels unrefreshed. At the risk of repetition, the likelihood of suicide occurring after waking from sleep must again be mentioned.

Sensation is normal, though in melancholia a curious intolerance of noise is often found. Tests do not reveal any increase in auditory sensitiveness. The melancholic is curious concerning the noises in the house or ward, and often inquires anxiously as to their origin. Illusions of hearing not uncommonly result, and some cases get mild persecutory ideas as a sequel to the illusions.

Mental Signs and Symptoms of Acute Melancholia.

Perception is normal, orientation is usually quite accurate, and the melancholic does not confuse the identities of those about him. Advanced cases of stupor may appear to suffer from a dreamy clouding of consciousness, but on recovery such cases often show an unexpectedly clear knowledge of what passed during the stuporose phase. Attention is focused on the imagined disasters and misfortunes; volitional attention is poor and cannot be maintained. Instinctive attention is only obtained with difficulty, and distractibility is absent. An acute case cannot be "roused" and is never concerned with his surroundings or the doings of his fellow patients.

The acute depression is the outstanding clinical feature of the melancholic. Emotionally he is miserable and he experiences intense psychic pain. Good news does not affect him, and the best joke in the world would produce no answering smile. On the other hand, bad news has no effect either; the patients often complain that they have no emotions, no feelings, and experience a feeling of disintegration of the personality.

Some cases show the presence of anxiety. Accompanying the anxiety, and possibly causing it, will be found a sense of impending disaster, retribution for sin, or approaching dissolution. Such patients are restless; the symptom has been thought by some authorities to indicate the

presence of a manic pressure of activity, and the cases have been regarded as belonging to mixed states. But clinically they are best included in the depressive group and are described as instances of *agitated melancholia*. The nature of the delusions is such as to arouse apprehension or fear with its corresponding reactions. Another class of case showing anxiety carry their apprehensions a step further. The sense of impending catastrophe is so strong that every move threatens danger. When called in the morning these patients treat their nurses as if they were the messengers of death, and resist the daily process of dressing. Called to the bath they conclude they are to be drowned, and have to be undressed and bathed with the assistance of several attendants. Such cases are often dirty, and pass urine and faeces in their garments while standing in a ward or sitting-room. Fortunately they are uncommon, for the condition is intractable, and the prognosis poor. This type of case is termed *resistive melancholia*.

In the intellectual field ideation is paralysed to a remarkable degree. Association of ideas is retarded and patients find thinking laborious and painful. They complain bitterly that they cannot think, or that "thinking produces no results." This sluggishness of intellectual process is a prolific source of delusions. All activity is retarded, as we have seen in dealing with motor physical signs. But this symptom is very evident when volitional and instinctive activities are studied. Irresolution is present to a remarkable extent; a patient may wish to write a letter and will spend an hour between chair and table; or a female patient may feel a wish to take stock of her clothes, when she will stand for 30 minutes in front of her wardrobe before opening the door, and a similar period may elapse before a garment is removed, which will be left finally on the floor.

The social instinct is lost; there is no desire for games, for business, for sex interests, or even for food. Life may become abhorrent, and while all melancholics are potentially suicidal, some are constantly seeking an opportunity for self-destruction, and require the most rigid supervision. Such cases force their doctors and nurses to enter into what can only be described as a battle of wits to keep them alive.

Memory in melancholics is good, a fact which must be remembered by physicians, who should always be guarded in speech when dealing with acute states, even in stupor. Unkind remarks are rarely forgotten, and irritation, often very natural, should never be allowed to appear in the attitude of a doctor treating a melancholic.

Delusions and hallucinations are usual in acute melancholia, and must be regarded as accessory symptoms. Insight in acute states is lost and erroneous judgments are produced in an attempt to explain the paralysis of feeling, ideation, and volition. The delusions may concentrate on any of the cardinal features of the disorder. The melancholic may account for his misery by explaining it in terms of past sin, financial ruin, or desertion by God. Another patient focuses his thoughts on his bodily symptoms, and states that his limbs

are paralysed, or that his brain has gone. Others are impressed by the abdominal discomfort and constipation and believe that their bowels are never opened, that hopeless growths are causing obstruction, or that the intestines are gangrenous. Some believe that food will not pass down the gullet, or that they are unable to breathe. Senile cases (which are discussed elsewhere, p. 91) are particularly prone to believe in financial ruin, that their debts are colossal, and that there is no money to pay for their nursing and medical care. Patients with pronounced bodily delusions are often classed under the term *hypochondriacal melancholia*. The prognosis in these cases should be guarded, the outlook is not hopeful, and suicidal attempts are common.

Delusions of reference occur. Some patients believe that it is their fault that others are ill or die; in other cases they think that they "caused the war," and that their names will go down in history as the greatest powers for evil in human life. It is usual to find that the melancholic believes his misery to be deserved, but rare cases ascribe their condition to others, and develop mild ideas of persecution. Such patients will add that nothing is too bad for them, and suggest that persecution is right and proper.

Hallucinations of hearing, vision, and taste occur. Accusatory voices are heard, and in some patients illusions of hearing are evident, in which the talk of others appears as derogatory remarks of a personal nature. Some patients suffer the screams of their children in hallucination, or fancy they can hear the scaffold erected on which their execution will take place. Devils may appear at windows and grimacing fiends in corners of the room. Hallucinations of taste sometimes give rise to delusions of poison in the food. Compulsive ideas are not uncommon; for example, there may be a fear that harm is coming to husband, wife, or child, or that the sufferer will be forced into some disgusting sacrilegious act which will cut him off from the rest of mankind for ever.

Conduct of the case is governed by the symptoms. In milder cases something may be done to occupy the mind and banish the prevailing emotional tone. In most cases there is a fairly clear appreciation of the normal situations of life, and men often show business ability and acumen. But decision is painful and difficult, and in the patient's view whatever is said or done will always be wrong; word or act is just the one thing which the sufferer should have avoided saying or doing. It follows that treatment should aim at avoiding placing a patient in a position in which any decision is necessary. Habits are usually clean with the exceptions named.

Stuporose melancholia is the severest grade of an acute attack. The patient lies immobile, will do nothing for himself, and has to be spoon or tube fed. Most stuporose cases suffer from alarming hallucinations which can only be described during recovery. They may be incontinent. The acute stage may last days, weeks, or months, and passes into convalescence.

CONVALESCENCE.

Following the acute period it is found that a patient will every now and again have a "good day." He talks a little, sleeps longer, and his general appearance improves. Colour is restored to the lips, the skin clears, and the posture becomes more erect. The good days get more frequent and, most important of all, it is found that there is a steady increase in weight. This progressive increase in weight almost always indicates recovery. Hallucinations disappear, sleep improves, and the patient regains his social habits, and becomes anxious to take his place in normal life. Delusions do not always fade, and indeed it is common to find that resistive and hypochondriacal types do not rid themselves entirely of some of their insane judgments. Four to eight weeks are required for convalescence to become established. Some cases require longer, and in no case should any attempt be made to cut the convalescent period short. It must be remembered that a term of excitement may follow the depressive attack. Mild manic elements appear often, and a physician may have it reported to him that a patient recently recovered from depression has "never been so well," and has become the "life and soul of his family."

During convalescence there will be a desire on the part of physicians and friends to see the patient in normal surroundings, busily occupied, and generously entertained and amused. The desire is natural enough but must be resisted. More haste, less speed, is a certain maxim in convalescence after an attack of melancholia. An attack of melancholia is usually completed within six months or at the most a year. There are exceptions which last much longer and show that a hopeless prognosis should rarely be risked. As an example, the case of a lady may be cited, who after seven years of typical melancholia, accompanied by many signs suggesting chronicity, suddenly got well, and has since married and had two children without any further sign of trouble.

Melancholic attacks tend to be shorter in youth and to increase with age; after six months or a year there may be signs suggesting a chronic condition.

CHRONIC MELANCHOLIA.

The disorder resembles the acute state, except that the symptoms and signs are much less severe, and there is no progress towards recovery. In melancholia suspicion of chronicity may be aroused when it is found that the weight of a patient increases without a corresponding mental improvement. Psychic pain and distress disappear to a large extent, but the patient remains depressed in appearance and exhibits some of the physical signs to a greater or less degree. Sex characteristics in women disappear, hair grows on the face, the voice alters, and menstruation is very irregular and scanty. Dementia appears in time, but if provided with some interest and occupation chronic melancholics remain free from mental deterioration for many years.

Mixed states must not be forgotten when considering chronic melancholia; the appearance

of retardation and depression is not uncommonly associated with the manic press of activity. Such patients are restless and often write a great deal, though there is no flight of ideas, and depression and poverty of thought appear in the material written. Most chronic patients show at some time or another evidences of the manic phase. Acute attacks of melancholia may occur from time to time in the course of a chronic condition.

THE DIAGNOSIS OF MELANCHOLIA.

The examination of a patient suffering from depression should first be directed toward determining the possible presence of some cause, economic or social, which might account for the emotional state. Financial losses, bereavement, the contraction of venereal disease, or some other accident in life sometimes cause very marked emotional disturbance. As in mania the diagnosis will depend largely on a process of elimination. Addison's disease, myxœdema, hepatic conditions, and the climacteric in women are some of the physical disorders with which depression may be associated. Senility, the period of failing powers, may produce a depressive emotional reaction.

In making a diagnosis the sequelæ of encephalitis lethargica must be considered; depression is commonly present here, but the physical signs of the disease will be evident generally and there will be a history of the acute illness. Early cases of paralysis agitans may simulate melancholia, and some sufferers from this disease exhibit a very troublesome hypochondriasis. The Parkinsonian signs and the tremors will enable the diagnosis to be made clear. Epileptics may become acutely depressed, even to a suicidal degree. Some patients seem to suffer from depression and irritability as an "equivalent" for a major attack. General paralysis should always be borne in mind when depression occurs in early middle life. Paretics may be depressed throughout the course of the disease, but a careful physical examination will reveal the signs in the nervous system. The tabetic characteristics are often most prominent in depressed cases of general paresis. Dementia præcox patients, especially of the catatonic type, may be profoundly depressed, even to stupor. There is usually evidence of mental deterioration in dementia præcox, while the bizarre mannerisms and impulsive actions are suggestive of the disease. Grimacing and other antics are often detected during an examination, when the diagnosis from melancholia presents little difficulty. Neurasthenia and hypochondriasis require mention, and here the differential diagnosis from melancholia in the stage of onset may be troublesome. There is no retardation in either condition, and the depression is not so deep. The neurasthenic patient shows marked fatigability (see p. 42), insight is clear, and delusions of unworthiness are absent. The hypochondriac exhibits a characteristic eagerness in describing his bodily sensations, and in neither of these neuroses is there the interference with ordinary occupations caused by melancholia.

A careful history, both of the present attack and the previous life of the patient, should be the

first step in arriving at a diagnosis. Persistent inquiry often shows a suggestive family predisposition, and, in addition, periods of depression or elation of which little notice have been taken by the relations of the sufferer, but which possess much diagnostic value to the examining physician. A thorough physical examination must have special attention directed to the nervous system, but examination of the mental state may only require a few simple questions to expose the cardinal features of melancholia. When retardation of thought and depressing delusions are present the question of suicide should be quite openly discussed with the patient.

THE TREATMENT OF MELANCHOLIA.

Dangers of Suicide and Malnutrition.

Rest is the most essential part of successful therapy. All business cares must be abandoned, of necessity, in acute states. The practitioner will have to decide the question of the disposal of his patient, which often calls for anxious consideration. Treatment may be undertaken at home, in a suitable nursing home, or in a mental hospital. Where means are ample, a house may be taken and equipped with the necessary staff. The patient is often found to be in a state of irritation and annoyance caused by the lack of understanding shown by his family and friends. He has been exhorted "to pull himself together," and all sorts of means have been used in ill-advised efforts to rouse and amuse him. In acute states removal from home surroundings is usually the best course, and if suicidal attempts appear likely a suitable mental hospital is certainly the safest place. Certification may be necessary, but melancholic patients are much more tractable than manics, and may be quite willing to enter a hospital voluntarily.

The chief dangers in home treatment are suicide and lack of nourishment. Suicide must be guarded against by strict observation day and night. At least two nurses will be required, and it is much better to have three, so that relief is more easily arranged. All possible lethal weapons must be removed from the immediate environment of the patient. Such articles are razors, cork-screws, scissors, pocket-knives, the cords of dressing gowns and pyjamas, and poisonous drugs. Precipitation over banisters and stairs must be prevented, and keys and bolts removed from doors, especially those of bathroom and water-closet. If possible a melancholic is best nursed on the ground floor. Windows on upper floors must be provided with wooden blocks ensuring a limited opening. The clothing and surroundings of the sufferer must be regularly searched for contraband articles. After a fatal accident one is accustomed to hear from nurses that the patient was left "only a moment." Such moments must not occur. They are precisely the opportunities for which the patient is looking, and perhaps planning. The supervision may be relaxed at the discretion of the physician, and here a warning is necessary. A great many cases are nursed successfully through the acute stage

only to commit suicide during convalescence. It is during the period of recovery, when volition returns, and the emotional field is still very variable, that advantage may be taken of an over-early relaxation of vigilance. An ever-present difficulty in home nursing will be the task of persuading well-meaning friends that the patient is best with only the slightest occupation. The policy of "taking the patient out of himself" is sure to be advanced, often by a slightly manic relative, and must be combated in the interests of the patient.

The lack of desire for food may lead to actual starvation. This is a symptom that can be largely overcome by tactful nursing. Patients may have to be spoon-fed for weeks and months at a time. If the resistance to food is so great that loss of weight persists, the wisest course is to place the patient under legal care, when tube-feeding will be carried out without undue delay. Food should be mostly liquid or semi-solid during the acute stage. Milk, with cream and eggs, forms the staple article of diet. Milk puddings, fish, chicken, soups, and broths (not meat extracts), can be added if the patient will take them. At first alcohol should be avoided, but it can be prescribed during convalescence. A more liberal diet can always be given if the patient seems able to digest well, but the digestion is sure to be much disturbed, and it may be necessary to peptonise food. The physician should not be satisfied with the progress of the patient until there is consistent gain in weight, and food should be increased in amount until the weighing machine records a weekly gain. Fresh or stewed fruit can be given, and should be accompanied by plenty of sugar and cream. Cocoa is useful, and an extract of cod-liver oil and malt will often produce satisfactory results. Meat should be given sparingly, and it will be found that melancholics often refuse it, probably rightly. A tonic draught containing nux vomica, and acid. hydrochlor. dil. half an hour before meals may assist the appetite.

Constipation will require energetic measures. A digital examination of the rectum is often a wise precaution, and should be done at once if diarrhoea appears. Large enemata of soap and water may be necessary during the early stages of the treatment. Some patients do well with an oil enema; half a pint of olive oil is the most suitable injection, and the patient should be instructed to retain it as long as possible. A regular evening pill must be followed by a liberal saline draught in the morning. While the constipation may be treated on general medical lines, it will be found that melancholics require larger doses of purgatives than are necessary in practice among the sane. Liquid paraffin and other lubricants seem to upset the melancholic and are of little use.

Massage is a useful adjunct to treatment. It should be carried out daily, and the abdomen should receive special attention. Treatment of the head and neck may induce sleep and relieve the headache. Faradism is often beneficial, especially in the stuporose form of melancholia. Artificial sunlight, or exposure to the ultra-violet rays, evidently has some influence on general

health, and may assist in cases which hang fire, especially during convalescence.

The insomnia requires consideration. As far as possible hypnotics should be limited, but it is better to use them freely than to permit a patient to remain without adequate sleep. Prolonged warm baths in the evening help some patients greatly. The melancholic requires more bed-clothing than the healthy person to keep him warm, a fact often overlooked; but cold extremities alone suffice to cause insomnia, and mittens, bed-socks, and warm (not boiling) bottles should be supplied if required. Insomnia in senile cases is often easily overcome by a small glass of hot milk to which an ounce of whisky is added. In younger subjects a dose of one or two drachms of paraldehyde is harmless and often efficacious; this may be repeated if necessary during the day. Agitated cases respond well to half drachm doses of liquor morphinæ bimeconatis given three times a day. Not only does it give sleep, but it also reduces the restlessness. Bromides are best avoided, and if used should be administered in a single dose of 20 or 30 gr. at night. Sulphonal, so useful in mania, is contra-indicated in melancholia.

Physical examination often shows some septic condition in the mouth, accessory sinuses, ears, or throat. Adequate treatment should be recommended, and good results hoped for. If teeth require extraction it should be done in stages, and a clearance at one sitting avoided. It is doubtful if any severe operative measures should be entered upon during the acute stage unless convalescence is unduly delayed. There is a temptation to ascribe the depression of manic depressive melancholia to intestinal sepsis, pyorrhœa, bacilluria, and similar conditions. The psychosis is at present regarded as psychic in origin, and the bodily symptoms keep pace with the affective state. Heroic measures, such as removing the colon, bladder lavage, and repeated interference with ears, nose, and throat impose stresses on an individual least able to stand them. Any condition likely to depress the standard of general health should receive careful attention. Experience teaches that while some melancholics respond well to the removal of chronic infection others remain unimproved.

Attention has been drawn to the seborrhœic manifestations often met with in melancholia. The writer has found that one drachm doses of sodium bicarbonate given three times daily not only improve the physical health, but some relief of the depression and headache may be expected.

Open-air treatment—rest in bed in a garden or verandah—will sometimes work wonders. The patient requires plenty of clothing. Some may be allowed to dress, provided they recline in the open air during the day, and this concession may be helpful when hostility to bed treatment is very pronounced.

As improvement occurs permission to get up for a few hours may be given, the nursing attention being unrelaxed. By degrees, if progress is steady, the patient may be up all day, and undertake simple tasks and occupations. Walks and drives may be enjoyed, and some measure of parole given.

Relapses are frequent, and a return to bed treatment is advisable when they occur. Later convalescence is aided by a change to seaside or country. Mountainous districts and gay resorts should be discountenanced.

There are methods of treatment which depend upon the induction of bodily illness, it being well known that mental disorder may improve during the course of a fever or other malady. Treating the patient with increasing doses of thyroid extract, by injections of nucleinic acid or sodium nucleinate, produces a pyrexia and marked leucocytosis, and the patient has the appearance of having contracted some bodily illness. The treatment is continued as far as is consistent with safety. After the physical symptoms disappear mental improvement may occur and the patient proceed to recover. The mechanism is not understood, but there is no doubt that when melancholia appears likely to become chronic every avenue of treatment should be explored.

The question of abortion may be raised in cases where melancholia is associated with pregnancy. On investigation many such patients will be found to suffer from depression on account of an undesired and unlooked-for event. This is especially marked in the situation psychosis of single women. But true melancholia does occur during pregnancy, and apart from the eugenic aspect, which cannot be considered in the present state of the law, there is generally no reason why the pregnancy should not proceed to term. Interruption of pregnancy may actually aggravate the depression, on account

of the reproaches the patient levels at herself; prompt treatment will possibly promote recovery before delivery. Consultation with a medical colleague and a careful sifting of the circumstances is most necessary in cases which raise this issue.

AFTER-CARE.

After recovery from melancholia the advice of the practitioner may be sought on the social matters already discussed under the treatment of mania, and the suggestions there made hold for melancholia.

Both in mania and melancholia an opinion concerning treatment by psycho-analysis may be requested from the physician. While much is obscure, several points are clear concerning this method of treatment. Analysis is best done between the attacks, and for many reasons should not be attempted at a mental hospital or other institution. Further, results do not, so far, appear to be good. But analysis carried out by a competent physician may enable the circumstances in which breakdown occurs to be elucidated. It follows that the risk of future attacks may be minimised by making such adjustments in the life of the patient as will remove, so far as that is possible, the factors producing relapse into psychosis.

"Take-a-trip therapy" is positively harmful and should never be prescribed when a manic-depressive melancholia has been clearly diagnosed. It would be hard to imagine a more dangerous occupation for a melancholic than exhausting travel and sight-seeing.

CHAPTER XXIV.—THE CHRONIC HALLUCINATORY PSYCHOSES.

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Clinical Picture.—Ætiological Factors.—Diagnosis.—Home and Institutional Treatment.

DEFINITION.

THE chronic hallucinatory psychoses include a comparatively small group of mental disorders which are characterised by a prominent hallucinosis with relatively little disturbance of the mind in other directions. Although the disorder may manifest itself at any age after adolescence, it is most commonly found in its pure type in the years of approaching maturity between the ages of 30 and 40, and, once established, it is chronic and persistent. There is no special sex incidence and no pathological basis has yet been found to account for the condition.

CLINICAL PICTURE.

The onset is insidious and often six months or more may elapse before the patient comes or is brought to the physician. If he comes of his own accord it is usually because he feels that he is desperate at the course events are taking for him and that he must obtain help at any cost. If he is brought by his friends it will be found that his behaviour has given rise to comment and that he is becoming difficult to tolerate as a member of a social circle. The patient, who may be perfectly normal to all outward appearance, complains that he can hear voices which, by their persistence and volume of sound, are seriously interfering with his capacity for business and relaxation. Commencing as a faint and almost inaudible whispering which he could almost regard as fanciful and negligible, the voices have increased in volume until, as it appears to him, they are shouting into his ears; and whereas at first the disturbance was rare and infrequent, he now suffers a continual din through the whole of his waking life. Wherever he goes and whatever he may be doing the voices follow him about, and he finds it impossible to concentrate on anything else, whether it be business or pleasure. Often he will add that he feels he will become insane if nothing can be done to relieve him.

A physical examination reveals nothing beyond some evidence of long-continued stress and anxiety. There will be insomnia, indifference to food, and loss of weight. In some cases of long standing there will be indications of neglect and inattention to personal habits of cleanliness or dress. From being smartly turned out the patient will have become slovenly, the teeth will be dirty, the tongue will show signs of neglected constipation. Either

from the patient or his friends there will be forthcoming a statement of gradually increasing self-absorption and depression with sporadic attempts to recapture the pleasures of a social existence, the final state being one of the abandonment of effort in that direction and the acceptance of a solitary restlessness. Often the patient will have consulted his private medical adviser for "nerves" without disclosing the true nature of his symptoms, and rest cures and travels may have been undertaken without result.

Psychological investigation shows that the patient is fully orientated in time and space, he is perfectly cognisant of affairs and matters of personal and public interest, and is quite competent to discuss them intelligently. There is no confusion of thought, the patient makes no mistakes of identity, nor is the memory impaired to the slightest degree. He shows no change in his general sentiments, his ties of affection and interest are still as binding as ever. There are no secondary ideational developments in the nature of delusions, and the affective state is just what would be expected according to the temperament of the patient—a certain degree of depression with either anxiety or irritability.

In contrast with this clearness of thought and apparent integrity of the mental processes in general the hallucinations stand out vividly. It is always a matter for surprise that an individual with so clear a grasp of reality and so competent a judgment should accept the existence of the "voices" so unhesitatingly, the clinical picture in this regard being paradoxical. At first it may be difficult to induce the patient to relate the nature of the communications made to him, but when his confidence is fully obtained it will be found that the hallucinosis is systematic and persecutory. The voices appear to know all about him, they relate incidents of his past which he had hoped were secret to himself, they anticipate and follow the thoughts which run in his head. Sometimes there is but one voice, at others there are many. Some patients recognise the voices as belonging to individuals who have exercised some sway in their lives, but who have since died. Other patients accept the voices as from total strangers.

Two General Types.

The hallucinosis is found to occur in two general types. In the one the patient is reminded of and

taunted with past misdeeds, while in the other he is commanded to perform unpleasant or futile actions of a ritualistic nature. Thus, one patient is abused, called filthy names, accused of lying, cowardice, masturbation, or some similar irregularity, while another is reviled, abused, and commanded to kneel down, to bow the head, to walk in a certain manner, and so on. The utter impossibility involved in the statements that the voices are proceeding from the walls and ceilings of apparently empty rooms, that a complete knowledge of the patient's affairs is disseminated wherever he goes, is put entirely on one side; it suffices that he hears the voices and therefore must accept, no matter how conflicting, the evidence of the senses.

For a time it may be possible to induce the patient to tolerate the hallucinations and to submit himself for treatment, but sooner or later the emotional stress becomes more than he can control and he passes into a condition of acute depression. This may take the form of an active restlessness, the patient wandering about aimlessly, sometimes replying to the voices or uttering exclamations of despair, or a passive stupor in which the patient lies motionless for hours on end, muttering to himself at times but otherwise showing no animation. In either condition he is quite irresponsible for his actions and quite unreliable. He makes no attempt to attend to his natural wants, he commonly refuses to eat and resists any effort to feed him, and he is intensely suicidal. The greatest precautions are necessary if he is to be prevented from injuring himself. During this phase of depression the voices alter and encourage the suicidal and antisocial attitude. The patient may be commanded to throw himself out of the window, to cut his throat, or to attack others, or, in a certain type of case, the commands may be towards self-mutilation, to tear out the eye, to bite the arm, or to mutilate the genitals.

As is only to be expected, the physical health suffers considerably in this phase of the mental illness, and, not infrequently, the general resistance is so lowered that some intercurrent disorder such as tuberculosis or broncho-pneumonia arises and proves fatal. But if the general health can be maintained, then in the course of a few months a mild dementia sets in, preceded by a toxic confusion of mind. The patient will gradually become more childish and therefore more amenable. The voices persist but do not appear to distress the patient; he is able to take a little more interest in his surroundings, and his general conduct permits of a much greater latitude in the way of freedom of action. Some cases recover sufficiently to warrant their being allowed to go home to the care of friends, but there is never the possibility of the patient returning to business or to take up any social position again.

ÆTIOLOGICAL FACTORS.

The psychoses occur in individuals who have shown some eccentricity or instability, and commonly there is a family history of mental or nervous disorder. In the actual state of mind of the patient

the condition bears a strong resemblance to the obsessional state or psychasthenia. In both the patient is fully cognisant of his surroundings and capable of forming judgments, but there is interference with the conative flow and the patient cannot exercise his will. In the psychoneurosis the interference appears to the patient to come from within—he cannot make up his mind as the ideas come up into his head, while in the hallucinatory psychosis the troublesome voices come from without. This somewhat superficial resemblance, however, possibly has a deeper significance, for in my experience it not uncommonly occurs that the obsessional case passes on into the more grave disorder.

Toxic and exhaustion factors act as precipitating causes in the predisposed individual, but they can no longer be accepted as primary determinants. In the past it was customary to inquire for a history of alcoholism in all cases of chronic hallucinosis, and the older text-books described the condition as one of the alcoholic psychoses. It is abundantly clear, however, that the alcoholic history in pre-war days was symptomatic. No man has more cause to drown his sorrows than he who cannot escape from himself, and of such the patient suffering from the chronic hallucinatory psychoses affords the extreme case.

DIAGNOSIS.

The disorder belongs to the biogenic group, and takes an intermediate position between the schizoid and the syntonetic psychoses. It commences with a schizophrenic mechanism, a splitting up of the personality, and is to be differentiated from the other schizoid disorders such as paraphrenia or dementia præcox (see Chapters XVII. to XIX.) by the fact that there is so little general disturbance of the mind and no delusional formation. In the paraphrenias the hallucinations always come to take a subsidiary place, the delusional developments—the persecutory schemes and the grandiose ideas—assuming all the importance. With the hallucinatory psychosis, even when delusions of unworthiness may arise during the depressive phase, they never occlude the hallucinations.

From the schizoid the condition passes to the syntonetic class as the depressive phase develops. Without a knowledge of the preceding events in this phase the condition is difficult to differentiate from the primary depressions or melancholia; indeed there is little doubt that a more careful discrimination would reveal a number of unrecognised cases of the hallucinatory psychosis among the melancholias.

At times there may be some difficulty in distinguishing between the hallucinatory psychosis and the toxic psychosis, particularly where toxic factors are present to any extent. The systematic nature of the hallucinosis and the absence of confusion should suffice to make the diagnosis clear in the great majority of instances where the difficulty arises, and for the rest the course of the condition will quickly decide the matter. The diagnosis from hysteria should present no difficulty if it be

remembered that the patient suffering from chronic hallucinations may, like any other individual, behave hysterically at times. In any case a brief period of observation will resolve any doubt.

HOME AND INSTITUTIONAL TREATMENT.

The treatment and management of the case of the chronic hallucinatory psychosis can best be dealt with according to the phase of the disorder. In the early stage a great deal can be done to promote the comfort of the patient by alleviating his anxiety and by making him realise, as far as possible, that his condition is due to illness as much as any physical disease. If he can be persuaded to enter a mental hospital voluntarily a great deal of trouble can be saved, and if the conditions are suitable the progress of the disorder can be greatly retarded. Careful attention should be paid to the general health, the patient should be made to take exercise, to get out into the fresh air, to eat, and so on. Any tendency to insomnia should be combated with whatever means may be available. It is a useful measure to keep the patient on a mixture such as the following:—

R.	Am. brom.	..	..	gr. xv.
	Sp. am. aromat.	..	..	℥ xv.
	Liq. arsen.	..	..	℥ ii.
	Aq. chloroformi	..	..	ad ʒi.
	Sig. ʒi. t.d.s.			

The amount of the bromide to the dose can be varied as occasion demands, and chloral hydrate up to gr. xv. can be added if the patient becomes agitated and restless.

Apart from general reassurance there is little to be done psychologically. Analytic methods are of no avail in these cases, nor are the hallucinations amenable to suggestion in any form. If the patient will not submit himself to institutional treatment voluntarily, then the relatives and friends must be warned of the danger of impulsive actions or suicidal attempts which are likely to occur. It is at this stage that attempts at home treatment are liable to break down. As far as possible the patient should not be left alone night or day, and while doing all he can to promote the comfort of the patient the physician should realise

that it is his duty to get the patient under certificate at the earliest opportunity—i.e., as soon as his conduct will justify the step.

As the condition develops and the depression becomes at all marked there should be no hesitation as to certification and commitment to a mental institution. Every day that the patient remains at liberty a serious risk is run. With the onset of the second phase very special nursing conditions and attention are necessary, such as can only be obtained in the mental hospital. The most elaborate precautions against suicide must be taken, even to the extent of removing articles of clothing which might be torn and converted into strips. In the author's experience a patient of this type was once left alone for a few minutes with the daily paper. When the attendant returned his charge was black in the face and the remains of the paper could just be seen at the back of the pharynx whither they had been forcibly inserted. Only very prompt action and artificial respiration saved the suicidal attempt from success on that occasion. The treatment of the acutely depressed patient often becomes a struggle between the nurses on the one hand, who are attempting to save the life of the patient, and the forces of dissolution on the other, exhaustion, starvation, low resistance, &c., with which the patient seems to ally himself.

In the third stage, that of dementia, if the patient survives, the treatment and handling of the case depends greatly upon the individual patient. Once it has been decided that the definitely suicidal impulses have subsided, much more freedom of activity may be permitted. In some cases the patient may be allowed to go home to friends or relatives for a time or even for good in favourable instances. The administration of mild sedatives or of the bromide mixture already described may be found to make all the difference in enabling the patient to maintain self-control. In cases where the dementia is at all gross the patient will necessarily remain under institutional care indefinitely, but it is not uncommon for a patient to be able to take up life in a quiet way and to obtain a good deal of satisfaction from the living even after suffering from so severe a psychosis as is that which has been here described.

CHAPTER XXV.—TOXIC OR CONFUSIONAL PSYCHOSES. ENDOGENOUS GROUP.

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Endogenous Toxic Psychoses.—Nephritis.—Diabetes.—Reproductive System: Insanity of Pregnancy, Puerperal and Lactational Insanity.

GENERAL CONSIDERATIONS.

THE better understanding of biochemical processes, which has been such a feature of recent medical progress, has not unnaturally directed increased attention to the part played by circulating toxins, of endogenous or exogenous origin, in disturbing the functions of various organs, including those of the brain. It has been, perhaps, also responsible for some premature conclusions in regard to cause and effect as well as for the popular and loose application of words such as "toxic" and "auto-intoxication" to morbid conditions in which the relationship between the presence of poisonous substances and the clinical picture is by no means simple or easily defined. Psychological medicine would be much simplified if experience had taught us that the action of particular poisons on the nervous system produced constant results and that the causal agent of a toxic psychosis could be recognised by the clinical features for which it was responsible. Unfortunately, this is very far from being the case, the nearest approach to such an ideal state of affairs being the frequent association of chronic alcoholism with what is known as Korsakow's psychosis (see p. 122). Even so the presence of the latter syndrome can hardly be regarded as sufficient by itself to convict a patient of excessive indulgence in alcoholic beverages.

Remembering the great variations in the patterns presented by healthy human minds and the different ways in which they respond to the events of everyday life, little surprise should be occasioned when we find that the psychological reaction of one individual to a specific poison bears but a faint resemblance to that of another.

The psychoses associated with poisons, therefore, are not in any way characteristic, and other factors, such as heredity, anxiety, and environmental influence, must play a very considerable part in their production and in the determination of their type.

NEPHRITIS.

Failure of renal function is very commonly associated with some degree of mental disturbance varying from slight confusion and disorientation to profound and often fatal coma. In cases of acute nephritis an increasingly high blood pressure may be associated with mental depression and headache followed by confusion, not infrequently accompanied by transient auditory or visual hallucinations. When treatment is unsuccessful in restoring excretion those symptoms may be replaced by somnolence passing on to stupor,

interrupted, perhaps, by general or local epileptiform convulsions.

Chronic renal disease in patients with arteriosclerosis or high blood pressure is often associated with persistent depression and progressive impairment of memory. "Folie Brightique" is a more severe psychosis of the same origin and is characterised by delusions of persecution, profound melancholia, and suicidal tendencies. Patients with this condition generally require treatment in a mental hospital.

Forming another interesting group are the cases of unsuspected chronic renal disease in which a rapid cardiac failure and fall in blood pressure is accompanied by severe mental disorders in the shape of insomnia, excitement, motor restlessness, and excessive garrulity. These patients may become acutely delirious and die in the course of a few days. More commonly the mental symptoms of uræmia are preceded by some physical disturbances of nervous origin such as headache, giddiness, paræsthesiæ of the extremities, intense itching, and cramps, chiefly in the calf muscles. The complaint of these discomforts should arouse suspicion of latent uræmia and demands a careful investigation of the patient's renal function.

As regards treatment, it is hardly necessary to state that patients suffering from mental disorders of uræmic origin are more likely to derive benefit from dietetic regulations and from measures directed to the promotion of excretion than from psycho-therapy.

DIABETES.

It is generally stated that glycosuria is not common among the inmates of asylums, although it is well recognised that cases of diabetes and of insanity are apt to be found together in families of neuropathic taint.

Patients suffering from glycosuria are prone to become depressed, irritable, anxious, and hypochondriacal, and the term glycosuric insanity has been applied to a small group in whom these symptoms are so intensified that refusal of food and suicidal attempts become part of the clinical picture. In certain cases the excretion of sugar ceases with the full development of the mental disturbances. Successful treatment of the glycosuria is usually attended by improvement in the patient's mental state. With severe acidosis the onset of dyspnoic coma, although often occurring without warning, may be heralded by great restlessness and irritability as well as by dyspepsia and abdominal pains.

REPRODUCTION.

Activity in the reproductive organs of women has long been recognised as an important ætiological factor in relation to mental disorders, and it has been the custom to describe three separate forms in accordance with the time of their appearance—namely, (1) insanity of pregnancy, (2) puerperal insanity, and (3) lactational insanity.

None of these has any characteristic features, although the morbid ideas of the patients may be coloured to some extent by emotional disturbances associated with childbirth, its antecedents and sequelæ. Among the ætiological factors concerned with the insanities of the reproductive cycle heredity looms large, and a direct transmission of the liability to mental disturbances of this kind from mother to daughter is sometimes observed. It is stated that primiparæ over 30 years of age are particularly subject to this form of illness. Among the more potent psychological factors may be mentioned illegitimacy, desertion, or death of husband, and a history of previous mental disturbances.

Insanity of Pregnancy.

It is notorious that any woman after conception may develop sundry alterations in her emotional outlook, her appetites, and her instincts. During the period of morning sickness some anxiety and associated insomnia are not uncommon and cannot be regarded as really pathological. An exaggeration of these symptoms constitute the insanity of pregnancy. The patient becomes depressed and suspicious, jealous of her husband, and generally apathetic in regard to her former interests. A tendency to hallucinations and suicide is by no means uncommon, and this condition, especially when accompanied by a refusal to take food, demands very careful treatment and skilled nursing. Under favourable circumstances the large majority of these patients recover and the prognosis is generally regarded as more favourable the earlier the onset of symptoms after conception. When mental symptoms appear before the fourth month of pregnancy they may subside at the time of quickening; if later they are apt to persist for some months after the child is born. The question of emptying the uterus for the benefit of the mother's mental health is one which may arise, but it must be remembered that premature delivery has not usually been attended by immediate improvement from the psychological standpoint. In severe cases it must not be forgotten that spontaneous delivery without warning and without any acknowledged pains may occur and may be followed by attempts at infanticide.

Puerperal Insanity.

This term is applied to cases arising within six weeks of childbirth, although practically the large majority develop within a fortnight of that event. It may or may not be associated with puerperal sepsis, and is often accompanied by pyrexia even without evidence of septicaemia. A typical example has been well described by the late Sir Thomas Clouston in the following words:—

"The symptoms come on very suddenly and run up to a high point of intensity within a very few days,

sometimes within a few hours. The new mother, and the disease is most frequent in primiparæ, changes in facial expression, looking self-absorbed and dull. At the most altruistic of all times of life she becomes egoistic; the time when the life of another human being absolutely depends on the mother, and the time of the intensest emotion seen in nature, that of a mother towards her sucking child, becomes a time of neglect, and even in some cases of homicidal impulse towards her helpless offspring. The mother does not notice the child, or ask for it. She does not readily answer questions; she does not eat; she does not sleep. She becomes restless, incoherent in speech, full of fancies, and expresses foolish dislikes to those about her; she soon begins to chatter or to scream, and in no long time her mental condition is that of an acute delirium. She needs to be held in bed, and exhibits great strength and great tendency to violence. The suicidal impulse is present in 40 per cent. of the cases and must be thought of and guarded against most carefully; the nurses being warned of their responsibility. The bodily signs by this time are well marked; the temperature has risen to 100°, or, in the septic cases, even to 105° F.; the eyes are brilliant and feverish-looking; the lochia have stopped, sometimes becoming septic before disappearing; the pulse is small and thready; the face is haggard, though perhaps flushed; the skin is moist and clammy; the lips and tongue soon get dry. There are, in fact, combined together an intense mental disturbance, a great motor perturbation, and an organic state of dangerous exhaustion. Such a combination means much danger to life and requires all the suitable nursing and treatment that can be instantly applied."

Treatment does not differ materially from that of any other acute maniacal condition, except in so far as additional measures may be necessary in pelvic or mammary complications. Plenty of food, if necessary by the nasal tube, warmth, and rest are the main requisites. Sedatives, such as sulphonal, paraldehyde, and sometimes alcohol are useful.

There is considerable variation in the course taken by these cases. There may be a transitory acute mania with an onset very shortly after childbirth and complete recovery within a week or two. In other instances there may be very marked remissions giving rise to hopes of quick recovery doomed to prove unjustified. Speaking generally, the earlier the onset the more acute are the symptoms and the more rapidly does the disease reach its maximal point of intensity. This period of acute mania may be followed by one of depression and apathy lasting many months. Complete recovery takes place in from 75 to 80 per cent. of all cases. The patients who die are those who become exhausted by the acute delirium and perhaps by septic complications.

Lactational Insanity.

These cases are more common among the poorer classes of society—that is, among women whose prolonged period of lactation is often associated with hard work and insufficient nourishment. The disease generally presents itself in the form of a subacute melancholia with self-depreciation, ideas of unworthiness, and delusions. Physical disturbances in the form of headache, attacks of faintness or vertigo, and general asthenia are common.

The chief indications in the way of treatment are cessation of suckling, plenty of nourishment, fresh air, and rest. Recovery is likely to be complete in an average time of about three months.

CHAPTER XXVI.—TOXIC OR CONFUSIONAL PSYCHOSES.

EXOGENOUS GROUP: ACUTE CONFUSIONAL INSANITY.

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Onset.—Physical Signs.—Mental Symptoms.—Ætiology and Diagnosis.—Prognosis.—Treatment.

ACUTE confusional insanity may appear in association with a great variety of causes. Many of them are infections or poisons, and the exciting cause of the disorder is fairly obvious. Profound disturbance of consciousness occurs in many febrile states and is known as *delirium*. Confusion is difficult to differentiate from delirium. One may see a patient suffer from severe delirium during the course of a pneumonia which persists when the pneumonia clears up. On the other hand, confusional insanity may occur without obvious bodily illness, and is said to result from exhaustion, emotional shock, or worry. The rôle of exhaustion is a very doubtful one, and is perhaps a cloak used to disguise our uncertainty. Overwork, both physical and mental, is a commonly accepted cause of confusional insanity, again with very little evidence to support it. The term is often a euphemism used as a covering for less reputable factors. In the Great War large numbers of men were subjected to severe physical stress, accompanied by anxiety and mental and bodily discomfort, with no obvious increase in the incidence of confusional insanity. The disorder may follow a septic finger in one individual, while another will pass through a severe illness such as typhoid without any mental symptoms. This has been explained by assuming that there must be some congenital predisposition in the sufferer. Such a hypothesis may approach the truth: that the "exhaustibility" of some patients is a morbid inheritance.

While much is not yet understood, there is no doubt that some persons do react to illness and toxic infection in terms of a psychosis, which may be one of the well-known individual disorders, or the entity now to be discussed as confusional insanity. Death is a common result of the excited delirious type of the disorder. Post-mortem examinations generally show definite brain changes, general congestion of the meninges, and œdema of the pia-arachnoid. Microscopic investigations show that there is a perivascular invasion of leucocytes in the brain and some definite degeneration of the nerve cells, demonstrated by chromatolysis, and displacement of the nuclei. Throughout the organs changes commonly found in toxæmias are present—cloudy swelling or fatty changes. Further, the pathological accompaniments of an exciting disease

such as typhoid may be present. A post-mortem conducted on a case of acute confusional insanity often reveals an unsuspected source of infection, especially an apical pneumonia, a subacute endocarditis, or unrecognised renal disease. We shall proceed to describe the physical and mental signs and symptoms, and then consider the diagnosis with the long list of ætiological factors which may be present, the prognosis, and treatment.

ONSET.—PHYSICAL SIGNS.

Symptoms may appear very suddenly and the conduct of a victim may become disordered so rapidly that medical assistance is requested early in the course of the disease. Mental confusion shown by mistakes made in the identities of relations and friends, misplaced hilarity, or the appearance of hallucinations, are some of the common histories given to the inquirer. Most cases commence with a period of insomnia, loss of weight, irritability, and motor restlessness. It is not possible to give any exact information concerning the onset of acute confusional insanity. It must necessarily vary according to the underlying cause. It is well to bear in mind that symptoms may appear with great rapidity.

The general bodily state is usually poor. The complexion is pale and there may be evidences of seborrhœa. The tongue is coated, the breath is offensive, there may be tremors of the fingers, often considerable emaciation, with constipation which is sometimes very obstinate. The pulse-rate is increased to 80 or 100; a very rapid pulse is not usual. The blood pressure is low except in those cases associated with cerebral arteriosclerosis, when it may be high. The deep reflexes are brisk, the pupils dilated, though they react normally to light and accommodation. A noteworthy feature of the examination of the nervous system is the presence of analgesia in the limbs. Insensibility to pin-prick can be demonstrated in the distal regions of all four limbs. Pyrexia may be present but the temperature is mostly sub-normal. When the symptoms are associated with some specific disease fever is naturally present. The secretion of urine is diminished, is highly coloured, and may contain albumin. Menstruation is frequently absent, or at any rate irregular and scanty.

MENTAL SYMPTOMS.

The cardinal feature is the presence of *confusion*. This may be severe or comparatively slight, but is always present. The patients are lost in time and space and do not recognise those about them. They cannot state the day of the week or the year. They may mistake their own homes for a church or a cinema. Married people will think themselves single again, and patients are unable to remember the more recent events of their lives.

Hallucinations are nearly always present. They may occur in any or all the senses. The patients hear voices, see devils or animals, feel vermin upon their skins, taste poison in their food, or smell strange odours in the house. In the confusional states associated with alcohol and nephritis, interesting visual hallucinations are sometimes seen, known as Lilliputian hallucinations. The patient describes small, brightly dressed men, women, and animals, 2-5 cm. in height, which amuse and interest him by their activities. There is a great disturbance of perception, memory, and cognition, and with the accompaniment of hallucinations it is not surprising to find that fleeting delusions arise. The patient may feel himself the centre of a plot. His room is a prison, his nurses are executioners, his food is poisoned, and the newspapers are fakes. He may feel that he must be at Scotland Yard by a certain time or some public calamity will result. Such ideas are met with in those cases in which anxiety and apprehension are present. Generally speaking, the emotional state is one of mild depression, some patients being stuporose. Others are hilarious and elated. Singing and shouting is uncommon but may occur. The mood is usually changeable and a period of excitement may be followed by stupor and vice versa.

Motor restlessness is an almost constant sign. Patients may roll about the floor or hammer on walls and doors with their fists. It is difficult to keep them in bed, their coverings are in a state of disarray; many patients are destructive and tear up bedding and clothing. During the acute stages the sufferer is often wet and dirty. Spitting and smearing the room with urine and faeces is quite usual. Immodesty and obscenity in speech and action is sometimes a prominent sign. Masturbation may be constantly performed, especially by males, and is an unfavourable element on account of the exhaustion it can produce. Medicines and food are refused, and it may be necessary to resort to tube feeding.

Conversation is usually quite incoherent and lucid intervals are rare. There is a poverty of ideas which is well shown in the early stages of convalescence when patients may try to write letters. Well-educated persons produce childish letters, repeating the same sentence, and covering the paper with an untidy misspelt scrawl much defaced by blots and erasures. Sleep is poor and obtained in snatches, which may be enjoyed both by day and by night.

This brief summary of the clinical picture will serve to guide a practitioner in the recognition of confusional insanity. Several varieties are described

but are hardly necessary for the general student to know. What must be remembered is that the disorientation in time and space, together with hallucinations of the senses, nearly always occur in greater or less degree. The confusion may be quite slight, or may be so severe that consciousness is well described as being "clouded." Clouding of consciousness is invariably present in the delirium of fever.

ÆTIOLOGY AND DIAGNOSIS.

Given the condition described above as confusional insanity, how is the practitioner to arrive at a diagnosis? It is in these cases that careful examination and investigation by every means known to medicine is so essential. For this reason the list of conditions with which confusional insanity is associated has been left until now, a consideration of a possible underlying cause being of the first importance when diagnosis and treatment are discussed. The following conditions may be associated with acute confusion:—

Infections.—Influenza, pneumonia, rheumatic fever, scarlet fever, typhoid, septicæmia, erysipelas, endocarditis, malaria, phthisis, and intestinal toxæmias.

Childbirth.—The toxæmias of pregnancy, puerperal sepsis, post-partum hæmorrhage, prolonged lactation.

Poisons.—Alcohol, cocaine, bromides, belladonna, chloral, veronal, lead, ptomaine poisoning from food.

Operations.—After severe hæmorrhage, post-anæsthetic toxæmias.

Uræmia, Diabetes, and severe anæmias.

Cerebral Conditions.—Tumours, abscess, encephalitis, cerebral arteriopathies, specific or non-specific.

Exhaustion resulting from excessive mental or physical exertion, starvation, or emotional stresses.

It must be remembered that the course of any acute psychosis may be obscured by confusion if exhaustion is severe or some intercurrent infection is acquired. No attempt is made here to consider this list in detail. Many of the conditions are discussed elsewhere and it must be borne in mind that confusion is not a specific disorder. A careful history of the onset of the attack and a detailed physical examination will serve to discover any of these factors in the illness and to indicate the lines of treatment.

Acute confusional insanity will have to be distinguished from mania, melancholia, catatonic excitement or stupor (often very difficult), and from the organic dementias, such as general paralysis and post-epileptic confusion. The presence of disorientation in time and space with hallucinations, together with some recognised ætiological factor of acute confusional insanity, should enable the diagnosis to be made.

PROGNOSIS.

Some of the attacks are quite short, as, for instance, those resulting from injudicious use of bromides or from food poisoning, but many cases run a course of from three to six months; when the symptoms appear during some acute bodily condition, such as typhoid or puerperal sepsis, they

might be reasonably expected to clear up *pari passu* with the bodily illness. This is not necessarily the case, and the mental state may remain confused for weeks or months after the end of the precipitating cause. This fact is important to the practitioner, who will be asked for a prognosis. Briefly, the more profound the depth of disturbance the longer the illness. Patients who are persistently degraded and destructive will be slower to recover. Some remain demented permanently and a few make good recoveries after one or two years. It is useful to know that on recovery most patients have a complete amnesia for the illness and can recall little or nothing of their sad experience.

TREATMENT.

Cases may be treated at home if means allow, and removal to an institution may not be necessary, especially where the confusion is likely to yield rapidly to suitable treatment. But there can be no doubt that the graver forms should be placed in an institution, and in the present state of the law certification will generally be necessary. The greatest essentials of treatment are rest, hydrotherapy, and good feeding. Rest in bed may be necessary for weeks. If the patient will not remain in bed prolonged baths may induce restfulness. Should motor excitement remain a troublesome feature there must be no hesitation in using a well-aired and warmed padded room. At all costs struggling with nurses must be avoided. The continuous bath usually renders a patient quiet and comfortable in two or three days. Patients who will remain in bed may be nursed in the open air, on a verandah, or in the garden, though it is advisable for them to be indoors at night. Nourishment should be plentiful and mainly liquid at first. Milk, cream, eggs, custards, broths, and soups are useful. Copious supplies of barley-water, lemonade, and other suitable drinks should be provided and the patient encouraged to drink as much as possible. Food is often refused, and there must be no delay in using artificial feeding. A stomach lavage should be performed if the tube feeding is necessary and careful attention paid to the toilet of the mouth. Where food is returned undigested lavage should be done

at least once a week and the feeds peptonised. The tongue is sure to be coated and can best be cleared up by administering small doses of calomel, say $\frac{1}{2}$ gr. hourly until 4 to 6 gr. have been given. A regular morning saline draught will then keep the bowels regular. Some patients who show signs of collapse, with a rapid and irregular pulse, may be tided over by regular doses of alcohol. Champagne is most valuable, but brandy may be given in small doses.

As appetite returns solid food can be added gradually to the diet, and feeding should be generous, so that the patient shows a steady increase in weight.

Sleep is often produced by the prolonged bath. It is essential to obtain sleep, and for this purpose paraldehyde 2 drachms, with quillaia and peppermint, is one of the safest remedies. Many patients refuse it, and may be tried with 10 gr. of medinal or 3 gr. of dial. Hyoscine may be used in one or two large doses where the insomnia is absolute. It is better not to give it continuously. Sulphonal should be avoided. Restlessness may be controlled by $\frac{1}{2}$ drachm doses of liquor morphinae bimeconatis three times daily. Bromides are of doubtful value. Iron and strychnine tonics are helpful in the convalescent period. Care must be exercised to see that the patient does not get up too soon or take too much outdoor exercise or a relapse will occur.

Any sources of infection should be sought for and removed. Teeth, tonsils, sinuses, the absorption of intestinal infection from stasis, or chronic appendicular inflammation, bacilluria, &c., are all common agents in the confusional attack, which, one may repeat once more, will not clear up on the removal of an apparent cause. Blood counts and investigation of blood chemistry, bacteriological findings from urine and faeces, tonsils and teeth; X ray studies of the teeth, sinuses and abdomen must all be undertaken if necessary with a view to correct therapy. A word of warning may be given. Major operations, unless to save life, should not be undertaken during the course of the acute symptoms. There is no form of mental disorder in which energetic investigation and treatment so well rewards the physician.

CHAPTER XXVII.—TOXIC OR CONFUSIONAL PSYCHOSES. EXOGENOUS GROUP: DRUG ADDICTION.

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Alcoholism and its Associated Psychoses.—Intoxication and Pathological Intoxication.—Chronic Alcoholism and Alcoholic Dementia.—Delirium Tremens.—Alcoholic Hallucinations.—Korsakow's Psychosis.—Alcoholic Pseudo-paresis.—Alcoholic Paranoia.—Dipsomania.—Treatment.—Opium and Morphia Habits.—Cocaine Habits.—Other Drug Habits.

THE factors which produce addiction to a drug are of a complex character, and there can be no efficient understanding either of ætiology or therapy unless this complexity is constantly borne in mind. In a certain number of cases addiction arises solely from the gradual establishment of a habit, and always, of course, habit plays an essential part. Generally, however, there are other factors than this, primary factors of a psychological order. The effect of the drug is to produce euphoria, and the submerging of worries and other mental conflicts, and the attempt to achieve this goal is often the essential factor underlying resort to the drug. Merely to treat the habit without unravelling and dealing with these immensely important psychological forces can only mean the certainty for the patient of relapse and ultimate disaster.

The consideration of drug addiction hence involves several aspects. Firstly, the psychological factors responsible for the primary resort to the drug; secondly, the establishment of a habit, and the physiological and psychological accompaniments of this; thirdly, long-continued ingestion of a drug either by itself or in association with other factors may produce various forms of temporary or permanent mental disorder (psychoses); and finally, it tends to the gradual development of a general mental deterioration (dementia).

These aspects will be dealt with fully in connexion with alcohol, partly because it is much the most widely used drug, partly because of the number and diversity of the psychoses to which it may lead. Afterwards consideration will be given to morphinism and cocaineism, the next most prevalent drug-habits in this country, and finally a few words will be said concerning some other drugs occasionally associated with habits.

ALCOHOLISM.

It has been said that drug addiction rarely arises except as a result of primary psychological factors, and this statement is both true and of immense practical importance in the case of alcoholism. The primary factors consist in the presence of anxieties, unhappiness, incompatible trends warring in the patient's mind, anything in short which produces that phenomenon of a mind divided against itself which we term mental conflict. The conflict may be of an overt and obvious kind, or it may involve subtle and intricate psychological processes which may be in large part unconscious, and only to be unravelled by an elaborate investigation. Alcohol is resorted to because of its unfortunately efficient power to induce a superficial euphoria and

the submerging of the stress and tension inevitably associated with mental conflict. Upon this mechanism that of habit is superimposed, and the picture of established alcoholism gradually develops.

Although this is the chain of causation present in the majority of cases, it must be conceded that occasionally alcoholism of a degree sufficient to produce pathological effects may develop without underlying conflicts and merely as the result of environmental circumstances: for example, drinking habits and traditions in the society which the patient frequents. In this connexion it should be noted that susceptibility to the pathological effects of alcohol varies greatly in different individuals. Some can take large quantities of alcohol regularly without any serious sequel; in others quite small quantities taken over a long period may produce temporary or permanent psychotic disorder. Moreover, certain conditions, such as head injury and epilepsy, seem to carry with them a peculiar idiosyncrasy to the effects of alcohol, and constitutional factors of similar character may enter into every case.

In addition to the temporary relief from psychological stress and the illusory rosy light which it casts upon our experience, alcohol produces other effects which are not desired and which constitute the price to be paid for those transitory advantages. These are intoxication, the slowly developing changes in character and mental capacity associated with chronic alcoholism, leading ultimately to alcoholic dementia, and a number of psychoses which may occur in the course of chronic alcoholism. Each of these effects will be described in detail.

The practitioner must be on his guard against ascribing to alcohol a causal part in the production of every case of mental disorder in which its presence may be proved. Not infrequently it is an altogether minor factor or a mere symptom. For example, in the diminution of control which accompanies the early stages of general paralysis alcoholic excess may be a marked feature, and a similar phenomenon may be met with at the commencement of a manic phase of manic-depressive insanity, or other form of mental disorder.

ASSOCIATED PSYCHOSES: INTOXICATION.

This is a familiar clinical picture, and need not be described in detail here. It is sufficient to note that both the physical and mental characters are dependent mainly upon the removal of higher inhibitions. Hence the ataxia of speech and movement, the diminished capacity for sustained attention and self-criticism, and the consequent

irrelevant and ultimately incoherent flow of ideas and actions.

PATHOLOGICAL INTOXICATION.

A name applied to transitory mental states induced by alcohol differing from ordinary intoxication in the nature and severity of the symptoms, and not infrequently in the comparatively small doses whereby they are generated. The most usual form is intense excitement (mania à potu), in which the patient rapidly develops a state of maniacal fury. There is an intense emotional condition of rage or anxiety, occasionally accompanied by illusions, hallucinations, or transitory delusions. The disorder lasts from a few minutes to a day or more, and generally ends in a prolonged sleep, from which the patient emerges recovered, and with a complete amnesia for all the events of the attack.

CHRONIC ALCOHOLISM AND ALCOHOLIC DEMENTIA.

The continual ingestion of alcohol may affect many of the organs of the body. The facial appearances, tremors and other nervous phenomena, dyspepsias, and affections of the liver, blood-vessels, and kidneys, do not call for any description here, though it may be noted that these physical disturbances are by no means necessarily commensurate with the mental, and it has even been observed that cirrhosis of the liver, for example, rarely occurs in alcoholics who show mental disorder. It is to the mental effects that our attention will solely be devoted. These consist in a gradual intellectual and moral deterioration, ultimately leading to a characteristic form of dementia. The latter is accompanied by definite brain changes of a specific type, but it may be mentioned here that apart from this the psychoses associated with alcoholism have no certain pathology so far as our present knowledge is concerned.

The intellectual deterioration involves a concentric diminution of all mental capacity, particularly obvious, however, in the sphere of memory. The affection of memory, like that in senile and indeed in all organic dementias, relates to recent much more than to remote events. The patient forgets what has happened the previous day, while he remembers perfectly the incidents of his early life. In alcoholic cases this type of amnesia is often so pronounced that events are invariably forgotten immediately they have occurred, the so-called "instantaneous amnesia." As a result, the patient is completely disorientated in space and time, and has no notion where or when he is. The amnesia is often accompanied by the phenomenon of "confabulation," the blanks in the memory being filled by the relation of entirely fictitious events. Apart from its incidence in the sphere of memory, the intellectual deterioration shows itself in a concentric affection of mental ability, and notably in the poverty of ideas, the lack of capacity for sustained attention, and the impairment of judgment. Alcoholic dementia is not a defined disease entity which supervenes in the course of chronic alcoholism, but merely a term indicating a more advanced degree of the changes which characterise every chronic alcoholic.

Moral deterioration is a marked feature of chronic alcoholism, and may be apparent some time before any intellectual deficiency can be appreciated. It results from the association of intellectual deterioration with the two dominating effects of alcohol, the removal of higher inhibitions, and the euphoric emotional state. From the first comes the lack of endurance and persistent effort, the well-known "weakness of will," the government of conduct by uncontrolled primitive instinctive forces and by every passing idea or momentary mood; hence irritability, untrustworthiness, neglect of family and of personal appearance, and finally the readiness of the alcoholic to promise reform and the almost inevitable failure to keep the promise. From the second comes the rosy colouring of experience and optimistic outlook, the removal of any sense of personal responsibility, and the shifting of the blame for the consequences of the vice on to anybody or anything but the patient himself. These latter points are exemplified in the common observations that while any excuse, heat or cold, work or leisure, is a justification for a glass, the failure of the patient's life is attributed to the faults of his wife, the harshness of his employer, and indeed to anything except the vice which really underlies it all. The peculiar facetious outlook seen in the well-known "drunkard's humour" is a manifestation of this shelving of responsibility, consisting in the avoidance of the sting of experience by the process of treating it humorously and superficially.

All these changes, both intellectual and moral, develop very insidiously, and the process may be arrested at any stage of the long road which leads to the most pronounced forms of alcoholic dementia. Stoppage of alcohol will generally effect such an arrest, but, except in its earliest stages, the damage that has been already done is irrecoverable. If this arrest does not occur a profound dementia with an almost entire loss of all mental capacity may be reached, but usually the final picture is somewhat short of this—a moderate degree of general mental enfeeblement, very marked memory defect, a euphoric but irritable emotional state, and a typical lack of all sense of personal responsibility.

In the course of chronic alcoholism various psychoses may arise in addition to the gradual deterioration already described. These are delirium tremens, alcoholic hallucinosis, Korsakow's psychosis, alcoholic pseudo-paresis, and alcoholic paranoia.

DELIRIUM TREMENS.

Delirium tremens is not the result of an excessive single dose of alcohol: it is an episode in the course of chronic alcoholism, and generally arises only when the alcoholism has existed for a considerable period. It has been maintained that it is due not to the direct toxic effects of alcohol itself, but to the deprivation of alcohol and poisoning by the resultant unrestrained action of defensive substances which have been produced in the body. There is considerable evidence in favour of this view, although it is not established. Delirium tremens has not infrequently been observed to develop in chronic alcoholics who have suddenly been deprived of all alcohol, and it is well known

that it may occur after an injury, an operation, or the outbreak of a disease like pneumonia, all of which circumstances are likely to have been accompanied by a cessation of the intake of alcohol.

Delirium tremens is an acute delirium, with a duration generally extending over a few days only. Premonitory signs may be observed, particularly insomnia, restlessness, and irritability. Then mental and physical symptoms rapidly develop. The former consist in confusion, hallucinations and illusions, motor restlessness, and an emotional condition characterised by all degrees of apprehensive anxiety, ranging up to states of intense terror. The hallucinations and illusions commonly take such forms as animals crawling over the bed or walls, or terrifying enemies who threaten immediate violence, and are usually visual in type, but auditory and tactile hallucinations also sometimes occur. In a fully developed case the confusion is so great that there is complete lack of orientation in time and place, and this, together with the hallucinations, leads the patient to think himself in some totally different environment. Motor restlessness is marked, and may increase to a violent agitation, or the patient may carry out in an illusionary manner actions belonging to his trade in association with the imaginary environment in which he believes himself to be (occupation delirium). Apprehension and anxiety may be marked, and violent assaults on fictitious persons or on persons around him are not unlikely to occur. Finally, there is absolute insomnia.

The physical signs comprise congestion of the face, with suffusion of the conjunctivæ, offensive breath and constipation, with an accompanying complete loss of appetite, and a coarse tremor, which may be generalised. The urine is diminished and high-coloured, and albuminuria may be present. The temperature is generally raised one or two degrees, but not invariably so.

The prognosis is good in the great majority of cases. There is some danger of collapse in the acute stages, but otherwise recovery may be anticipated in a few days, the disease usually terminating with a profound sleep. In rare cases the symptoms persist over several weeks, but they are then likely to be attenuated in form, and much less acute. If the excessive ingestion of alcohol is subsequently resumed, there is, of course, considerable danger of further attacks occurring in the future.

ALCOHOLIC HALLUCINOSIS.

This is a term applied to a group of cases in which hallucinations and transitory delusions persist for weeks or months, with comparatively little confusion or general mental disability. Except for the fact that the hallucinations are more commonly auditory, these cases may perhaps be regarded as prolonged but attenuated forms of delirium tremens.

KORSAKOW'S PSYCHOSIS (POLYNEURITIC PSYCHOSIS).

A syndrome commonly associated with peripheral neuritis, but sometimes observed without any obvious signs of the latter. Chronic alcoholism

is the most frequent cause, but the syndrome may be produced by various other toxic factors.

The neuritis presents the usual features. The mental symptoms sometimes commence with a phase apparently identical with delirium tremens, the acute manifestations then clearing up and leaving behind the clinical picture characteristic of Korsakow's psychosis. In other cases the latter develops more gradually. The essential symptoms comprise confusion, disorientation, and a paramnesia (confabulation), which is more prominent and elaborated here than in any of the other forms of mental disorder in which it may appear. This paramnesia consists in the relation of fictitious memories which superficially conceal the actual amnesia for recent events. The confabulations are generally capable of being influenced and guided by suggestion, so that a leading question will produce from the patient whatever memory is desired, the latter being then further elaborated. For example, if we ask a patient who has in fact been confined to his bed for some weeks: "Who was the man I saw you with in the village yesterday?" he may reply, "Oh, that was my brother, we were going to have a drink together at the inn."

The acute symptoms tend to clear up in the course of a few months, but in the majority of cases some degree of a permanent dementia of alcoholic type is left behind.

ALCOHOLIC PSEUDO-PARESIS.

A condition occurring in the course of chronic alcoholism, in which the clinical picture presents a marked resemblance to that of general paralysis. There may be tremor of the tongue, face, and hands, unequal pupils, defective articulation, ataxic gait, and exaggerated or absent knee-jerks. Epileptiform convulsions, liable to be confused with the seizures of general paralysis, are also sometimes observed. The pupillary reaction to light is not lost. On the mental side the chief symptoms are confusion, disorientation, and the presence of hallucinations and delusions.

Although the individual physical signs differ in certain features from those of general paralysis, the resemblance is often so close that the differential diagnosis can only be made by the aid of the history and serological tests. Whenever, therefore, in a case of apparent general paralysis there is a prolonged history of alcoholic excess, a final diagnosis should not be made until the cerebro-spinal fluid has been examined, and a Wassermann and other tests carried out.

The prognosis in alcoholic pseudo-paresis is generally good within certain limits. The parietic features, and the acute mental symptoms, tend to clear up in a few months, but commonly a considerable degree of residual dementia remains.

ALCOHOLIC PARANOIA.

A form of delusional insanity occurring in chronic alcoholics in which the clinical picture is similar to, and probably identical with, that of ordinary paranoia. It is generally marked, however, by the prominence of delusions concerning the fidelity of the wife or husband. The prognosis is absolutely unfavourable.

DIPSOMANIA.

A condition in which an irresistible, or almost irresistible, craving for drink occurs at intervals, leading to a drinking bout, which runs its course in a few days, after which the patient returns to his normal life and often remains without even the slightest desire for alcohol until the craving again suddenly reappears. Indeed, between the bouts the desire is often replaced by a definite aversion. It is this intermittent character which distinguishes dipsomania from ordinary chronic alcoholism. Its true nature is uncertain, and it has been thought by various authorities to be akin to compulsion neurosis, epilepsy, and manic-depressive insanity. The bouts are preceded by a characteristic phase of depression, with irritability and insomnia, after which the craving for alcohol appears with rapidly increasing force.

TREATMENT: THE INEBRIATES ACT.

It has been said above that no understanding of the alcohol habit can be attained without an appreciation of the psychological factors which in the great majority of cases underlie it. It will be obvious, moreover, that no treatment can be adequate which does not take these factors into account and make an attempt to deal with them. Treatment will therefore resolve itself into two parts, the breaking of the habit, which is generally necessary as a preliminary measure, and a subsequent or associated attack upon the underlying psychological forces.

The breaking of the habit consists, of course, in achieving by some means or other a complete stoppage of the alcohol intake. This is rarely possible except under rigid conditions, and to attempt it in the patient's own home or while he goes freely about his business is generally to court failure. The mutability of the alcoholic, and the unreliability of his promise to reform, has already been commented upon. Better results can be obtained in an ordinary nursing home, provided that efficient supervision can be arranged; but the most satisfactory course is to send the patient to one of the special homes established for this purpose. These special institutions are administered under one or other of two schemes. Under the first patients are received on a purely voluntary basis, and have the right to leave the home whenever they desire to do so. The second scheme makes use of the provisions of the Inebriates Act, under which a patient may voluntarily undertake to submit to restraint and control in a special institution for a defined period. The necessary procedure involves certain formalities which must be rigidly carried out. The patient signs, in the presence of a justice of the peace, a "Request for Reception," and a "Statutory Declaration" is signed by two friends before either a justice of the peace or a commissioner for oaths to the effect that the applicant is an inebriate within the meaning of the Act. For both these purposes the special forms prescribed by the Act must be employed; they can be obtained from the institution to which the patient is to be sent. When these documents have been duly completed

the patient can be admitted to the special home, and can be detained there against his will until the defined period has expired. Some institutions only receive patients under the first scheme, in others they are taken under both schemes. The employment of the second scheme naturally depends entirely upon whether the patient can be persuaded to sign away his liberty for the period required. Apart from this it need not be suggested in milder cases, or where a first attempt at treatment is being made; but in bad cases, or where previous attempts at treatment have failed, the patient should be persuaded if possible to enter a home under the provisions of the Act.

It is advisable at this point to make clear to the practitioner that, except in one circumstance, no compulsion can be exercised upon alcoholics as such to enter a special institution. This circumstance is that where a drunkard has been convicted of an offence he can, under one of the sections of the Act, be compulsorily sent to an inebriate home. Apart from this, an alcoholic cannot be restrained or dealt with in any way except with his voluntary coöperation, unless he is also certifiably of unsound mind. Even if he is so certifiable, careful consideration should be given to the case before this measure is employed, because if the mental disorder is merely of the transitory type which accompanies ordinary intoxication, the symptoms will clear up so rapidly that discharge from the mental hospital will have to be carried out in the course of a few days.

The Technique Observed.

With regard to the technique to be observed in the stoppage of the alcohol intake two methods are available. In the first the alcohol is stopped immediately and absolutely, in the second the daily dose is tapered until it is reduced to nothing in the course of one or two weeks. Although the distress produced by immediate stoppage is not comparable to that which occurs in the case of morphia, it is held by some authorities that the sudden complete cessation of alcohol carries with it a danger of producing delirium tremens, and the balance of opinion therefore favours the gradual method. Various drugs have been recommended to tide the patient over the early days of abstinence, but it is doubtful whether any of them have much efficiency. Sedatives such as sodium bromide, and hypnotics to combat the probably present insomnia are, however, generally advisable.

Psychotherapy.

Concurrently with the breaking of the habit, or after this has been effected, attention must be directed to the primary psychological factors responsible for the condition. Where anxieties, domestic strain, or other obvious grounds for mental unrest exist, an attempt must be made to find a practical adjustment of the difficulties. Not infrequently, however, the causes of conflict are intricate and partly unconscious, and can only be dealt with by an expert psychotherapist.

Psychotherapy is also sometimes employed as an aid in the breaking of the habit, particularly in the form of suggestion, either hypnotic or

otherwise. Excellent results have been claimed by some authorities and, although in many instances the benefits prove unfortunately to be only temporary, the method is certainly worth a trial in suitable cases. Such cases are those in which either the rigid conditions of a home and a concomitant psychological investigation are for some reason impracticable, or where these methods have been tried and have failed. Apart from these special measures, it must be understood that always and in all cases the common-sense psychotherapy must be practised, which consists in utilising every moral and emotional force which can be found in the patient's mind to aid in the achievement of the desired goal.

Delirium Tremens.

In the treatment of delirium tremens the first problem is whether the patient shall be kept at home or certified and sent to a mental hospital. This problem must be settled by a consideration of the factors present in each individual case. On the one hand, the patient is likely to be noisy, violent, and to require the services of several attendants, and his circumstances may be such that these factors make it impossible for him to remain in his own house. On the other hand, the disorder is only likely to last a few days, discharge from the mental hospital will inevitably follow, and some resentment may subsequently be felt either by the patient or his relatives at certification having been carried out for so transitory a condition. Poorer patients, of course, will in any case generally have to be sent to the local infirmary, and where this institution is equipped with suitable mental wards the necessary treatment will be carried out there without remission to the mental hospital.

If it is decided that the patient should remain in his own home, the services of trained nurses, at least three, should be insisted upon, and these in the case of a male patient should be male nurses. So far as possible the patient should be kept in bed, and it is of the utmost importance that adequate nourishment should be administered, milk being the best staple food in the acute phase.

Opinions differ concerning the advisability of giving alcohol during an attack of delirium tremens, but most authorities think it better to give two or three ounces of brandy daily at the beginning, and gradually to reduce the dose to nothing in the course of a week. In any case there can be no doubt that, if collapse threatens, alcohol should immediately be employed. If the secretion of urine shows signs of failing, digitalis should be administered.

Apart from these contingencies, medication mainly resolves itself into the use of hypnotics, which are certainly likely to be required. Paraldehyde and sulphonal are perhaps the best available drugs for this purpose.

Dipsomania.

This is a difficult disease to treat in any satisfactory manner. Seclusion in a home over a period which would cover the probable outbreak of several attacks, the premonitory symptoms of each attack being dealt with by sedative drugs or by the use

of hypnotic suggestion, may be effectual. The liability to relapse after return to normal life, however, is considerable, and in these cases, more than perhaps in any other of the alcoholic group, elaborate psychotherapeutic procedures, including some form of psychological analysis, are indicated.

Other Alcoholic Psychoses.

The remaining alcoholic psychoses are only likely to concern the practitioner in their early stages. In the great majority of cases certification and residence in a mental hospital are required, and treatment has to be carried out along the lines applicable to major mental disorders.

OPIUM AND MORPHIA HABITS.

Opium and morphia habits are identical in all essentials, but the latter is much the more common, at any rate in this country, and it is also more serious in its effects and less easy to eradicate. Only the morphia habit will therefore be dealt with here, but with comparatively unimportant and obvious alterations the remarks which will be made are applicable to the opium habit.

The morphia habit usually starts from the employment of the drug for insomnia, neuralgia, or some other physical condition. It is an undoubted fact that in certain individuals the habit can be established with remarkable ease and rapidity, and in this connexion it is important to remember that in the majority of cases there are underlying psychological factors similar to those described in alcoholism. Owing to their facilities for access to the drug, doctors, nurses, and druggists constitute an undue proportion of morphia habitués.

The symptomatology of morphinism has to be considered under three heads—the symptoms produced by the drug more or less immediately, the ultimate results of the habit, and the symptoms produced in an habitué by abstinence from the drug. The first group comprises the physiological and psychological effects directly caused by the ingestion of morphia. The chief physiological effects are the sedative action on the nervous system, contraction of pupils, dryness of mouth, dyspepsia, loss of appetite, and constipation, all the latter being due to the diminution of secretion in the alimentary tract. The psychological effects are a temporary exhilaration and sense of increased mental capacity, and these, together with the relief of the symptoms resulting from abstinence, constitute the object for which the drug is repeatedly taken. Owing to the establishment of tolerance, however, this object can only be achieved by steadily increasing the dose.

The ultimate results of the habit consist in a general deterioration, especially marked in the moral sphere, the patients becoming depraved, untrustworthy, and notoriously untruthful. There is almost no action to which they will not stoop in order to obtain the drug which has become a necessity to them. An intellectual deterioration also occurs, sometimes passing on to a considerable degree of dementia. Other psychotic disturbances, mainly of a depressive type, are also observed.

The symptoms produced by abstinence are numerous and often exceedingly severe. They comprise vomiting, diarrhoea, excessive salivation, rapid pulse and other cardiac effects, sometimes leading to syncope, various pains and abnormal sensations, cramps, muscular weakness, marked motor restlessness, insomnia, and extreme depression.

The diagnosis of the morphia habit, of course, presents no difficulties when a reliable history is forthcoming. Occasionally, however, its presence may be suspected in a patient who applies for treatment for some other disorder, or who deliberately conceals the real origin of the symptoms of which he complains. Under these circumstances the detection of scars due to septic infection having occurred in hypodermic punctures is often of considerable assistance in arriving at a correct diagnosis, and in any case the question can be cleared up by placing the patient under rigid conditions where no morphia can possibly be obtained, and awaiting the development of abstinence symptoms.

Treatment of the Morphia Habit.

Efficient treatment of the morphia habit is a problem presenting very great difficulties. These difficulties arise, partly from the strength of the craving for the pleasurable effects of the drug, partly from the almost intolerable symptoms produced by abstinence, and partly from the moral deterioration which renders the patient unstable and incapable of persistent effort. For these various reasons relapses are only too common, and it has been estimated that permanent recovery can only be anticipated in 10 per cent. of the cases.

The first step is, of course, the stoppage of the drug. Sudden stoppage is difficult, and in some cases undoubtedly dangerous, and a gradual tapering of the dose is generally recommended, spread over from one to three or more weeks according to the magnitude of the habitual daily dose. During this period the chief problem is to mitigate the severity of the inevitable abstinence symptoms. One method is the temporary substitution of some other drug for the morphia, such as cocaine. The great danger of this method is that it may result in the substitution of a cocaine or combined cocaine and morphia habit for the original morphinism, so that the last state of things is worse than the first, and, although the danger is somewhat less with some of the other drugs which have been proposed for this purpose, it is always so considerable that the method cannot be recommended. It is probably best to employ drugs only for the treatment of definite symptoms, to use, for example, paraldehyde, sulphonal, and other hypnotics for the insomnia, appropriate remedies for the digestive troubles, and digitalis if heart symptoms arise. If there is danger of collapse, then morphia should immediately be administered. Hot baths are excellent general sedatives. The patient should be in bed, and a nourishing, but mainly fluid, diet should be given.

It is necessary to be sure that the patient is not obtaining morphia illicitly during the treatment,

and in this connexion the practitioner must be warned that the ingenuity and unscrupulousness which the morphia habitué will display in order to get the drug are almost incredible. For this reason, and because of the likelihood of relapse, the treatment should be carried out under rigid nursing-home conditions, with nurses and attendants whose zeal and integrity are beyond suspicion, and the patient's stay in the home must be prolonged for a considerable period.

As in the case of alcoholics, the underlying psychological factors must receive due attention, and a far-reaching psychological investigation with appropriate psychotherapeutic treatment is almost indispensable if a satisfactory ultimate result is to be attained.

COCAINE HABIT.

The factors producing a cocaine habit are much the same as in the case of morphia. It is, indeed, very frequently associated with a morphia habit. In certain sections of society there exists to-day what might almost be called a cult of cocaine, and under such circumstances there come into play factors of example and precept which are of great practical importance in establishing the habit in suitably disposed persons.

As with morphia, the effects of cocainism may be divided into immediate, ultimate, and abstinence symptoms. The immediate physiological results comprise dilatation of the pupils, increase in the rapidity of the pulse, and a general stimulation of secretions; while on the psychological side there is euphoria, an increased capacity for work, and facilitation of the flow of ideas.

The ultimate effects consist in a general moral and mental deterioration, and the development of melancholic and other psychotic conditions. Among the latter may be mentioned a peculiar form of delusional insanity, with ideas of persecution and jealousy, which often lead to acts of violence. This psychosis may have a considerable duration, but is rarely permanent.

The abstinence symptoms include anomalous sensations, such as formication of the hands, specks in front of the eyes, neuralgic pains, tremors, muscular weakness, digestive disturbances, some degree of mental confusion, and an acute depression, which is the most potent factor in inducing a speedy further resort to the drug.

Treatment has to be carried out along the general lines described in the case of morphia, and is equally difficult and unsatisfactory. Relapse, even after long intervals, is indeed more common than in the morphia habit.

OTHER DRUG HABITS.

Other drugs are occasionally associated with the establishment of habits, among which chloral, ether, cannabis indica, and paraldehyde may be mentioned. The addictions are all decidedly less common than those already described. The treatment of these conditions has to be conducted along lines closely similar to those laid down for the morphia habit.

CHAPTER XXVIII.—PSYCHOSES AND ORGANIC BRAIN DISTURBANCES. HEAD INJURIES.

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Symptoms and Topography in 100 Cases.—Frontal and Parietal Cases.—Occipital, Temporal, and Facial Injuries.—Associated Nervous Symptoms.—X Ray Examinations.—Conclusions.

A HISTORY of head injury should be carefully inquired into before it is too readily accepted as a cause of mental disorder. Most alienists will admit the frequency with which we obtain vague accounts of remote head injuries from relatives when endeavouring to furnish a reason for the mental breakdown. Whilst admitting the serious consequences that may result from any head injury, no object will be gained by making any observations in this direction unless care be taken to exclude cases in which the alleged injury cannot be verified. All the cases on which I base opinions have been cases in which there was clear evidence of a definite head injury. X ray examination was systematically carried out, care being taken to exclude any case of injury which could not be corroborated by examination or by notes accompanying the case from a medical officer. A large proportion of the cases had injuries of a very definitely severe and terrible nature, but, on the other hand, there were cases in which no serious head injury had been suspected until further light had been obtained by X ray examination. Mr. Wayland Smith, assistant surgeon to the Royal Devon and Exeter Hospital at Exeter, recently dealing with the matter primarily from the surgical aspect and considering the indications as to when to operate, has mentioned the importance of X ray examination in *all* cases. With this advice I concur, and would emphasise it in the strongest terms.

Much has been written since the beginning of the war on the subject of head injury from the surgical aspect. Dr. Gordon Holmes and Mr. Percy Sargent, reviewing cases met with up till September, 1916, commented on the small proportion in which insanity or epilepsy had developed. They stated that during a period of 12 months only eight persons with wounds in the head were admitted to the Napsbury War Hospital as mental cases, and four of these had since been discharged. Of the four others, one had been previously invalided from the army for mental trouble, but had re-enlisted, a second was considered to be a case of dementia præcox, and in the remaining two cases only were the persistent mental symptoms attributable to the head injury.

But it is to the remote effects of head injuries, and to the after-effects of the necessary operations, as affecting the mental state especially, that I wish to confine myself. I therefore make no reference to the subjects of concussion, cerebral irritation, and compression in categorising the 100

cases of head injury followed by mental symptoms which have been reviewed for the purpose of this article. These injuries may be special as to the terrible occasions of their occurrence, but the histories and the consequences can usefully be considered in connexion with disasters or accidents in civil life.

SYMPTOMS AND TOPOGRAPHY IN 100 CASES.

I have therefore taken from my records 100 cases and grouped them according to their symptoms and the topographical distribution of the injury. I have divided them simply into "superficial" and "deep" injuries, including in the former group cases in which, after thorough examination, nothing more than a superficial wound involving skin and subcutaneous tissues was found; and in the latter group any cases where there was an injury to the skull or underlying structures. About half the injuries were of a superficial character, and in the other half the skull or underlying structures were involved in the injury. On looking further into these cases it was also found that 50 were left-sided injuries, 35 were right-sided, and the remaining 15 were confined more or less to the middle line or involved both sides of the skull. I will first describe the cases in accordance with their topographical distribution.

(1) FRONTAL INJURIES.

Of the 100 cases, 28 were frontal injuries. Ten of these were left-sided, 10 right-sided, and 8 over the middle line.

Only one case of epilepsy was accounted for by the frontal injuries. This was the case of a man who died in a condition of status epilepticus lasting four days. He had received a gunshot wound of the right frontal region 12 months previously, for which he had subsequently had a trephine operation, the frontal abscess being evacuated. Since then, and four months after the injury, "fits" had developed. He subsequently had two attacks of status epilepticus, after which on each occasion his mental condition showed definite deterioration with marked memory defect. He came under my observation a few days after the second bout of fits, and died a month later. A post-mortem examination was performed, and a trephine opening measuring $1\frac{1}{2}$ in. transversely and 2 in. from above downwards was found in the frontal bone $\frac{1}{2}$ in. above the right supra-orbital arch. The margins of the trephine

opening were smooth and the opening was occluded by dura mater. The pia-arachnoid was found adherent to brain over the first, second, and third frontal convolutions of the right hemisphere, and the surface of the brain substance over this area was yellow in colour. On section the grey matter of the external surface of the right frontal lobe was practically disorganised; but, on the other hand, there did not appear to be any involvement of the white matter as far as could be seen macroscopically. No metal was present in the skull, and the rest of the brain appeared to be in a healthy state. The weight of the brain was 57 oz.

Whereas the number of cases of epilepsy amongst the frontal injuries was limited to this case only, the number exhibiting states of complete dissociation, such as amnesias, was found to be comparatively high. Half of the total number of 100 cases in which this was the predominant symptom were found amongst the injuries of the frontal region. In three of these cases the period of amnesia had lasted for a month and upwards, and in the other three the amnesia was of shorter duration but recurring at frequent intervals. Most of these cases complained of a feeling of pressure in the head as an associated symptom. In only one case could alcoholic intemperance be found to be an associated factor.

The following is a typical example of one of these cases with amnesic fugues.

The patient was wounded in the forehead by a shell from a trench mortar whilst coming out of a sap. He was rendered unconscious, and came to himself the following morning whilst in a field ambulance. He was only kept in hospital three or four days, and rejoined his battalion in the trenches two months later. Three months after this he was again wounded and evacuated to England, the wound on this occasion being in the elbow. This eventually healed, causing no disability, and he was given ten days' furlough in order to proceed home to Ireland to visit his mother. Two months later he was found by the police in civil clothes. He stated that he was on his way to report himself to his unit when arrested, and this appeared to be the case, for on examination medically it was found that he had a complete amnesia as to what happened from the time of his arrival in Belfast till two months later, when he had "discovered himself" on Clapham Common. He then found himself in civil clothes, but had no idea where he had obtained them. In his pocket he found a pass giving him authority to proceed to Ireland, and instructing him to report at his dépôt at the expiration of his furlough. He remembered landing at Belfast, but everything else seemed blank, and he could not remember whether he had seen his mother or not, for which purpose he had proceeded to Ireland. Having no money in his pocket he proceeded to walk to his dépôt, and it was whilst so tramping that he was arrested. He complained of a feeling of a painful tight band round the forehead, saying that on previous occasions, whilst in the trenches and since his head injury, he had had feelings that certain days were "quite blank." He was somewhat depressed, and seemed to have considerable anxiety as to whether he would fall a victim to another of these attacks. On examination of the skull a definite bony ridge could be felt on the centre

of the forehead extending to about 1 in. above the centre of the left eyebrow. X ray examination confirmed the presence of a definite undetected fracture. Being a Canadian he was repatriated one month after he came under my observation and four months from the time of his arrest, during which period he had had no recurrence of the amnesic attacks. At the time of his return to Canada he was free of any acute mental symptoms, but complained a good deal of insomnia, and his mental attitude was one of depression with anxiety, as explained above.

One other point is worth notice—namely, that the only two cases with typical delusional states occurred amongst those with frontal injuries. One man had a superficial injury and the other one a deep. In the latter case the delusions led the patient to believe that he was being looked upon as a German spy, and these ideas had developed within four months of receiving a fracture of the frontal bone by shell. The other case developed ideas that his correspondence was being tampered with, and that there was some unseen agency working against him. This patient had received a frontal injury 12 months previously, but the above ideas did not develop till he was again in hospital with a wound of his hand.

Two out of the three cases of mental deficiency occurred in the patients with injury in the frontal region; both had superficial wounds. There was sufficient evidence to show that both had been below the average in intelligence prior to enlistment; it was, however, considered that the injury had somewhat lowered their pre-war standard. One had been reduced to the level of an imbecile since his wound and had been quite unable to look after himself in any way, although he had previously earned his living as a carter. There were no cases of the moral imbecile group represented in these frontal injuries.

Our conception of the consequences of frontal injuries prior to the war was based on the work of Ferrier, Horsley, and others, who have contributed particulars of isolated cases. But the opinions expressed were somewhat indefinite. Ferrier found no appreciable result by stimulation and extirpation of the anterior part of the frontal region in monkeys, but his experiments tended to show that on removal of this area such animals appeared to be more restless and more easily distracted. It also seemed that, under prolonged examination before and after the experiments, there was a distinct loss of the persistence to obtain things such as a nut in monkeys with extirpated frontal lobes as compared with normal monkeys.

In the celebrated crowbar accident due to the premature explosion of a charge of dynamite in an American mine, we are told that the patient recovered and returned to his work as overseer of the mine, but that there seemed to be a change in the man's mental qualities comparable to Ferrier's observations on monkeys, and a deterioration of moral character. Oppenheim, in discussing the localisation of the cerebral cortex, says: "To all appearance the frontal lobes play a prominent part in the higher mental functions, and excision

of a tumour compressing the frontal lobe has been followed by the disappearance of mental symptoms." Whilst agreeing that this may be so, I can find no uniformity in the mental symptoms of cases of frontal injury that have passed through my hands: the essential points are the occurrence of amnesias and delusional states, and the rareness of epilepsy.

(2) PARIETAL INJURIES.

From 38 cases with injury to the parietal area I find the outstanding feature to be the high proportion of epileptics. Amongst 15 cases of epilepsy occurring in 100 cases of head injury, 12 of them come in this group, and all except one had received a severe type of injury involving underlying structures.

A typical case was one with a trephine opening about 2 in. in diameter over the upper part of the right parietal region involving part of the Rolandic area. This shell wound was received in February, 1917, whilst the patient was sniping in Mesopotamia. He was ten days unconscious, and after operation was evacuated to Bombay, where he arrived on March 21st, 1917. About four days later he had his first fit, the wound being then practically healed. He was returned to England and received in hospital here about the middle of September, 1917, when he had a depression over the right parietal bone corresponding to the site of the trephine opening, and also gave evidence of a left-sided hemiplegia. The paralysis showed signs of improvement in the upper extremity, but with the exception of slight movement in the hip there was complete loss of power in the lower extremity. There was no facial or oculo-motor paralysis, and sphincter control was not affected. His physical condition improved to the extent of enabling him to be up and about with full power of his arm, but still a slight paresis remained in the leg. Towards the end of October, 1917, however, he had a succession of fits in which the convulsions were generalised in character, and these were followed by an outburst of maniacal excitement. This condition lasted a few days, when he showed a certain amount of clouding of consciousness for the period covered by his maniacal attack, but was otherwise free from any symptoms. His chief complaint was of pain localised to the frontal region, chiefly over the left eye. He said the pain was made worse by any exertion, and he could not stand any noise. Just preceding the fits he had hallucinations in the form of the sound of bells ringing in his ears, and then his sight seemed to go dim. In the course of the next three months this patient only had one fit which was not followed by any period of excitement.

The only case of epilepsy in which there was no evidence of the skull being injured was that of a man who suffered from concussion following a collision with another man on a motor bicycle whilst despatch riding. No fracture could be detected, nor was there any external indication of injury to the head. He had, however, a small septic wound below the ramus of the lower jaw on the left side of his neck. He walked with a very pronounced limp of the right foot, and on examination there was an apparent shortening of the leg on this side. This was on further examination

found to be accounted for by a tilting of the pelvis to overcome a paresis with slight foot-drop. This patient on admission also showed some right facial and arm paresis, and fits of a definite epileptic nature started three months after the accident, recurring singly at intervals of about a month. Although I think there can be little doubt that this case had an organic basis, probably of the nature of a hæmorrhage about the surface of the left Rolandic area, I am also of opinion that he was developing a "habit gait" and that a functional element was being superimposed on the original organic lesion. This is certainly a point to be watched for in civil practice and in the assessment of compensations.

Moral Deterioration.

Amongst the group of parietal injury occurred three out of the four cases in which the moral side of the patient's character seemed to be most seriously affected.

One of these patients was wounded by a shell splinter just above the pinna of the right ear. He was for the moment dazed, but was able to walk to the dressing-station. He was sent to the base, but only kept there a few weeks and rejoined his unit again two months after being wounded. Here he is now reported as showing marked insubordination, and his O.C., in making a note with regard to him, says "he has quite changed in his character since his head injury," and he is further described as laughing in his officers' faces on parade and seeming to have lost all sense of discipline. This man had eight years' colour service with a good character and freedom from any crime or tendency to intemperance, but since his head injury had taken to drink on the slightest provocation and seemed to have no power to resist the temptation. Further inquiry from his relatives also elicited the information that prior to his head injury he had been a staunch teetotaler and a very steady man in every way, and his character now seemed quite the opposite. He had received his promotion to the rank of corporal in France due to his steadiness in action, and since his head injury had been reduced to the ranks.

Another case was that of a lad, aged 19, who was wounded by a bullet over the upper part of the left parietal region when sniping in a shell-hole. He had been promoted corporal eight days previously, and the good character given him by his father and other relatives, when questioned about his former morals, was supported by the schoolmaster of one of our large public schools, where he had been educated, as well as by the head of an agricultural college where he was learning farming when he enlisted. Whilst in hospital a few weeks after being wounded he became restless and showed extreme irritability; he demanded to go home before his wound was healed and threatened to run away if this request was not acceded to. He lacked self-control, and threatened to strike anyone who "crossed" him in any way. He had become a notorious liar. His father, who, against advice, took him home had to send him back to hospital, finding him quite unmanageable; he stated that the patient's character had wholly altered from what it had been prior to his head injury. This lad developed into an interesting example of "pseudologia phantastica."

A similar history was revealed in the third patient, who since his head injury had been thrice before a court-martial, had practically lived in detention, and had fallen a victim to drink and other bad habits. It was also in gross lesions of the parietal region, as would be expected, that hemiplegias, aphasias, apraxias, and such conditions were met with. There was one case of deaf-mutism, and the only case classified as a mental defective with an injury involving the cranial bones occurred in this area. After having been repeatedly rejected this man managed to enlist in October, 1915, and went to France in July, 1916. He was wounded by a bullet causing a fracture of the left parietal bone in trying to get water from a shell-hole. He had a well-marked facial paresis with deafness in the left ear. Prior to enlistment he had been a hawker and was unable to read or write. He was in hospital about six weeks, then discharged to his dépôt, and was there found unable to understand anything and in consequence returned again to hospital.

(3) OCCIPITAL INJURIES.

The total number of cases with wounds in the occipital region was ten, and of these three were right-sided, two left-sided, and the remaining five more or less in the middle line. Only two in all were of a serious nature. Amongst those with superficial injuries one was a case of epilepsy, in which the head injury had evidently brought out a latent tendency to the idiopathic type of epilepsy, for it was discovered that he had previously had fits when 8 years of age after pneumonia. Timber from the roof of a dug-out had fallen in and struck this man on the back of his head when he was being attended to for a wound of the hand at a first-aid post. He was unconscious for some hours, and since that time had typical epileptic fits at monthly intervals.

The two cases in which the head injuries involved underlying structures were both right-sided, and their mental symptoms were in both cases of the melancholic type. One had a definite depression to be felt as the result of a blow on the head from a girder of a bridge under which he was sheltering from shell-fire after being wounded in the leg. He was returned to duty three months later, but still complained of constant headaches and felt quite unable to do his duty. He was subsequently admitted to hospital in a state of acute melancholia, having made an attempt to end his misery by strangulation with his puttees. X ray examination revealed an evident widening of the lambdoid suture, from which there was also seen a small fissured fracture running forward which had not previously been recognised.

The other case was one in which there was extensive loss of bony protection at the back of the skull as the result of a shrapnel wound received in November, 1914. He had since suffered from buzzing noises in the head which made his life a misery. This man during examination admitted that he had contemplated suicide on this account, but no active steps towards this end had been made when he was under my observation.

Melancholia, with buzzing noises in the head, was a marked feature of the cases of head injury in this region.

(4) INJURIES TO THE TEMPORAL REGION AND MASTOID PROCESS.

Temporal injuries accounted for 13 cases, all of which were superficial except three which were cases of fracture, and in one of these metal had penetrated the skull and lodged itself in the roof of the sphenoidal sinus. The universal complaint of severe cephalalgia was a conspicuous feature in cases with superficial injury in this region, and in some cases it was so severe as to make the patient giddy and cause him to sit down. It is not surprising, therefore, that the predominating mental symptoms were of the melancholic type. In one of the fracture cases amnesia was manifested; the amnesic period covered two months and was followed by other periods in which the patient seemed confused and wandered about aimlessly. In another case of fracture there was maniacal excitement in which intemperance was also a factor.

There were six injuries of the mastoid. Three were superficial and three deep, and they were equally divided between both sides of the skull.

A case of an acute hallucinatory state with excitement was that of a man who had received a perforating bullet wound; the bullet had entered below the left orbit and found its exit at the right mastoid process. The auditory nerve was completely severed, and the antrum and middle ear were thrown into one. A chronic otorrhœa persisted up till eight months after the injury, when an acute condition lit up again. He developed a temperature of 103.8° F., and was for four weeks in a state of strong maniacal excitement with very vivid hallucinations of sight. He convalesced satisfactorily in a further period of two months. This hallucinatory state was, in my opinion, the result of a toxic condition caused by the chronic otorrhœa, and the condition was really one of toxic exhaustion psychosis.

All other injuries involving this region of the skull presented different symptoms; two were melancholics, one was a moral defective, one an epileptic, and in one the symptoms appeared to present most of the features of dementia præcox.

(5) INJURIES TO THE FACE.

There were five instances in which wounds involved the face.

The first case was a comparatively slight injury from a shell splinter below the right eye. The patient had, however, also been blown up by shell, and was found on X ray examination to have a small nodule of metal opposite the infra-orbital foramen with a fracture also of the infra-orbital margin of the orbit. He had complained of intense pain in the head and behind the eyes for two months. The metal was removed by operation and the pain relieved, but a month later he became sleepless by night and restless by day, and eventually developed acute maniacal symptoms. These quickly subsided, although the pain persisted. There was no optic neuritis or other

sign of intracranial pressure to account for this acute attack, which was no doubt of the toxic exhaustion type. In reply to inquiries made 18 months later he was reported as progressing satisfactorily.

Another case was one in which hysterical deaf-mutism followed a probable side-to-side perforation over the temporo-maxillary articulation, and this man had a miraculous escape. His wounds were caused by shrapnel. One bullet appears to have passed through the head from left to right just in front of the ears, and above the articulation of the inferior maxilla on either side; it lodged in the wound of exit, from which it was removed, and in transit it smashed the plate of false teeth the patient was wearing, but did not apparently damage the palate. A second bullet struck him over the centre of the left clavicle, killing his chum next to him, and a third bullet was prevented from entering his chest by striking a bullet-proof mirror which he was carrying in his left breast-pocket. He managed to crawl about 50 yards to the dressing-station and then lost consciousness. About 24 hours later he came to himself again and found he was in hospital at the base. He was from there evacuated to England, and it was here, about three months later, that he lost his speech and hearing, which were restored by appropriate therapeutic methods within a few days of his admission to the psychiatric section. This is one of only two cases with hysterical deaf-mutism met with amongst these 100 cases, the other being amongst the parietal injuries.

Another case of injury to the face was that of a man who, whilst in a charge on the German lines, was wounded by a hand-grenade thrown from a German trench. He was terribly mutilated and disfigured. In addition to losing an eye he had a fracture of the upper jaw, the front part of the alveolar margin of which seems to have been blown away. The nasal bones were flattened out and apparently lost, and his face was covered with scars. The lower lid on the right side was everted and bound down to scar-tissue on his right cheek. Ten days after his injury he became very depressed, and a few days later his condition changed into one of acute maniacal excitement. This phase lasted about a month, when he again became dull, depressed, and apathetic, and refused all nourishment except liquids. This condition lasted about three months, when he steadily made improvement and regained a normal mental state. This was maintained and enabled him to be transferred to another hospital for a plastic operation.

The fourth case was that of a man who was wounded by a shell splinter on the left side of his face whilst asleep. He had a granulating scar extending from the external angle of the left orbital process of the frontal bone downwards on to his cheek and another scar on the bridge of his nose. X ray examination showed a fracture of the outer part of the floor of the left orbit. This injury was followed by a period of amnesia lasting 15 days, during which he was somewhat dull and stupid in appearance, but three months later he was discharged from hospital having exhibited no further symptoms and expressing himself as feeling quite well, which was confirmed by reply to letter of inquiry over 12 months later.

The last of the five cases was one of dementia following a shell wound, the fragment from which had penetrated the left orbit, destroying the left eye, lodging itself finally in the centrum ovale of the right

hemisphere. It had evidently severed the internal capsule in transit, for the patient had a complete hemiplegia affecting the left arm and leg and left side of the face. This man could give little information about himself, and his memory was very seriously affected. He was extremely irritable, continually asking for food and attention, and seemed quite unaware of the fact that only a few minutes previously he had received both. His left arm was in a state of contracture, but the leg was flaccid and anæsthetic; an extensor plantar reflex was present, as well as ankle-clonus and increased tendon-jerks. His face was flattened on the left side, and the mouth drawn slightly to the right. He constantly cried out, complaining of pain in the right side of the head, which he referred mostly to the frontal region, and he was altogether in a most pitiable condition.

It was only in cases of gross brain destruction such as this that symptoms of organic dementia occurred.

Little Correlation between Symptoms and Site of Wound.

From my experience there is no markedly increased proportion of cases showing any one predominating symptom in wounds of any special area of the skull, whether superficial or deep, with the exception of the epileptic group. Here I find that 12 out of the 15 cases occurred in injuries involving the skull or underlying structures; whereas the cases of epilepsy represent 15 per cent. of the total, the incidence of epilepsy was four times greater in the cases with gross cranial injury than in cases in which the injury was of a superficial character. I am quite unable to subscribe to the opinion that has been held in the past that the moral character of the individual was most likely to suffer after injuries of the frontal region, for in no case that came under my observation where the injury was a frontal one did this stand out as a special feature; on the other hand, in three out of four cases in which the deficiency was chiefly on the side of lack of moral control the injuries were in the parietal region, and the only case classified as a mental defective with an injury involving the cranial bones also occurred in the parietal area.

Rareness of Mental Sequelæ.

The rareness of the occurrence of mental sequelæ is noticeable. Out of the 100 cases specially considered here, 49 had evidence of serious cranial injury, 16 had trephine openings in the skull, and 12 had metal still remaining in the cranial cavity. From a Parliamentary report published in May, 1918, it was shown that the proportion of head injuries to the total number of disabled up to that date was 4 per cent., and that of the total disabled 75 per cent. had developed mental symptoms.

My experience in the largest hospital set apart by the War Office for the reception of mental cases is that out of the total number of patients admitted with mental symptoms, only 2 per cent. of over 5000 admissions had head injuries, and it may therefore be assumed that the proportion of cases of head injury that subsequently become insane

is somewhere in the neighbourhood of 0.375 per cent. This is not far removed from the ratio of insane to the population in ordinary civil life, which in the last report of the Board of Control is stated to be 6 per 10,000 of the population. I think this is a surprising fact and one which should materially alter our pre-war opinions of the sequelæ of head injuries. Out of the 100 cases, on which these observations are based, only two showed symptoms of organic dementia, and these were both cases with severe cranial injury such as the one last described.

NERVOUS SYMPTOMS.

Headache and Insomnia.

Nervous symptoms, apart from acute mental symptoms, are, however, prone to occur. Among the outstanding of these are headache and ill-defined pains in the head. These varied in intensity; generally they were severe in character, and usually, though not universally, they were referred to the site of injury. Noises almost invariably made the pain worse, as did also any bending or stooping. These headaches are considered to be due to increase in intracranial pressure, probably following blood extravasation and secondary œdema of the brain. It is no doubt on account of the common occurrence of this symptom, which is so often of a persistent and distressing nature, that the high percentage (22 per cent.) of cases of melancholia is due.

There were often reasons for suspecting that a man, who had previously had head injury and was suffering in this way, had taken on duties involving exceptional risk with the hope that by so doing he would find a final release from sufferings which few would sympathetically consider; and I am satisfied that in cases where there is no apparent evidence of gross injury the pain is as severe, if it is not worse, than in many cases in which injury to the skull or underlying structures may be obvious. The constant unbearable pain complained of in the former was not met with in the latter, and further, in cases where a trephine operation had been performed, pain was of comparatively rare occurrence. In one case where there was a large deficiency of bone protection at the back of the skull as a result of a trephine operation for a shrapnel wound, although the deficiency in the bony protection of the skull was 2 inches in diameter, no pain was complained of.

Pain associated with apparently trivial injuries is to be regarded as of some considerable importance therefore; it is a symptom which needs careful investigation. As a result of the number of cases in which I have found a patient returned as fit for work still complaining of this pain, I am convinced that it is not sufficiently regarded as serious by the medical man. A case in point is that of a man who received a superficial wound of the skull on Oct. 21st, 1916. He was evacuated to England, but was discharged from hospital to his dépôt still complaining of pain. He could gain no relief for this, and a month later he volunteered to return to France. His wish was acceded to, and four months later he was sent back to England,

again unfit to perform his duties. He was in hospital two months when he was again discharged as fit for duty, but still complaining of the pain. Two months later he was admitted to hospital again with a cut-throat wound. Many similar cases came under my care, and one, in a confused state, conceived the unique idea of achieving suicide by completely severing his right tendo Achillis, no doubt under the impression that this tendon was a large blood-vessel. The serious import of cephalalgia as a symptom in cases of head injury must be emphasised, even though the injury seems to be of a trivial character.

Closely associated with pain as a symptom insomnia must be considered, for of all the causes of sleeplessness pain is probably one of the most potent. In this way a vicious circle is set up, the loss of sleep lowering the patient's general health and so aggravating the pain. It is not very difficult to realise that exhaustion symptoms may be added to the melancholic symptoms in such a case. In these cases, therefore, where there is any reason to suppose that increased intracranial pressure may be the cause of pain, it must not be forgotten that a lumbar puncture may afford considerable relief, even if only temporarily, and that the operation of decompression should ultimately be seriously considered.

Other symptoms commonly complained of are a feeling of restlessness and irritability, and lack of self-confidence and an inability on the part of the patient to concentrate his attention on anything. One case expressed himself as follows: "Before my head injury I used to fear neither God, man, nor the Devil, but now I have a feeling that something stops me doing things I used to do." Other cases expressed themselves as lacking in self-control and suffering from violent fits of temper from trivial causes. These feelings of irritability and loss of confidence seemed to be practically universal in greater or less degree and do not appear to be specially common to injury in one area more than in another.

Alcoholism.

Out of 14 cases in which it seemed that alcohol was an associated factor, further investigations showed that in eight of these cases the intemperance had developed since the head injury. It is probable that the injury brings about a loss of power of inhibition in this respect. That alcohol is sought for as a refuge from disturbing mental symptoms is becoming fairly generally accepted, and this especially applies to those cases with cephalalgia. The resulting symptoms were usually of a maniacal type when alcohol complicated the case. The quantity of alcohol consumed need not be large in such cases, for susceptibility seems to be very greatly increased, and I have met with patients in whom one glass of beer or cider seemed sufficient to bring on a maniacal outburst.

Any patient with head injury should be strongly advised to become a total abstainer, for tolerance to alcohol is likely to be considerably diminished and symptoms will be almost certainly aggravated thereby.

Epilepsy.

With regard to epilepsy, as has already been stated, 12 out of 15 were cases involving the skull or underlying structures, and all except one of these were in the parietal area. In the majority the injury was so extensive as to be almost incredible. In four instances metal still remained in the skull and eight cases had been trephined. The period of interval between the head injury and the first fit varies from hours to years. In only one case did the fits start almost immediately after the injury. The intervals between successive fits were irregular, some daily, some weekly, and others monthly. The status epilepticus may also occur; in one instance this came on 12 months after the injury, and in another there were three such attacks at intervals of 5, 8, and 12 months respectively after the head injury. The patient died in the last attack after a succession of 86 fits extending over the last four days of his life. The larger the osseous defect, in my experience, the greater the tendency to epilepsy, for all the bad cases occurred where large trephine openings had been made. A latent tendency to epilepsy will be precipitated by a head injury.

Luminal.—In the present state of our knowledge luminal is the drug seeming to give the best results in reducing the number of fits, though dialacetin, a French preparation, has recently been stated to compare favourably with it. Luminal is best given in the form of sodium luminal; the dose depends on the severity of the fits, and is from 1 to 2 gr. twice daily. It has superseded the bromides and does not produce the same dulling of the mental state. It is not a cure, however, and detailed regulations of the patient's habits must form an important part of the treatment of such cases. The removal from home surroundings, family difficulties, and exciting incidents is all-important, and in severe cases there is no question that treatment in hospital is the best course to adopt.

Amnesia.

In some cases there are recurrent periods of drowsiness lasting over periods of a few hours to several days without any definite fit in which the patient is helpless. It has been suggested that these attacks may be accounted for by a vasoconstriction of the minute vessels of the cortex causing a cerebral anæmia. Definite attacks of amnesia, however, occurred in 12 of the 100 cases of which six had frontal injuries. Of the remainder three were parietal, two temporal, and one an injury to the face. A common symptom in these cases was the complaint of a feeling of pressure in the head, which became aggravated before the amnesic attacks. No relation seems to exist between the amnesia and the severity of the injury. Half of the cases had superficial injuries; on the other hand, there were instances amongst cases of fracture of the parietal, temporal, and malar bones, and one case had a piece of metal in the great longitudinal fissure. There can be little doubt that these cases of amnesia present

considerable difficulty to the medical man without any special knowledge or training in such conditions, especially so, when these attacks occur with fugues. It is not an easy matter to distinguish them from an avoidance of duty which is purposive on the patient's part. Where, however, the patient has a definite skull injury I think the benefit of the doubt might be given in his favour more often. Amongst my series of cases were instances of N.C.O.'s having been reduced to the ranks for "absence without leave" where it had not been recognised till long afterwards that these periods of absence were really amnesic fugues following a head injury.

IMPORTANCE OF X RAY EXAMINATIONS.

I wish again to emphasise the importance of X ray examination, for in my experience no constant relationship exists between the apparent injury or superficial scar and the actual damage to the skull, and I feel very strongly that an X ray examination should be more regularly made in all cases. I purposely labour this point because some have even definitely discouraged X ray examination in the case of psychoneurotics on the ground that the information obtained has been disclosed to the patient, on whom it has had a detrimental effect. It was my misfortune to have such a man under my care; he had inadvertently been informed that he had a piece of metal in his brain, and, as a result of this, had conceived the idea that he was doomed to life-long misery. With his troubles thus increased, he considered himself better dead, and ultimately took active steps to hasten his end by strangulation. This was the cause of his coming under my care. It was, however, interesting to see the marked improvement that took place by therapeutic conversations and explanations of his misconceptions. In six months he expressed himself as free from the feeling of depression, and stated that the pain in the head was considerably relieved. Twelve months after discharge he replied to my communication asking after his condition, and, apart from attacks of pain in the head, reported himself as keeping well and free from depression. With the proviso, therefore, that information obtained by X ray examination must not be injudiciously handed on to the patient, I would urge its more general application, for there were many cases in which gross injury was found in this way, whereas prior to admission to the Psychiatry Section it had been overlooked. For instance, one man had been blown up by a shell and was picked up in an unconscious state and found on examination to have a right-sided facial paralysis. This soon cleared up and his chief complaint subsequently was of "thumping pains in the head." Three months later he developed epileptic fits. There was no evidence of head injury on inspection or palpation in this case when he came under my observation, and had it not been for the information gained by X ray examination an extensive fracture would have escaped detection, and little credit would have been given to the patient for his terrible experience. To dismiss a case as a

scalp wound is to forget that a great number of such wounds have some underlying injury. One has met with similar cases since the war.

CONCLUSIONS.

The cases in which there was evidence that the standard of intelligence was below the average prior to the head injury all showed a decided further lowering of standard. One had been reduced to the level of an imbecile and was unable to do anything for himself, and another was hardly able to understand anything that was said, although both had been earning their living prior to the head injury.

But other symptoms are commonly superimposed on the mental defect. These superimposed symptoms are of a wide variety; two developed epilepsy, one became melancholic, four exhibited states of mental confusion with hallucinations, two were of the maniacal variety, and one was a case in which the moral side seemed to have been chiefly affected.

Whereas there were four cases in which there was a history of previous admission to a mental hospital, there were, on the other hand, three cases with over 11 years' continuous service in the army with excellent character. Of the former it should be mentioned that one case had a kick in the forehead from a horse, causing a fracture of the frontal bone, prior to his admission to the mental hospital. An inquiry into the history of the remaining cases brought forth no evidence of conspicuous neurotic tendency, and therefore it seems difficult to support any argument that hereditary predisposition is a factor of great importance in these cases, bearing in mind always that where there are latent tendencies they are liable to be brought out by head injury.

It will be seen from the 100 cases of head injury presented in detail that I find it impossible to group them in any way which would show any relationship between the mental symptoms and the site of the injury, and although others have argued differently, I am unable to support their findings. On the other hand, it does seem clear that epilepsy is most commonly met with after gross damage to the skull, and especially so when this injury has been in the parietal region. I wish here once more to make emphasis on the necessity of more sympathetic consideration being given to a case where an injury of the head appears to be of a trivial nature and yet the patient is complaining of pain. It is deplorable to see how the attitude of the doctor may completely change towards a patient who presents any symptoms which cannot be readily accounted for by physical causes. If he loses interest in the patient this is quickly recognised by the latter and adds to his distress—it may be with fatal consequences.

It seems that in many cases in which there have been gradually accumulating difficulties, but

not sufficient to incapacitate the patient, there is a sudden increase of symptoms following even a mild concussion; then, in the low state of mental tension consequent on cerebral injury, the higher functions are in abeyance, and the unconscious and instinctive tendencies readily gain the upper hand. A number of cases on analysis showed the existence of mental conflict and repression, and treatment on psycho-therapeutic lines in many instances soon relieved the mental symptoms, and in not a few instances the headaches also were lessened in severity.

In cases with cephalalgia unsuspected fractures of the skull and foreign bodies in the brain may be found if resort is made to X ray examination. Again, ophthalmoscopic examination may reveal evidence of increased intracranial pressure although the disc has not been found to present any special features in any particular psychoses associated with head injury.

In most cases of head injury, therefore, help can be supplied through the various avenues of investigation and treatment that are now available, if time and patience are given. Such cases, however, must always be looked upon as mentally unstable persons and should not be subjected to stress or expected to compete with their fellows in the labour market, for occupation of any kind is not likely to be constantly attended to. From over 50 replies to inquiries addressed to relatives as to the condition of the cases above recorded, up to about 18 months of their having been discharged from hospital, it was ascertained that one had committed suicide, and all but five were in some way or other not quite themselves. All of the five who were reported as "quite well" were cases of superficial injury, and one of these against advice had re-enlisted into the army.

The following serves as a typical reply which I received as to the remainder: "My husband seems to be troubled with his head and is very changeable. He has had three good jobs and could not keep them owing to giddiness." Others stated that the patient was "irritable for days and unfit for work." "Can't bear noise"; "Is upset by small matters, very excitable, and no good for business"; "Is changeable in his moods and hard to put up with"; "At times very quiet"; "Sometimes he appears all right and other times his head is bad and his nerves in a jerky condition."

Any case, therefore, who has had a serious head injury must be looked upon as a mentally unstable person and should be viewed with sympathy and consideration. Removal from home surroundings and institutional care are necessary where acute symptoms present themselves, especially those of depression with cephalalgia. But until an alteration in existing laws is made so as to allow cases to be admitted voluntarily to mental hospitals in the earliest phases of their illness the best results cannot be achieved. For the present many, while waiting for the certifiable stage, will seek refuge in alcohol or suicide.

CHAPTER XXIX.—PSYCHOSES AND ORGANIC BRAIN DISTURBANCES. CEREBRAL TUMOURS.

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General Mental Symptoms.—Absence of Systemisation.—Specific Mental Symptoms: their Localising Value.

INTRODUCTORY CONSIDERATIONS.

THE association of gross cerebral lesions such as those occasioned by tumour growths with symptoms commonly classed as "mental" has often been remarked. Though it is true that some patients who find their way to asylums are discovered in the event to have been suffering from cerebral tumours, the actual development of definite and recognised psychoses in these cases is a distinct rarity. To maintain that cerebral tumour is one of the "causes" of psychosis would be rather far-fetched, in view of this admitted rarity of association, yet, on the other hand, symptoms and manifestations legitimately classed as "psychical" unquestionably accompany a fair percentage of cerebral tumour cases.

We have to distinguish, in this connexion, between general mental symptoms and localising mental symptoms—those with a local signature. If we believe that the brain is the organ of mind we should, *ipso facto*, expect disturbances of a psychical order when the organ is diseased. Hence, were our methods of examination subtle enough, we should calculate on finding some mental imperfection in the case of any organic cerebral lesion, independently of its nature, position, and extent. As a fact, however, many cerebral lesions are unaccompanied by any defect of the mental series recognisable as such by usual clinical methods. This is so in the case of tumours. Destroying lesions of afferent or efferent projection systems at their cerebral sites are commonly negative from this viewpoint. For the appearance of symptoms of the psychical order the lesions must either be situated in areas outside those dedicated to projection systems or be of such dimensions as to implicate these areas. Now in the case of intracranial growths we are dealing with organic lesions specially calculated to produce effects "at a distance" because of (1) the pressure they exert within a closed cavity, (2) their tendency to enlarge at the expense of the yielding brain, (3) their liability to develop toxic products the range of whose action cannot be limited. These facts notwithstanding, we are not yet able to say in a given case of tumour that mental accompaniments are, or are not, to be expected, though, as we shall see, knowledge has progressed a little in the direction of this problem's solution. Differential diagnosis has not yet reached a point where pressure effects can be separated clinically from toxic effects, nor do we know what kind of tumour, if any special kind, is more prone than others to have mental symptoms associated with its growth; we must

be content at present to group symptoms in a general category, fully admitting that similar manifestations may accompany cerebral lesions which are not neoplastic.

GENERAL MENTAL SYMPTOMS.

In view of the nature of the pathological processes concerned negative rather than positive symptoms, "paralysing" rather than "irritating," are to be expected; further, a certain vagueness, fluctuations in quantity and quality, so to speak, in general an absence of fixity and systematisation, are frequently encountered.

(1) *Impairment of Attention and Memory.*—The tumour patient probably complains more constantly of defect of memory than of any other symptom belonging to the psychical class. His capacity for retaining recent impressions undergoes a change; he cannot remember where things are put, cannot remember what he has recently heard or read. Customarily the amnesia does not affect the retention of older events. The degree of impairment ranges from the mild to the severe; the former is that which characterises the majority of cases. If we believe that "to observe attentively is to remember distinctly," then we can set down the amnesia or retention-incapacity to failure to attend, at least in some part. Clinical examination will not infrequently show wandering of attention.

(2) *Impairment of Insight, Judgment, and Concentration.*—The fine edge is taken off these intellectual qualities by the disease process. This is a natural result of the involution effected by the disease, the higher and more lately acquired intellectual processes suffering first, though not, it may be, most.

(3) *Impairment of Interest and of Affect.*—As notable as any intellectual outfall is failure of interest; a general apathy and indifference characterise the patient's mentality. Things that formerly interested him now fail to do so; his reactions to such stimuli are damped down; he exhibits poverty of initiative, spontaneity and response largely because he has become unconcerned. Thus mild, or serious, alterations in character and personality make their appearance, a symptom which probably impresses relations or friends more than any other; they say he is "different from what he used to be." Change in disposition and temperament also occurs; irritability and shortness of temper take the place of former equanimity and placidity. Sometimes, again, there is little else than a sort of restriction of the mental horizon, a general reduction of mental

activity and thought processes, but within this circumscribed range no apparent alteration in quality is observable. Once more, moodiness, depression of spirits, anxiety and other affective states or reactions may form the sole noteworthy departure from the previous normal.

The reader will observe that this description, of necessity somewhat indefinite and non-specific, in no material way differs from that of the general intellectual and affective deterioration that may characterise pathological states of a quite different kind—e.g., cerebral arterio-sclerosis, incipient senile dementia, and other involutinal processes. It may therefore convey comparatively little to those who have not had much occasion to study cerebral tumour cases to furnish concrete instances of the actual occurrence of one or other of the above-mentioned symptoms. There is no specific syndrome on the psychical side to parallel with the neurological triad of headache, vomiting, and papilloedema, even though it be of a general kind. Yet on occasion the recognition of one or more of these symptoms in a cerebral case may serve either to suggest the possibility of tumour or to substantiate a diagnosis of that kind made on other grounds.

SOME MORE SPECIFIC MENTAL SYMPTOMS.

(1) *Euphoria, Moria, and "Witzelsucht."*—A minor percentage of neoplasm cases exhibit a peculiar symptom consisting in a misplaced jocularity or joviality, a tendency to turn everything, including the examination, into a joke, a "joking ailment," a silliness, not only in contrast with the normal make-up of the patients, but in obvious contrast with their serious condition. It is more than a mere sense of well-being and is distinct from the euphoria of the cachectic case. When this symptom is pronounced it cannot fail to impress the physician, who should be on the lookout for minor degrees of it none the less. For instance, a patient with a calloso-frontal tumour from which he shortly afterwards died, said to his doctor, a serious-minded elderly gentleman of grave demeanour, "What are you doing in town to-day, sir? Having a romp around?" Conduct as well as words may reveal this curious attitude of mind. Its localising value is somewhat uncertain. In the writer's experience it has been met with more frequently when the tumour has had a frontal, callosal, or temporo-sphenoidal site. In one striking instance the tumour was ependymal (left lateral ventricle), however, so that the symptom cannot be said to be of specific value for topical diagnosis.

(2) *Catatonia, Flexibilitas Cereæ.*—Catatonic phenomena (see p. 78) identical, as far as external characters go, with those of a psychosis may occasionally be observed in tumour cases, and while they are nearly always bilateral they may in rare instances be preponderatingly one-sided. Interest attaches to the question whether the symptom is of psychogenic or physiogenic derivation in the case of tumours; mention may be made incidentally of the accumulating evidence associating its appearance with lesions on the paths between cerebellum, pons, and frontal lobes. According to the writer's

experience it occurs more particularly in tumours in front of the central fissure (Rolando).

(3) *Disorientation.*—Disorientation in time and space is a not infrequent symptom in the later stages of tumour. It is really much more a general than a specific symptom, inasmuch as it is clearly linked to disorder of memory functions, but a recent communication (Pierre Marie) suggests it is a characteristic of frontal lesions.

(4) *Dyspraxia or Apraxia.*—Inability to perform certain movements to order, in the absence of any paralysis or of failure to understand the request, is known as motor apraxia and has frequently been noticed in tumour cases. It is probably as often unilateral as bilateral. In this connexion it is interesting to recall that the patient in whose case the late Prof. Liepmann made the observations that led to the differentiation of the symptom was an inmate of an asylum, superficial examination of his peculiar disabilities of action having led to the conclusion that the man was "mad." A variety known as ideational apraxia can be distinguished; this, however, is more closely linked with the symptom that follows.

(5) *Agnosia, Imperception.*—Failure to recognise, primary perception being intact, is known as agnosia, and it is a not uncommon symptom. It may be confined to one sense avenue, or may implicate more than one. Agnosia is liable to occur when the tumour involves transcortical fibre-systems in the vicinity of projection centres of the sensory or afferent order, reducing these to relative isolation. Speaking generally, agnosia is found associated with tumours behind the central fissure (parietal, occipital, temporal). Apraxia, on the other hand, is a symptom likely to result from lesions involving the anterior parts of the brain (frontal, corpus callosum), but it has been seen also in cases in which transcortical paths from the parietal to the frontal lobes have been implicated.

(6) *Hallucinations.*—Irritative phenomena relating to the special senses, revealing themselves as hallucinations, may occur in cerebral tumour if the lesion is situated in the appropriate cortical fields. Jacksonian or generalised fits may be ushered in by an aura of a special sense, which is as definitely hallucinatory as any disorder of that class met with in the psychoses, for example. In tumours of the temporal lobe (uncinate region) gustatory or olfactory hallucinations are a common occurrence, usually coupled with a peculiar "dreamy state" (Hughlings Jackson). Parieto-occipital tumours may be accompanied by visual hallucinations, temporal tumours by auditory hallucinations. The unilaterality of hallucinations is more likely to occur in organic than it is in psychotic cases. It has been stated that hallucinations (visual) of the insane are coloured, whereas those of the sane are not, but this distinction is not in accord with facts of observation.

(7) *Disorders of Speech,* constantly found in the case of tumours occupying the speech area in the temporo-parietal region of the left hemisphere in right-handed persons, ought properly to be regarded as symptoms of the psychical series, and need here only be mentioned.

CHAPTER XXX.—PSYCHOSES AND ORGANIC BRAIN DISTURBANCES. CEREBRAL SYPHILIS.¹

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Pathology.—Acquired Syphilis.—Mental Symptoms.—Bodily Symptoms.—Differential Diagnosis.—Congenital Syphilis.—Parenchymatous (G.P.I.) and Meningo-Vascular Varieties.—Treatment.

SYMPTOMS of mental disorder making their first appearance in the middle period of life—especially in a male—should at least excite the suspicion of cerebral syphilis, and should lead to search for signs of organic nervous disease and inquiry as to a history of venereal infection. If either clue is present it should be at once followed up by an examination of the Wassermann reaction in the blood and, if necessary, in the cerebro-spinal fluid.

It should further be remembered that no age and no class is exempt from syphilis of the brain. The child may have the disease as the result of congenital infection, the elderly person may develop symptoms 20 or more years after inoculation. Members of the medical and nursing professions in particular may have been accidentally infected.

PATHOLOGY.

The symptoms of cerebral syphilis depend in the main upon disease and destruction of the nerve cells and fibres. Associated with this in some cases there is an increase of intracranial pressure due to inflammatory exudate and scar tissue.

Degeneration of the nerve cells may be caused directly by the action of spirochaetes within the brain (parenchymatous syphilis), or it may be due to an insufficient supply of nourishment from the blood, the result of narrowing of the arterial bed by endarteritis or impediment of the capillary flow by the pressure of inflammatory products (meningo-vascular syphilis). Post mortem the distinction between these two forms of cerebral syphilis—the parenchymatous and the meningo-vascular—is clear, and they are not commonly found together in the same brain.

Corresponding with this pathological distinction there are clinical features which in advanced cases enable us to distinguish accurately between the two forms of the disease. In the parenchymatous variety, which may be regarded as the true syphilitic encephalitis, the process of destruction is usually insidious in its onset and steadily progressive. This is the disease termed—long before its syphilitic origin was proved—general paralysis of the insane.² In the meningo-vascular type, localised paralyses, often of sudden origin, signs of increased intracranial pressure, and an intermittent course are the rule.

The recent development of laboratory tests affords a further means of distinction, so that the differential diagnosis between the two forms may often be made in the early stages of the disorder.

In text-books of medicine, therefore, it is usual

to find the two varieties separately described. Here, however, we are chiefly concerned with the early symptoms, and with those in particular which indicate mental disorder. *From this aspect, and at this stage, of the illness the differential diagnosis between the two forms is often difficult, sometimes impossible, and may rightly be considered a problem for the expert neurologist.* For the practitioner and his patient the essential diagnosis is that of cerebral syphilis. The early symptoms will, therefore, be described under this heading with an additional note upon the points in favour of a further qualification of syphilitic encephalitis or meningo-vascular syphilis.

In describing the *symptoms* a distinction must be made between the acquired and the congenital varieties of the disease.

ACQUIRED SYPHILIS.

A *history of infection* is to be obtained only in about half the number of cases. When present it is of the greatest importance. A story of gonorrhœa is of some value, for the two diseases may be acquired simultaneously, and when this happens the syphilitic infection is sometimes obscured by the other. The possibility of past exposure to infection also deserves inquiry and consideration.

The *latent interval* between the initial infection and the appearance of cerebral symptoms is usually 5 to 15 years. In many cases, however, the development of these symptoms is so gradual, or the remissions between temporary disturbances so long, that it is difficult to determine accurately the time of onset. There is much to be said for the view recently put forward that infection of the central nervous system occurs in the early (secondary) stage of the disease, and from that time forward is present as a smouldering fire which may for long periods cause no perceptible symptoms, but may, from time to time, flicker into flame, and eventually burst out into open conflagration. Affection of the meninges and blood-vessels, leading to headache and cranial nerve palsies, or to a cerebral thrombosis, may occur within a year of the initial lesion, and occasionally the signs of true encephalitis may appear after a lapse of only three or four years.

MENTAL SYMPTOMS.

The mental symptoms will, for the sake of clearness, be considered seriatim under suitable headings. The earliest disturbance may occur in any one of these spheres.

General Behaviour.

Deterioration of the personality is often manifested in the loss of finer habits. The patient is observed to be careless of his manners in eating

¹ Cerebral syphilis in this article is used to include all syphilitic affections of the brain whether parenchymatous (G.P.I.) or meningo-vascular.

² In these pages the title general paralysis of the insane will be discarded and syphilitic encephalitis used in its stead.

and drinking, coarse in his expressions, neglectful of his personal appearance, and generally forgetful of the common decencies. Changes of this kind may be apparent only to those who are closely associated with him, but are of great diagnostic importance. Unwonted indulgence in alcoholic or sexual excess may provide further evidence of a change in the character, or there may be occasional episodes of a more startling nature. These may or may not be of social significance. A previously steady man one morning suddenly took it into his head to uproot all the plants in his garden because he disliked their arrangement. In another case the nature of the disease was first suspected when the patient climbed over a wall into a neighbour's house before breakfast and demanded whisky.

Change may occur in the direction either of over- or under-activity. In the early stages the latter is more common. The patient ceases to take an interest in his hobbies or in his friends, and is content to lead a less active existence. Over-activity, when present, is usually associated with elevation of mood, and may find expression in busy (often fantastic) scheming, undue loquacity, or restless action.

Mood.

As early symptoms depression or apathy are more common than elation. The grandiose delusions of the text-books on mental diseases belong rather to the more advanced stages of the illness. The depression may be of mild degree and without definite reference, amounting perhaps to no more than a lack of self-confidence or over-anxiety. Sometimes it takes a hypochondriacal turn. Apathy may be a striking feature, so that a man, to the surprise of those who know him, may hear unmoved of the sudden death of one who is dear to him. Elation when it occurs is usually associated with bursts of over-activity, and is displayed in its initial phases as an exaggerated and brazen self-confidence. Together with any of these moods, which may show rapid variation, there is usually peevishness and undue irritability.

Intellectual Functions.

The intellectual functions are often among the earliest to be affected, but this may easily escape detection unless it is looked for carefully. The defect may appear while the patient is being questioned about his illness and past history. If there are any discrepancies between dates given he should be cross-examined upon these points.

It is a good plan also to apply certain formal tests. The procedure may be introduced by asking the patient if he has a good memory, upon which follows the proposal to test it. Inquiry as to the date and place of examination is often fruitful. The patient may, for instance, name the day of the month correctly, but give the year as 1895 instead of 1925. Or he may declare that he is being examined at his own home when he is in fact in the doctor's surgery. Memory for remote and recent events can be tested by questions about events of general interest such as the war, strikes, weather, &c., or, if the patient's circum-

stances are known, by reference to his own affairs. A simple test of some value is one designed to try the powers of retention. The physician, having explained his object, gives out a series of numerals, pausing half a second between each—e.g., 5-1-9-3-8-2-7, and asks the patient to repeat it. Three attempts should be allowed with different series of seven figures, and in case of failure the test should be repeated with varying series of six. The normal person of average education can retain seven figures correctly. Inability to retain six figures, if mental deficiency can be excluded, generally implies intellectual deterioration.

A further test which may be usefully employed is to ask the patient to memorise three facts for the space of five minutes. The physician, having explained the object of the test, mentions, for instance, an address—e.g., 217, Broad-street; the name of a flower—e.g., poppy; and a Christian name—e.g., Herbert. These the patient is asked to repeat as they are announced to him. The examination of the case is then continued, or the patient engaged in other conversation, and at the end of five minutes he is duly asked for the three facts. Failure is again suggestive of intellectual damage, but in estimating the results both of this and the preceding test due regard should be paid to the patient's previous education and manner of life, and to his mood at the time of examination. A person who is depressed and preoccupied with his own thoughts may fail owing to lack of attention rather than failure of memory.

Defective *judgment* is, of course, most noticeable in those who are accustomed to heavy responsibilities. Unaccustomed slips and failures will sometimes lead those who are associated with the patient to make the first suggestion that medical advice should be taken.

Insight.—Blunting of apperception as a rule obscures the patient's view of his own mental deterioration. He is thus apt to belittle and discount the evidence of his friends and is ready with excuses for any apparent misconduct or failure of memory. In some cases, however, especially when there is depression, he will himself complain to the doctor of his failure of memory, irritability, and lack of self-confidence.

Speech is frequently affected, either gradually as the result of an insidious encephalitis, or suddenly from vascular obstruction which, depending upon its extent, may or may not cause a coincident hemiplegia. A small area of softening may cause only a transient aphasia. In the cases of gradual onset the disturbance is a dysarthria rather than an aphasia. The patient halts and stumbles over difficult words, and is apt to omit, reduplicate, transpose or slur the syllables, coming to grief over such test phrases as "Methodist Episcopal."

Writing is commonly affected in the same way as speech, either gradually from a progressive degeneration, or suddenly from a vascular lesion, when it usually is associated with weakness of the arm. In the former variety the script loses its character and becomes irregular and tremulous, and there is a tendency to omit or reduplicate words or syllables similar to that observed in speech.

BODILY SYMPTOMS.

The general bodily condition as a rule is good and such changes as occur are confined to the nervous system. The face sometimes has a curiously greasy appearance.

Headache is a common complaint and probably in all cases indicates increased intracranial pressure from meningeal thickening. It may be localised or general, intermittent, or continuous with periodical exacerbations. Quite commonly there are long intervals of freedom alternating with severe bouts of pain. At its height the headache may be associated with vomiting.

Disturbance of sleep is not infrequent apart from the sleeplessness which may be due to pain. Insomnia is the commoner complaint and may be one of the first symptoms of the illness. In some cases excessive drowsiness may occur for short periods.

The occurrence of *epileptic attacks* is one of the commonest features of the disease. These may be of a Jacksonian nature, but are perhaps more often generalised or of the nature of petit mal. They are to be regarded as evidence of cortical damage, and as such may precede all other signs of the illness by weeks or months. Epileptic attacks commencing in a middle-aged man are always most suggestive of cerebral syphilis, and if a history of infection is obtained the diagnosis is almost certain, even though other clinical evidence may be lacking. A succession of epileptic attacks may usher in a state of acute mental confusion, with which there may be a considerable rise of temperature.

Of the *special senses* vision is sometimes affected early from primary optic atrophy. Papilloedema may be seen in cases of meningeal thickening. A syphilitic retinitis may provide a valuable clue to the diagnosis. Hearing is occasionally damaged from involvement of the eighth nerve in meningeal inflammation.

The *cranial nerves* deserve special attention. The Argyll Robertson pupil, when present, affords the most valuable evidence of parenchymatous syphilis. It may, however, be absent until the later stages of the disease. In the early stages slight inequality and irregularity of the pupils, especially if associated with a sluggish reaction to light, are points in support of cerebral syphilis. The face is often expressionless, and on close inspection involuntary twitching and tremor may be observed in the facial muscles, especially of the lips. A back and forth tremor of the tongue on protrusion is commonly seen. Inflammation of the meninges may cause paralysis of any one of the cranial nerves, singly or in combination. Those most commonly affected are the third, sixth, and seventh. Multiple scattered palsies indicate a widespread meningitis, and are usually associated with headache.

Sensori-motor System.

Hemiplegia or hemiparesis may result from cerebral thrombosis. The onset is sudden but often quiet, without loss of consciousness. A

seizure of this kind in a young or middle-aged person without signs of renal disease or general arteriosclerosis, is commonly due to cerebral syphilis. Sudden paralysis of monoplegic or hemiplegic distribution may also occur from a rapid extension of syphilitic encephalitis, and is then usually accompanied by some degree of mental confusion, headache, or drowsiness. With this there is sometimes a rise of temperature. Recovery from such a paralysis may be complete within a few days or weeks.

Transient hemiparesis often follows an attack of Jacksonian epilepsy, and may leave in its wake traces of permanent damage in the shape of weakness or altered reflexes. Hemiparesis of *gradual* onset may be caused by a localised gumma, when its development is usually associated with signs of increased intracranial pressure. Coarse tremor of the outstretched hands is sometimes a conspicuous feature.

Complaint of numbness down one side of the body with defect especially of deep sensibility is the sensory equivalent of a hemiplegia, and may occur from similar causes. It should also be remembered that syphilis frequently involves brain and spinal cord together, and that a history of typical lightning pains, or sensory disturbances of spinal root distribution may throw light upon the cerebral condition.

The *reflexes*, apart from the pupillary reactions, are not, as a rule, of much assistance in the early diagnosis. With the hemiplegic and hemiparetic conditions already described there is a corresponding disturbance of reflexes, and a persistent extensor plantar response following a Jacksonian attack may be of diagnostic value. Enfeebled or absent tendon jerks in the lower limbs, particularly if there is a discrepancy between the two sides, may provide evidence of coexistent spinal cord disease.

Anomalies of the *sexual functions* have been already referred to under the heading of behaviour. Together with increased desire there is often diminished capacity, which may amount to impotence.

The *Wassermann reaction* is in most cases of cerebral syphilis positive in the blood, but in a certain percentage (especially in the early case of encephalitis) may be negative. Fortunately for purposes of diagnosis, in these cases a positive reaction can nearly always be obtained in the cerebro-spinal fluid. It follows that in a suspected case the blood should first be taken. If the report is negative the cerebro-spinal fluid must be examined before the diagnosis of cerebral syphilis can be excluded.

DIFFERENTIAL DIAGNOSIS.

The psychoses associated with cerebral syphilis may be confused with others such as the following:—

Acute confusional states of other causation can only be distinguished from those of cerebral syphilis by the presence in the latter of a suggestive

history or physical signs. It may be necessary to have the W.R. examined to decide the point. But sudden episodes of this nature are rare in the early stages of cerebral syphilis. The cases in which depression is a marked feature may be mistaken for *mild melancholic* states. A valuable point of clinical distinction is the occurrence in the syphilitic disease of true memory defect, as opposed to mere retardation of the intellectual processes in cases of simple depression.

Neurasthenia.—This is a common and sometimes excusable mistake. The middle-aged man who becomes inattentive to his business, apathetic and irritable, and complains of headache and sleeplessness, is judged to be suffering from overwork and prescribed a holiday. The error in most cases can be avoided if a rule is made to *suspect* cerebral syphilis in every such case. This should lead to a careful examination of the mental and nervous systems, with particular attention to memory, speech, writing, and pupils, and to inquiry for a past history of syphilis.

Epilepsy.—There is no clinical means of distinguishing an attack of "idiopathic" epilepsy from one due to organic cerebral disease. Epileptic attacks commencing after the age of 30 are so frequently due to cerebral syphilis that this diagnosis should receive first consideration. Search should be made for physical signs, a history of infection should be sought, and the W.R. examined in the blood in every case. Should this reaction prove negative the case should be reconsidered, and if there is any clinical evidence in favour of the original suspicion, the spinal fluid should also be examined.

Chronic Alcoholism.—Headache, mental deterioration, slurring speech, tremors, and epileptic attacks may occur in chronic alcoholism. With symptoms of this severity, however, there will be a definite history of excessive indulgence, and there should be improvement with abstinence. The absence of pupillary changes is a valuable point in the diagnosis. But a negative W.R. in blood and spinal fluid may be necessary to exclude cerebral syphilis.

Cerebral Arteriosclerosis.—Mental deterioration, headache, insomnia, and, of course, sudden hemiplegia may occur in this disease, but in the variety which affects young or middle-aged persons there are, as a rule, unmistakable signs, such as high blood pressure, enlarged heart, and thickened retinal vessels, which serve to distinguish the clinical picture. Where a patient under the age of 45 develops a sudden hemiplegia, without evidence of generalised arteriosclerosis, renal, or heart disease, the case is usually one of cerebral syphilis.

Encephalitis lethargica, inasmuch as it commonly causes pupillary changes, headache, and apathy, may provide difficult problems in differential diagnosis. In this disease, however, the pupils, though often unequal and irregular in outline, as a rule react to light while failing to contract in accommodation—the opposite of the Argyll

Robertson pupil. But in a small percentage of cases true Argyll Robertson pupils may result from encephalitis lethargica. If together with this sign there is a definite history of the illness, or associated Parkinsonian symptoms, the diagnosis may be decided on clinical grounds alone. But if there is any doubt, recourse must be had to the W.R. in blood and spinal fluid.

Cerebral Tumour.—There are several respects in which the symptoms of cerebral tumour may resemble those of cerebral syphilis (Chapter XXIX.). In both headache, epileptic attacks, papilloedema, and cranial nerve palsies may occur, and in some cases of slow-growing tumours situated centrally or in one of the "silent areas" of the brain, progressive mental deterioration may be the most prominent symptom without obvious signs of increased intracranial pressure. In case of doubt an attempt should be made to localise the symptoms to a single area of destruction. If such a localisation can be made the presumption is in favour of a growth, since cerebral syphilis—save for the rare occurrence of a gumma—causes diffuse or multiple lesions. The W.R., which should be examined in the blood, and, except in the case of greatly increased intracranial pressure, in the spinal fluid, will help to decide the point.

CONGENITAL SYPHILIS.

This may cause a progressive encephalitis at any age from infancy to adolescence. Thus the child may be mentally deficient from the first, or may develop normally up to a certain age and then show signs of moral and intellectual deterioration, often associated with epileptic attacks. A striking feature of these congenital cases is the frequency with which changes are found in the fundus oculi in the shape of optic atrophy or disseminated choroido-retinitis. Argyll Robertson pupils are usually present, and the tendon jerks are often absent as the result of coexistent spinal disease. Meningitis with headache and papilloedema and cranial nerve palsies is extremely rare but may occur.

The diagnosis in young children has to be made from other forms of mental deficiency. The association of physical stigmata, such as bossing of the frontal bones, interstitial keratitis, Hutchinson's teeth, rhagades, or a history of syphilis in the parents, are the clues which should lead to examination of the W.R., which is, as a rule, positive in blood and spinal fluid.

In the older child the moral deterioration of syphilitic encephalitis has to be distinguished from that caused by encephalitis lethargica. In the latter disease there is usually a diurnal rhythm with the acme of mischievous excitement at night-time, there are often some signs of Parkinson's syndrome, and the affection after reaching its climax in a few months is non-progressive. In syphilitic encephalitis changes in the fundus oculi, associated stigmata, and a steadily progressive course are to be looked for. The W.R. may be needed to decide a doubtful case. In the adolescent the diagnosis has to be made from

dementia præcox. Here again a careful examination of the physical condition, together with the Wassermann test, will settle the question.

The W.R. has throughout been referred to as a critical point in the differential diagnosis. It should, however, be remembered that an undetected and symptomless syphilitic infection with positive W.R. may coexist with other disease, and, on the other hand, cerebral syphilis may exist with a negative W.R. So that, for instance, in a question between the diagnosis of cerebral syphilis and cerebral tumour the result of the W.R. should not be regarded as decisive, but should be considered in relation to the clinical evidence.

DISTINCTION BETWEEN PARENCHYMATOUS AND MENINGO-VASCULAR VARIETIES.

This is chiefly of importance in relation to prognosis, which in the case of the parenchymatous variety (or true syphilitic encephalitis) is usually considered hopeless, whereas if the symptoms are purely secondary to meningeal or vascular disease, they may be expected to improve or disappear with suitable treatment.

The best proof of direct cerebral affection is the presence of Argyll Robertson pupils, which are usually of grave import. Nevertheless this sign may represent a minimal and non-progressive parenchymatous involvement, and is not, therefore, of absolute significance. Other points in favour of the malignant form of the disease are: gradual onset of deterioration in the personality and intellect, speech disturbance of the dysarthric type, and tremors of the face, tongue, and hands. On the other hand, a sudden onset of paralysis without convulsion or mental confusion is good evidence of vascular disease, while severe headache, especially if associated with papilloedema, and multiple cranial nerve palsies indicate meningitis.

Further evidence may be obtained from the laboratory tests. In the parenchymatous variety the W.R. is almost uniformly positive in the spinal fluid, but may be negative in the blood. In the meningo-vascular type the blood, as a rule, gives a positive reaction, while the spinal fluid is often negative. Protein and cells in the spinal fluid may be increased in both forms, but more commonly in the parenchymatous.

The colloidal reactions in the spinal fluid are of especial value. In the parenchymatous form it appears to be an almost constant rule that sedimentation is complete in the first two or three tubes of the series (paretic curve), whereas in the meningo-vascular variety it is usually incomplete or absent in the first and second tubes, complete in the middle zone, and variable in the remainder. Even this test, however, is fallible, for in some cases which do well with treatment and are therefore presumed to be of the meningo-vascular type, the colloidal curve is of the so-called paretic form.

The final test in a doubtful case lies in the result of medicinal treatment. If this is effective in arresting the progress of the illness, and the patient remains free from new symptoms over a period of years, it may be assumed that he has been suffering from the meningo-vascular form of the disease.

MANAGEMENT OF THE CASE.

When the diagnosis of cerebral syphilis has been securely established upon the clinical evidence and W.R., the practitioner has to decide how best to explain the situation to the patient, his relatives, and friends. This is a question which will need careful consideration in every case. The following suggestions are intended for general guidance. In the case of a man the whole truth should be disclosed to the patient, and, as a rule, to a responsible relative—e.g., a brother. In the case of a married man the true nature of the disease may be withheld from the wife, the illness being referred to as a form of blood poisoning, caused by a germ, which is affecting the brain. This will afford an opening for the examination of the wife and children. If the patient can give a clear account of syphilis some years before marriage without any subsequent manifestation of an infective nature, and his wife and family appear healthy, the probability is that they are free from infection, but if there is any doubt in the matter, blood should be taken for a W.R. In the case of a married woman as soon as the diagnosis has been made the husband should be informed. The true nature of the illness may in this case be withheld from the patient by means of the formula already suggested. The children, if any, should be examined and their blood taken for the W.R.

Upon the questions of prognosis and treatment the practitioner may reasonably demand expert advice. At one end of the scale are cases with signs of mental deterioration, speech disturbance, Argyll Robertson pupils, and a paretic curve in the spinal fluid, in which a steadily progressive course may be predicted with some certainty. In such cases treatment may serve to retard the progress of the illness. At the other extreme are cases of cerebral thrombosis with little or no mental disturbance of a permanent nature in which, although some relic of the lesion will remain, treatment properly carried out may be expected to prevent recurrence.

There is a large intermediate group of cases in which, when they are seen in the early stages, no definite prognosis can be given, and the relatives must be informed accordingly that, although an accurate diagnosis has been made and the appropriate treatment applied, the passage of time alone can decide whether the progress of the disease will be arrested or merely retarded. As to the medico-legal aspect of the case, it may be pointed out that a diagnosis of syphilitic encephalitis, however accurate it may be, does not in itself provide any justification for a certificate of insanity. But the practitioner who is forearmed with such evidence as Argyll Robertson pupils and a positive W.R. is in a position to furnish a certificate at short notice should the patient's abnormal conduct threaten the well-being of himself and others.

TREATMENT.

In cerebral syphilis of the meningo-vascular type treatment by means of the ordinary antisyphilitic drugs is usually effective. Of these arsenic in the

form of one of the novarsenol compounds, given intravenously or intramuscularly, is the most important. A full course of injections should be given, subject to the limits of the patient's tolerance. At the same time potassium iodide and mercury should be given by the mouth. Full doses of the iodide should be employed. Patients who are intolerant of this drug appear to be upset as much by small doses as by large. Thirty grains thrice daily may therefore be given for the first few days, and if there is no intolerance may be increased. Many patients will take as much as 180 gr. a day without discomfort. The mercury may conveniently be given as a drachm of the liquor hydrarg. perchlor. in a mixture with the iodide. Some authorities prefer to give bismuth instead of mercury, and there are several preparations on the market for the intramuscular injection of this drug.

The results obtained from such treatment are particularly good in the meningeal cases with headache and cranial nerve palsies. In these cases, however, if the course of treatment is begun with an arsenical injection, there is some danger of a focal reaction, leading to oedema of the meninges, with an exacerbation of symptoms. It is best, therefore, in such a case to give full doses of mercury and iodides for a fortnight before commencing the injections of arsenic.

In the cases of cerebral thrombosis antisyphilitic treatment cannot, of course, be expected to have any effect upon the immediate symptoms. Since, however, it is usually one of the smaller arteries which is affected, the immediate prognosis in these cases is good. The aim of treatment is to prevent the further development of endarteritis.

On completion of the course of arsenical injections further treatment should be guided mainly by the clinical condition. If this is satisfactory the patient should be instructed to report for further treatment at once if any new symptoms develop, and should be advised, even if he feels well, to have a short course of treatment annually as the best form of health insurance. This course may consist of four arsenical injections at weekly intervals combined with mercury and iodides by the mouth.

At the end of the first course of treatment the blood and spinal fluid should be re-examined. A negative reaction in the fluid in place of a previous positive will be clear evidence in a doubtful case that the condition is one of meningo-vascular disease rather than a true encephalitis. A negative reaction in the blood as the result of treatment is of less consequence, but may be taken to indicate that the infection for the time being is quiescent. In many cases, however, treatment, though clinically successful, fails to alter the Wassermann reactions. In these it is not worth subjecting the patient to further treatment on this ground alone.

The quantitative test known as the Sigma reaction may be of considerable value, especially in the blood. It should be done at the commencement and at the end of the initial course of treatment, and should be repeated before each annual prophylactic course. A definite rise in the number of Sigma units may be the forerunner of further clinical trouble and is an indication for more energetic treatment.

In any case in which there is doubt as to the differential diagnosis between meningo-vascular disease and progressive encephalitis, treatment should be commenced on the lines indicated for the former. In true syphilitic encephalitis (G.P.I.) treatment of this kind, if persevered with, appears sometimes to retard the progress of the disease. Some cases, however, react badly, especially to the arsenical injections, and if this seems to be the case they are better discontinued.

Malarial Treatment of Syphilitic Encephalitis.

In 1917 Wagner-Jauregg, of Vienna, first attempted the treatment of this condition by inoculating the patient with malaria. The results were sufficiently encouraging to inspire further work on these lines, and during the past three years large numbers of cases have been treated in this way, both on the Continent and in this country. The patient is inoculated either by means of malaria-infected mosquitoes or by the injection (intravenous, intramuscular, or subcutaneous) of a small quantity of blood taken from a case of malaria at the height of the illness, the benign tertian parasite being used. The patient is allowed to have 8 to 12 rigors and the injection is then cut short by the administration of quinine. Some authorities supplement this by a course of arsenical injections.

From a study of the reports already published it appears that the immediate effect of this treatment is to bring about a remission of the illness in a considerable number (30 per cent.) of cases. This is most likely to occur in the early stages of the illness, and a number of patients so treated have recovered sufficiently to return to their work. Spontaneous remissions of the same kind are known to occur in the disease, but the proportion of remissions after malarial treatment is definitely higher than in non-treated cases.³

Despite the clinical improvement, there is no alteration in the Wassermann reaction, either in blood or spinal fluid, nor any change in the physical signs. The ultimate fate of these cases is still uncertain. Against these successful results must be set a mortality-rate varying in different reports from 15 to 28 per cent. of cases so treated.

³ According to Kirschbaum, the proportion of remissions in untreated G.P.I. is 11.4 per cent.

CHAPTER XXXI.—MENINGITIC CONDITIONS.

TUBERCULOUS MENINGITIS AND CEREBRO-SPINAL FEVER.

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Tuberculous Meningitis.—Mental State in Adults and Children.—Diagnosis.—Cerebro-spinal Fever (Meningococcal Meningitis).—Mental State in Adults and Children.—Diagnosis.—Mental Sequelæ.—Pneumococcal, Streptococcal, and other Forms of Meningitis.

TUBERCULOUS MENINGITIS.

TUBERCULOUS meningitis is more frequently met with in children than in adults. It occurs during the first year of life but is more common between the second and fifth years, and no subsequent age-period is exempt. Apart from a few cases of excessive rarity, tuberculous meningitis invariably proves fatal.

MENTAL STATE IN ADULTS.

In adults, the onset of the disease is usually gradual and insidious, often lasting over a period of two or three weeks or longer, and characterised by an increasing failure in general health, lassitude, and by headache developing in intensity. The mental condition is at first one of apathy and hebetude; diurnal somnolence may be present, while at night the sleep is restless and broken, and disturbing dreams cause the patient to call out. At this stage an anxiety hysteria may be simulated and erroneously diagnosed. Later, however, as physical weakness increases, delirium usually appears; at first the delirium may be mild and merely nocturnal, but is often rambling in character and alternates with stupor. When spoken to, however, the patient will sometimes rouse sufficiently to answer questions intelligently, and is even capable of recognising friends, but he soon relapses into a stuporose condition. Occasionally, the headache may be so intense that it breaks through, as it were, the delirium or stupor, the patient pressing his hands to his head and groaning. Some patients are completely incoherent, and when addressed appear to listen but answer in unintelligible nonsense; the writer has known such cases mistaken for delirium tremens. As the disease progresses, apathy becomes more pronounced and consciousness more obscured. Periods of muttering delirium may interrupt the increasing stupor; a few cases exhibit considerable restlessness, continually trying to get out of bed; intense restlessness, however, is not so frequent as in cerebro-spinal fever. Finally, the stupor is replaced by coma in which the patient dies. The course usually extends over

two or three weeks, and is generally progressive, although temporary remissions of short duration may occur. Occasionally, the disturbance of consciousness does not develop gradually but abruptly, without warning, resembling an apoplectic seizure. Other cases pursue a very rapid course and prove fatal within a few days.

In rare instances the patient retains full consciousness until within a few hours of death, exhibiting only profound depression and prostration. Cases also occur which are essentially chronic and display symptoms of a localised meningitis, occasionally with pronounced psychical disturbances. The patient may be able to get about, but only in an absent-minded or dream-like manner; or the condition may be one of agitated confusion. Cases have been described in which the first symptom was aphasia, while in others the signs simulate those of cerebral tumour by the presence of monoplegia, hemiplegia, cortical epilepsy, &c. In these cases there is probably a local tuberculous meningo-encephalitis which later becomes generalised.

MENTAL STATE IN CHILDREN.

In children, the onset is equally insidious. At first, the previously bright and happy child becomes unusually quiet and seems unduly tired, desiring only to loll about and not talk. Often good-tempered and cheerful children may develop peevishness, taking no pleasure in their games, and exhibiting considerable irritability. Other alterations of behaviour have also been noted, the obedient child becoming disobedient and troublesome. Such changes have been mistaken for hysterical manifestations. Sleep is often restless and disturbed by mild delirium. In older children restlessness and excitement occasionally occur early in the disease and may simulate mania. In other cases slight mental confusion is seen, wrong phrases being used, while the patient appears otherwise clear and rational.

Within a few days, however, the almost constant symptoms of vomiting, persistent headache, and pyrexia appear, together with drowsiness of

increasing intensity. For some days the child may reply to questions, if roused, and even take a transient interest in his surroundings. At a slightly later stage, photophobia and considerable irritability may be shown, the child being most resentful of disturbance. The patient then continues in a state of lethargy, which may be interrupted by periods of delirium, teeth-grinding, convulsive attacks, or an occasional short cry. Finally, the lethargy gradually passes into coma in which death occurs.

The duration of the course in children varies from one to four weeks, not including possible prodromal symptoms.

DIAGNOSIS.

The diagnosis is made by careful attention to the nature of the onset, the presence of headache, vomiting and pyrexia, the mental condition, and the physical signs. The vast majority of cases of tuberculous meningitis are secondary to some tuberculous focus elsewhere, such as caseous mediastinal or mesenteric glands, pulmonary infection, or as part of a general miliary tuberculosis; it is doubtful, indeed, if a really "primary" tuberculous meningitis exists. Nevertheless, it is by no means frequent that a definite primary tuberculous focus can be demonstrated clinically. Apart from the mental state, the pupils may be unequal and react sluggishly to light, but neck rigidity and Kernig's sign, if present, are, as a rule, moderate only and much less pronounced than in other forms of meningitis. Papilloedema may sometimes be found, and retention of urine is occasionally a very early symptom. Complete diagnosis rests on the results of cerebro-spinal fluid examination. On withdrawal, the fluid is either clear to the naked eye or only very slightly turbid. The protein content is invariably increased, and the globulin tests (Noguchi, Nonne-Apelt) strongly positive. Both the sugar and chlorides, however, are considerably diminished. In comparison with other forms of meningitis, the cells are relatively fewer and lymphocytes predominate often up to 90 per cent., although these cells are constantly associated with a small number of polymorphonuclear, plasma, and large endothelial cells. After a long and patient search, tubercle bacilli may be found in films of the centrifuged deposit stained by the Ziehl-Neelsen method. Hemenway considers that the bacilli could be demonstrated in 90 per cent. of cases, but in our experience the percentage does not reach this figure.

Occasionally, difficulty may be met with in distinguishing cases of tuberculous meningitis from those of encephalitis lethargica, or, more rarely, from hydrocephalic cases of cerebro-spinal fever coming under observation only late in the disease. The cerebro-spinal fluid of encephalitis lethargica, however, differs from that of tuberculous meningitis in that cells, when present, consist entirely of lymphocytes with an occasional plasma cell; also, the protein content shows only a small increase which is not proportional to the cellular increase (dissociation albumino-cytolo-

gique). Further, in encephalitis lethargica the chlorides are normal or increased, while the sugar content is not diminished and may be increased. In chronic hydrocephalic cases of cerebro-spinal fever, the cerebro-spinal fluid may present an almost identical picture both chemically and cytologically (meningococci being absent) with that of tuberculous meningitis. Diagnosis may rest entirely upon careful attention to the previous history and nature of the onset, and upon either the demonstration of tubercle bacilli or the cultivation of meningococci after "enrichment" of the cerebro-spinal fluid by incubating it for 24 hours at 37° C.

CEREBRO-SPINAL FEVER.

Cerebro-spinal fever may be defined as an infectious disease occurring both sporadically and in epidemics, and caused by the meningococcus of Weichselbaum. It occurs at all ages up to 50 years; after this the disease is rare. In most epidemics the greater number of cases have occurred in children below 15, but in a few outbreaks the number of patients over 20 years have exceeded the younger.

MENTAL STATE IN ADULTS.

In acute adult cases, at a variable time from the onset and following the initial vomiting, delirium occurs in most instances. Its appearance varies from within a few hours of the onset in fulminating cases, to several days in subacute cases; in the average case delirium is present by the second or third day. The actual character of the delirium varies according to the type of case; in some it may be merely nocturnal, consciousness appearing quite normal during the daytime; in others it may consist of a low muttering for the first few days of illness. At times a patient will be delirious when undisturbed, yet when roused answer questions quite intelligently; or periods of delirium will alternate with phases during which the mind is perfectly clear. In acute cases, however, there is often great restlessness and considerable excitement, difficulty being experienced in keeping the patient in bed. Such patients may be noisy, violent and maniacal, and many, in the writer's experience, have been mistaken for examples of acute mania or acute alcoholism.

The initial delirium in most cases is succeeded by stupor, considerable irritability, however, being exhibited to sensory stimuli. As a rule, the patient lies on his side with the limbs flexed, takes no notice of questions, but is extremely resentful of any interference, especially of an attempt to turn him into a supine position. This irritability is also well shown by the active withdrawal of the leg on plantar stimulation. It is usually impossible to rouse the patient sufficiently to obey a command or reply to a question, and he may mumble incoherently when addressed. Fluids poured into his mouth from a feeding cup, however, are often swallowed quite well. In many cases the response to the initial lumbar puncture and serum injection is dramatic, the stupor rapidly passing off and

the patient being fully conscious by the next day.

In cases remaining untreated and in those failing to respond to the treatment adopted, delirium or stupor is sooner or later succeeded by coma. A few patients pass straight into stupor or coma without a preceding stage of delirium; most frequently this occurs only in fulminating or very acute cases. As glycosuria occasionally occurs in meningitis, the case may be erroneously diagnosed as one of diabetic coma; in the writer's experience this mistake has been made in several instances. The vast majority of cases terminating fatally die in a comatose condition. The presence of coma, however, does not necessarily indicate that the case is hopeless, as one has seen patients quite comatose and unresponsive to stimuli who, under treatment, have finally recovered.

Those cases which A. M. Kennedy and the writer have described as the "progressively purulent" type of the disease—in which the cerebro-spinal fluid becomes increasingly dense and more purulent—frequently show distinctive mental changes. The delirium is usually mild at first, but increases towards the fourth to seventh day of illness; definite delusions may then be present and visual hallucinations are sometimes a marked feature. Thus, one case—an alcoholic—continually saw beer bottles and casks of whisky by his bed, and a second case saw plates of sausages. Death may occur in these cases during the delirious stage without the supervention of coma.

In cases developing internal hydrocephalus, the mental condition may at first be practically normal, but the patient soon becomes drowsy and lethargic, although he may still answer questions rationally if roused. With increasing lethargy, loss of memory for recent events may occur, recollection of past events remaining clear. Periods of low muttering delirium are frequent, and may alternate with states of apathy or stupor. Towards death, a comatose condition is almost invariable.

As regards subacute cases, drowsiness and delirium may be present in the early stage, and although drowsy and confused, the patient will often answer questions fairly intelligently when roused. Delirium is liable to occur at irregular intervals during the first five or six days; following this, in favourable cases, consciousness becomes normal. In the majority of mild and abortive cases, the mental condition remains normal throughout; in others, there may be only occasional drowsiness or nocturnal delirium during the first three or four days of illness.

Some of the more chronic cases, particularly if hydrocephalus be present, may exhibit certain peculiar mental features. For instance, amnesia for recent events may be met with, the mind otherwise appearing clear. Occasionally, definite delusional states may occur; thus one patient during the third week of illness carried on long conversations with people he knew and imagined to be sitting beside him. Rambling incoherence, puerility, emotionalism, and various temperamental changes may also be observed during the course of the disease.

MENTAL STATE IN CHILDREN.

In infants and young children no delirium, of course, occurs, and definite loss of consciousness during the early stage of the disease is rare in patients below three years of age; they may, however, exhibit restlessness and irritability. As the disease becomes more chronic and internal hydrocephalus develops, young children show a progressive loss of interest in their surroundings. Later—and especially in cases of the so-called posterior basic type—extreme apathy appears, the patient lying quite motionless, taking no notice of anything, the eyes being open and staring with a peculiarly vacant look. As a rule, however, feeding is not difficult. French authors mention a distinctive hydrocephalic cry (*cri hydrocéphalique*)—purposeless and of anxious high-pitched tone—which is quite automatic and independent of pain.

Insomnia is frequently a troublesome feature both in children and adults. To some extent it is accounted for by the presence of severe headache, while meningeal irritation probably plays a part.

DIAGNOSIS.

Early diagnosis in cerebro-spinal fever is of paramount importance, as statistics invariably show that the earlier treatment is begun the greater are the chances of the patient's recovery from the disease. Among the symptoms which assist early diagnosis are pyrexia, headache—generalised and of increasing intensity—and vomiting, all of which are practically constant. The most valuable physical signs are: (1) rigidity of the posterior cervical muscles; (2) Kernig's sign; (3) the pulse-temperature ratio, comparatively slow pulse-rate with high temperature; (4) the presence of delirium or stupor with irritability; and (5) in infants, tension or bulging of the anterior fontanelle.

Rigidity of the neck muscles is most important and in the writer's experience the first physical sign to develop; it is sometimes present within five or six hours of the onset of meningitis and almost always within 12 hours. Head retraction as a sign is useless if meningitis is to be diagnosed early; it seldom develops before the third or fourth day of illness, and in many adult cases is absent throughout the course. Kernig's sign is slightly later in its appearance than neck rigidity; it is often present within 12 hours of the onset of illness and is almost invariably positive at the end of 24 hours. The sign is of no value in infants below the age of 2 years. Brudzinski's signs are of secondary importance only and seldom obtained in the absence of Kernig's sign. Retention of urine, when present, is an important symptom; it sometimes occurs within 24 hours of the onset.

Conclusive diagnosis can only be made by examination of the cerebro-spinal fluid. On withdrawal the fluid is purulent or turbid, and microscopical examination of stained films of the centrifuged deposit reveal the presence of numerous polymorphonuclear cells, a smaller number of

lymphocytes both large and small, and a few degenerate endothelial cells. In films stained by Gram's method meningococci are seen intracellularly or extracellularly in varying proportions, and may also be obtained on cultivation of the fluid.

Treatment.

Since early treatment is of paramount importance, the intrathecal administration of anti-meningococcal serum should be carried out as soon as the disease is suspected. Following the confirmation of the diagnosis, sero-therapy is energetically pursued until definite clinical improvement is manifest and meningococci disappear from the cerebro-spinal fluid.

MENTAL SEQUELÆ.

Following recovery from cerebro-spinal fever, mental impairment in the adult is very rare. From 1915 to 1919, in examining over 260 soldiers recovered from the disease, the writer met with no instance in which permanent mental enfeeblement resulted. Bourke, Abraham, and Rowlands state that of 77 military cases recovering, feeble-mindedness was present in two. Emotionalism and puerility developing during the course of the disease may persist for a short period following the cessation of meningitis, but as a rule all such mental symptoms disappear very soon after recovery. Mild confusional states have also been described as occurring late in the disease, and persisting into convalescence for several weeks, then disappearing completely. Among minor psychical changes, irritability, unevenness of temper, impairment of memory, and inability to concentrate the attention for any length of time are relatively frequent. French authors also describe moroseness, morbid shyness, and pronounced egoism. Such changes rarely persist but disappear after a variable period.

As regards permanent mental defects following the disease in infants, Looft estimated that 3.7 per cent. of 539 idiots owed their condition to an attack of meningitis. Netter is probably right in attributing the result in the majority of such cases to insufficient sero-therapy. Cases in which apparent dementia results are often suffering from chronic hydrocephalus, which in some instances may persist for a considerable period. In all cases with mental impairment care should be taken to exclude hydrocephalus, even though apparent recovery from meningitis has occurred.

PNEUMOCOCCAL AND STREPTOCOCCAL VARIETIES.

Pneumococcal meningitis is usually very acute and the development of serious symptoms so rapid that the physical condition of the patient overshadows the mental aspect; consequently such cases are unlikely to be mistaken for examples of early mental disease. Otherwise, the mental changes are similar to those of acute cerebro-spinal fever. Subacute cases, however, do occur in which the mental condition may be normal at first, delirium and intense restlessness developing later. In those terminating fatally, coma eventually supervenes; several instances of recovery, however, have been reported.

Pneumococcal meningitis may occur as a primary condition, or it may be secondary to a focus of pneumococcal infection elsewhere—the middle ear, accessory sinuses of the nose, lungs—or forming part of a pneumococcal septicæmia. It is not so commonly seen secondary to pneumonia as is generally supposed, the number of cases being under 2 per cent. The diagnosis is made on the presence of the usual signs of meningitis and the finding of numerous polymorphonuclear cells and pneumococci in the cerebro-spinal fluid.

Streptococcal meningitis is almost invariably secondary to infection elsewhere—penetrating wounds of the cranium, otitis media, accessory nasal sinus disease—or following operations upon the nose. The cases are characterised as a rule by the onset of severe generalised headache and vomiting, followed rapidly by impairment of consciousness. Incoherence and delirium soon make their appearance, while intense restlessness and excitement often develop. Most cases prove fatal, but several instances of recovery in cases following otitis media have been recorded.

The diagnosis rests upon the demonstration of polymorphonuclear cells with streptococci in the cerebro-spinal fluid.

OTHER FORMS.

Instances of meningitis resulting from various other organisms occur more rarely. Thus, cases of meningitis due to the staphylococcus, *B. anthracis*, *B. coli communis*, *B. typhosus*, *B. fusiformis*, micrococcus flavus, gonococcus, spirochæta icterohæmorrhagica, and the bacilli of Pfeiffer, Friedländer, and Gaertner have been recorded. These show nothing distinctive in their mental changes or physical signs.

CHAPTER XXXII.—PSYCHOSES ASSOCIATED WITH SENILITY AND ARTERIO-SCLEROSIS.

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Senile Dementia.—Differential Diagnosis.—Treatment.—Dementia following Arterio-sclerosis.—Differential Diagnosis.—Treatment.

It is impossible to draw any hard-and-fast lines in considering the relationship of mental disease to age, and both physiologically and psychologically the period at which old age may be said to arrive will vary considerably in different individuals. We must be on our guard from necessarily relating in any intimate way senility with any psychotic state that presents itself, and it must be borne in mind that any psychosis may show itself at this period or there may be exacerbations of abnormal mental traits which previously may have only been dimly recognised. One would, then, suggest that every case be studied on its own merits. Involutional conditions (see Chapter XX.) grade imperceptibly into the present group. For clinical convenience we may presume that the commencement of senile life should be taken at the age of 65. If we study the organism as an integrated whole we shall note that at this time both body and mind are losing their potentialities, their resisting power, and that degenerative processes are at work which may or may not be productive of mental symptoms. In the pure senile psychoses psychological processes and complications are of much less consequence compared to the morphological changes in the central nervous system, and they are then sharply marked off from the psychoses met with at the involutional period. Nevertheless, it seems probable that mild mental abnormalities occurring in senescence may result from some abrupt termination in the ordinary interests of life. Here we really have to do more with a special psychopathic disposition than any special age limit. We know that there are so many who live on mentally healthy in their advanced years that we must always presuppose that a pure senile psychosis will have its source in pathological brain change. We may usefully, for the purposes of description, divide the psychoses of old age into those of senile dementia, arterio-sclerotic dementia, and presbyophrenia, but we shall often find mixed clinical and pathological features. It is not, of course, the label that matters, but an understanding of the underlying factors.

SENILE DEMENTIA.

First, the mildest form of senile dementia may be only an exaggeration of the physiological change in age in which there is the tendency to a narrowing of the world's interests, an inability to retain new impressions, or to react to them with much show of emotion. In more marked grades definite mental symptoms come into the foreground. Though arterio-sclerosis may be found associated with dementia, the conditions must be differentiated.

In the present state of our knowledge we usually can only speculate as to the ætiological factors which may lead to senile dementia. The influence of heredity is difficult to gauge, but in all probability has more relationship than we think, though perhaps very indirectly. Various toxic factors, endogenous and exogenous, may in some way contribute, such as alcohol, syphilis, endocrine disturbance, or alimentary auto-intoxication. The mental symptoms arising are naturally those indicating a general deterioration. Memory failure is commonly the primary symptom to which attention is drawn (see Chapter XIV.). There is a failure of registration so that there is a difficulty or absence of the retention of new impressions, whereas the recollection of earlier experiences is well maintained even late in the disease. Ultimately the memory gaps increase more and more until the memory content is only that of childhood. Naturally, such a symptom leads to perversion in conduct and emotion. Irritation may be evinced because the patient thinks he has had nothing to eat when he has just had his dinner, or may regard something as stolen because he forgot where he put it. Frequently these memory gaps are filled in unconsciously by fabrication. The perception of environment soon becomes very faulty so that confusion and defects in orientation are shown. Primarily these are more manifested at night-time when the patient may get out of bed in the middle of the night to perform some daily act. Later there may be an absolute loss of correct ideas of time and surroundings associated with gradually increasing paucity of the range of thoughts.

The emotional moods vary. Depression is not uncommon, childish irritability is frequent, but in the final stages a general emotional deterioration occurs. Related to the emotional state delusions and hallucinations often enter the picture. Ideas of persecution and suspicion, and especially those of being robbed, are very common in senile disease, but in the depressed cases delusions of wrong-doing and hypochondriasis may appear. The hallucinations are mainly auditory and relate to their delusions, but are not a marked feature. Conduct is largely guided by the emotional state, but a childishness is constantly apparent with a lack of power of restraint. Illusions from faulty perception we can understand are likely to be present. In their confusion senile demented may wander aimlessly away, may go to bed in the middle of the day, or may collect useless rubbish. At night they tend to be sleepless and may become active with some irrational and unproductive movements which seem

to have some goal but in which the onlooker can see no sense (occupation delirium). Sexual conduct of a shameless and perverted type may be indulged in and the personal habits may become dirty in the extreme. A physical examination will reveal the signs of old age, which we need not describe. A tremor is frequently noted so that the handwriting is characteristically affected. The pupils may be myopic and sluggish to light.

Such is a general description of senile dementia, but several atypical forms are described.

Atypical Forms.

Atypical forms include a very active confusion (*senile delirium*) and a paranoid variety where persecutory delusions are highly prominent with a clearer orientation (*senile paranoia*), and atypical cases with arterio-sclerotic complications. We have, too, a condition known as *presbyophrenia* which, though presenting the usual signs of senile dementia, varies from it in certain ways. *Presbyophrenia* is not typically common and is seen more in women. In certain ways it is more allied to arterio-sclerosis which is often present, and these patients usually die of cerebral hæmorrhage. They show a great loquaciousness, but through their great memory weakness they rapidly lose the thread of their converse and may produce almost a word salad. Notwithstanding their profound disturbance of orientation they can, however, often reply correctly, and may even for a time carry on an orderly conversation. There is always, too, a tendency to a ceaseless activity of a useless nature carried out with an amiable humour. Extreme memory falsifications are common. Senile dementia progresses only slowly if no complicating factor appear. General deterioration of mind and body increases. There may be episodic exacerbations of excitement, depression, or confusion. Melancholic cases may so remain until death.

DIFFERENTIAL DIAGNOSIS.

There is no need to dwell on the question of morbid pathology in a contribution which has a practical clinical aim, but it may be said that the entire brain is reduced, the nerve-cells undergo a variety of degenerative changes, and the blood-vessels frequently are atheromatous. Focal lesions may, too, be present. Differential diagnosis may sometimes lie in a distinction between a mild senile dementia and a natural senescence. This will be an arbitrary line which will depend purely upon the severity of the symptoms. The definite presence of arterio-sclerosis with its local manifestations will distinguish it from this other form of dementia to be later described. A careful investigation of the central nervous system will reveal any focal lesions, and the possibility of general paresis being present must be thought of in such examination, for the disease may even occur at this age-period. The polyneuritic psychosis of Korsakow must also be borne in mind when we meet with extensive memory confabulations as especially are found in *presbyophrenia*. Lastly, the excited or especially depressed types may really be evidence of late manic-depressive insanity coloured by a senile deterioration.

Alcoholism may complicate the senile mental picture. It may hasten senile changes, it may produce physical signs akin to general paresis, or may cause manic symptoms with persecutory delusions.

TREATMENT.

Since senile dementia is an incurable state, its treatment becomes purely symptomatic. The question of prophylaxis simply involves the avoidance of all undue strain upon a predisposed nervous soil and the obviation of excess in such agencies which might have a deleterious effect.

When evidence of a simple senile dementia appears its progress may be obviated by the prevention of any undue strain on mind and body through the leading of a quiet life free from responsibility. The question of certification may arise, but must be settled according to each individual case. The milder types can usually be cared for at home provided that adequate supervision can be given. Much will depend on the wish of the relations to undertake the responsibility and the question of finance. It may be borne in mind, however, that in those cases in which disorder of conduct is not prominent and certification is not desirable, complete control of the patient's affairs without actual certification, can be obtained by taking advantage of Section 116 D of the Lunacy Act. In the severer hallucinated or excited types the patient is far better in an institution where skilled treatment and control can be constantly given. Home care can again be given when the case has become severely deteriorative and nursing becomes the only factor involved. The question of responsibility when anti-social acts bring the senile dement into the hands of the law again is an individual problem. Usually the law looks upon such an individual with a kindly eye when adequate evidence as to senile symptoms is brought forward and it is seen that proper control can henceforth be given. Whether at home or in an institution, much care will be necessary over conduct, habits, dietary, and sleep. Dietetic measures will often aid insomnia, but mild hypnotics are usually needed. Bromides, veronal, and paraldehyde are useful in this respect. Opium administered two or three times daily is often good periodically in the anxious and restless types, while the prolonged warm bath is the most efficient treatment if there is much excitement. In advanced cases intercurrent disease and bed-sores must be avoided.

DEMENTIA FOLLOWING ARTERIO-SCLEROSIS.

As may be supposed, dementia from arterio-sclerosis will have much in common with senile dementia, but it has many distinctive features which warrant a separate description. It must be noted that severe cerebral arterio-sclerosis may be present with little or no evidence of this in the general arterial system and vice versa. It is not sufficient for the practitioner to diagnose such a mental disease because the radial artery shows changes. The diagnosis must rest on the age and the whole clinical picture. We shall probably find that there is a personal predisposition and that

there is a high blood pressure. In early cases the factors of alcohol and syphilis may be adjuvant. Widespread cerebral changes are found pathologically. There is much degeneration with focal destruction of tissue through softenings and hæmorrhages, and a general atrophy of the brain. The characteristic feature of the cerebral arterio-sclerotic process will be these focal occurrences. More than one form has been described on a pathological basis, but there is no necessity here to describe the neurological findings apart from possible complicating mental symptoms.

The symptoms come on gradually and are those of a progressive deterioration of the mental faculties with frequent or permanent neurological disorders. There may have been morbid indications of cerebral arterio-sclerosis for some time, such as headache, dizziness, local motor or sensory signs, and an epileptiform or apoplectic attack may usher in a mental change. Early fatigue or a lessened capacity for work, with a defective memory, are initial signs. The individual becomes sleepless and painfully aware of his mental change in contra-distinction to the senile dement. The memory fails in much the same way as in the latter patient, and a decreasing interest is taken in worldly affairs. The emotions are apt to vary a good deal, but irritability and suspicion are common. To begin with there is little confusion as to time and place, but later orientation is much disturbed and there may be special periods of extreme confusion. Delusions, commonly of a persecutory nature, may appear, but are loosely held and do not influence conduct to any appreciable degree. Hallucinations are infrequent. Delirious anxious states periodically may arise. There is not the same deterioration of the personality as in other states, and it is surprising sometimes to note correct memories and judgments going hand in hand with other amnesias and mental failures. As we have already said, neurological signs will also show themselves. There may be aphasia, apraxia, hemianopsia, or hemiplegia, with various sensory disturbances. In some cases epileptiform convulsions may be so prominent that the condition is regarded more from the epileptic standpoint than an arterio-sclerotic one. It must be noted that epilepsy is an end-result of some morbid process and not a disease in itself.

DIFFERENTIAL DIAGNOSIS.

The diagnosis of arterio-sclerotic mental disorders will rest mainly upon the age, the evidence of peripheral sclerotic changes in the blood-vessels, and the special general neurological symptoms and focal signs. An increased blood pressure is likely to be present. In the mental sphere, as we have already mentioned, the arterio-sclerotic for a considerable period is painfully aware of his disability and incapacities, and recognises that his mental processes are difficult and slow. This dementia and senile dementia are so intimately associated that clinically they often cannot be separated, but there is often in the former a deterioration which shows itself much more in some directions than others, while in the latter the deterioration is more general and no insight is formed.

The disease most apt to be mistaken for arterio-sclerotic dementia will be general paralysis of the insane (syphilitic encephalitis). An advanced age will lead to the former disorder, but too much stress must not be laid on that factor. In paresis there is a more general deterioration, and when established there is no insight, and the delusions are more constant and bizarre. It has been pointed out, too, that the memory disorder in arterio-sclerosis is more an affection of the retentive capacity than that of reproduction, while in paresis the position is reversed or they are equally affected. The focal neurological signs may be similar in the two diseases but is more diagnostic of arterio-sclerosis, and here, too, the Argyll Robertson pupil and slurring speech will be absent. The Wassermann test applied to the blood and cerebro-spinal fluid will greatly aid the differentiation, though it must be borne in mind that syphilis may complicate an arterio-sclerotic state. Here again one may remind the practitioner that before diagnosis it is wise to ascertain the blood pressure, analyses of urine and blood-serum, and examine the optic discs.

TREATMENT.

Treatment will run on much the same lines as in senile dementia, and whether the case can be treated at home or certified and sent to a mental institution will depend upon the degree of the mental deterioration, the severity of any delusions, and the possibility of adequately supervising them at home. There is more chance than in the purely senile cases that some degree of improvement in early cases may be thought about. The handling of the less severe cases may be easier in that their coöperation may be sought and for such types institutional treatment is rarely needed. Much may be done of benefit by the practitioner at home. Occupation, if not of a strenuous sort, should be retained for a time unless the strain is felt too much, but responsibility and excitement of any sort should be excluded. General measures directed to alleviating the arterio-sclerosis and a high blood pressure should be undertaken. These points of general medicine need not be detailed here, but it is useful to know that certain preparations are of value in alleviating distress caused by increased blood pressure—spiritus ætheris nitrosi and liquor ammoniæ acetatis given in mixture or erythrol tetranitrate in tablet form. Since the mental symptoms have a purely morphological basis, they themselves cannot be directly attacked, but since the arterio-sclerotic for a long time has insight, psychological measures should be taken to alleviate the natural anxiety that he feels concerning his health and future. Bodily symptoms must be looked to as they arise, and insomnia is frequently difficult to combat. Hydrotherapy and warm milk taken when wakeful are helpful, but sedatives such as bromides, medinal, amylene hydrate, or paraldehyde are usually needed from time to time. Furthermore, it may be mentioned that in senile cases of anxiety or restlessness considerable peace and comfort of mind may be obtained by the rectal injection of ammonium bromide gr. xxx., acid. aceto-salicyl gr. xx., and potass. citrate gr. x. dissolved in ℥iii. of water.

CHAPTER XXXIII.—THE MENTAL ABNORMALITIES ASSOCIATED WITH EPILEPSY.

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The Epileptic Constitution.—Preparoxysmal Mental Changes.—Post-paroxysmal Mental Abnormalities. Psychical Equivalents of Seizures.—Epileptic Insanity.—Epilepsy and Crime.—Treatment.

THE term epilepsy is often applied to all affections characterised by periodic loss or obscuration of consciousness, accompanied or not by convulsive seizures. In this sense epilepsy is evidently only a syndrome, and frequently no more than a symptom of various and dissimilar pathological states. Such convulsions may be due to various diseases of the brain, as lesions of vascular or inflammatory origin, tumours and abscesses, to the physical effects of trauma, to advanced arterial disease, or to the action of poisons on the nervous system, either endogenous as those of renal disease and eclampsia, or introduced from without, as alcohol and lead. Further, even a disturbance of the cerebral circulation may be an immediate cause of convulsions, as the Stokes-Adams attacks associated with heart-block.

It is evident that each of these conditions should be diagnosed separately and treated according to the indications of the original disease; the application of the term epilepsy to them is obviously incorrect and confusing. Similarly the epileptiform attacks which often occur in hysterical patients, the seizures which Oppenheim and others have described in psychasthenic states, and the "affect epilepsies" of Bratz and Leubuscher which are evoked only by intense psychological shocks, must be rigidly separated from true epilepsy. This is especially important in dealing with the accompanying psychical changes, as those of epilepsy differ in type and in origin from the psychological features of these other conditions.

True or idiopathic epilepsy is usually defined as a cerebral disease without any demonstrable structural lesions in the brain that can be placed in causal relation to it. This definition is, as far as it goes, adequate in the present state of our knowledge, though the view is becoming more generally accepted that epilepsy is an organic cerebral affection. In dealing with epilepsy and its symptoms from the clinical and practical points of view it is, however, necessary to include forms in which gross or microscopic disease is present. This is particularly so with regard to epilepsy commencing in early life, which has similar clinical features and runs the same course as the idiopathic disease, though it is frequently associated with congenital cerebral abnormalities, with injuries inflicted at or immediately after birth, and with lesions, either traumatic or inflammatory, acquired in childhood.

The mental changes accompanying or resulting from epilepsy may be divided into those present in the interparoxysmal intervals, those which appear only during a period preceding a seizure, those that succeed an attack, and the psychical abnormalities that frequently develop when the disease has lasted for years. A rigid separation of these classes is, however, not always possible, as the episodal symptoms are often only an exaggeration or a modification of those which are permanent.

THE EPILEPTIC CONSTITUTION.

It is frequently said that few, if any, epileptics present no mental changes; to anyone engaged in the treatment of epilepsy in private practice this is obviously an exaggeration, as many patients who have been subject to typical seizures for years are found on examination to be in every respect normal, and frequently continue at work, mixing with their fellows and carrying out their duties as normal individuals.

There can be, however, no doubt that the majority of persons suffering with epilepsy present even to casual observation certain mental peculiarities which so frequently belong to the one type that we often speak of the "epileptic constitution." These patients are usually irritable in their ordinary home surroundings, impetuous, suspicious, and moody; others are depressed and morose, often unnaturally silent, sometimes aggressive and subject to violent tempers or passionate outbursts without adequate cause, lazy and reluctant to exert either physical or mental energy; sometimes, however, they are affectionate and unduly emotional, and not infrequently their chief occupation is religious observances and conversations in which they manifest an apparently genuine, but probably only a superficial interest. In many patients hypochondriacal symptoms are the most prominent; these are so entirely wrapped up in themselves and their complaints, real or imaginary, that they often show little interest in or affection for their relatives, or for those with whom they live or work; they become more and more self-centred, their field of interest is gradually contracted down, and only immediately personal episodes are fixed and retained in their memory. A small proportion give evidences of excessive sexuality, which, combined with defective inhibition and consequently unrestrained appetites, may lead to unnatural practices or to

social disgrace. Some are childish, especially when the fits appeared first in early life, tractable, easily influenced and managed, and given to the senseless exaggerations and fabrications common in childhood.

Whatever the dominant mental peculiarities may be they are variable. The epileptic is usually unstable and unreliable, a feature that often makes their care or their employment in productive work difficult or impossible.

It is not easy to decide if these mental abnormalities are a result of the ordinary epileptic episodes, or if they are independent of them and due to an inherent constitutional defect, which is the essential basis of both the mental and the epileptic phenomena. There can be no doubt that the mental peculiarities become more marked as the disease becomes chronic, provided that a severe degree of dementia has not set in; but, on the other hand, many of the features of the epileptic character are sometimes pronounced before seizures of any nature have occurred or have been recognised. Occasionally, too, similar mental features can be found in members of an epileptic family who have never had fits.

The mental state of epileptic children and of those in whom the disease developed in infancy is partly dependent on the congenital or postnatal cerebral lesions frequently present, but it is largely a result of the retardation or arrest of mental growth that epilepsy in early life usually entails. The most striking feature is a backwardness and delay in mental development often accompanied by a retardation of physical growth. As infants they begin to sit up and to crawl at an unusually late age, and they may be unable to stand or walk until the third year or even later. Speech, too, is acquired late. This delay in development is often associated with hemiplegia, diplegia, or other symptoms of local or generalised cerebral disease. In some epileptic infants without gross or macroscopical cerebral defects physical development is advanced or even precocious.

The backward children are dull, usually slow in their reactions to all stimuli and in their voluntary acts; sometimes placid and easily managed, but often peevish, fretful, and noisy; many are mischievous, destructive, and difficult to look after, features which often become more pronounced after a seizure or a bout of seizures, or before a fit. As they grow mental development lags behind physical, and they remain infantile or puerile in mind; as a rule, however, a progressive dementia supervenes, especially in those cases where either major or minor epileptic seizures are frequent.

Frequently the mental defect is not general, especially in children with gross organic disease of the brain; despite an obvious backwardness one or more faculties may be normally or even excessively developed. These children have sometimes remarkably retentive memories, are very observant, show an aptitude for figures, or a skill in mathematics or mechanical problems which happily deludes their parents. I have seen such children with marked musical abilities.

In children in whom the manifestations of epilepsy commenced in the early months of life there may be at the age of 4 or 5 years a condition of almost complete imbecility, and some of those born with extensive or severe cerebral defects may never advance from the stage of simple amentia.

PREPAROXYSMAL MENTAL CHANGES.

In the majority of cases of epilepsy the seizures occur without any warning apparent to the patient or those around him, apart from the actual aura which immediately precedes the fits. But many epileptics state that they are vaguely aware for hours or even for days that an attack is coming, and there are frequently during this period changes in character or conduct by which experienced relatives often know that a fit is imminent.

Some patients become irritable and restless; they are unable to settle down to any occupation or keep their minds concentrated on even the simplest task. Others are excitable and quarrelsome, sometimes even pugnacious, and their reason and judgment are obviously faulty. In this stage children are sometimes so difficult to manage or so troublesome in the home that parents say they are glad when the attack comes, as with it the excitability passes off and the child soon again regains his natural state. Hallucinations or transient delusions occur rarely at this stage.

Occasionally the most prominent change is dullness and silence, a tendency to withdraw from company, and a mental depression which may even pass into a mild stupor for a short time preceding the attack. Whatever the preparoxysmal change may be it is generally reproduced in the same form before subsequent attacks, and it has disappeared when the patient has recovered from the seizure.

POST-PAROXYSMAL MENTAL ABNORMALITIES.

As a rule the patient, who is dazed and confused immediately after a major epileptic attack, recovers quickly and is quite himself again within an hour or so, though he may complain of headache, stiffness, or a general lassitude, or of malaise. Frequently he falls into deep sleep for an hour or two and wakes up quite normal; this is, in fact, the rule in ordinary epilepsy when circumstances permit rest, as when the attacks occur by night. On waking up he may have no memory of the seizure or of a subsequent period.

In some cases, however, the usual post-paroxysmal amnesia and confusion are more prolonged and may persist for hours or even a day or two. In this state the patient is usually quiet and passive, but he is often restless or mildly excited; simple acts as dressing or undressing, micturition, or wandering aimlessly about may be performed in an automatic, purposeless manner, and he retains no memory of them when he has fully recovered. Occasionally the excitement is more intense and develops into an actual frenzy or "furor," in which the patient is restless, incoherent, talkative, impulsive, and even violent, requiring control or restraint. This state usually subsides quickly, but it sometimes advances into an epileptic mania, though this is rare in patients who

present no definite mental abnormalities between the attacks.

Epileptic Automatism.—The tendency to carry out after a seizure simple acts unconsciously is sometimes the chief post-paroxysmal phenomena. One girl, for instance, after most of her attacks walked about the hospital ward in which she was, avoiding obstacles and crying out "Damn it all! Oh, damn it all," and trying to undress herself. As the attack subsided she approached her bed, apparently entirely unconscious of her surroundings, rearranged the bed-clothes, lay down, and fell into a sleep. Occasionally this automatism is prolonged, in rare cases lasting for days; in this state more complex actions may be performed, as wandering away from home, often into unknown surroundings, avoiding obstacles and dangers, and behaving in such an apparently rational manner as not to attract the attention of the persons met with. Gowers mentions one of his patients, a cabman, who in a state of automatism drove his cab through the crowded streets of London without an accident, but afterwards had no memory of the event. During the late war I saw a soldier who had been charged with desertion from the front line; suddenly after a minor attack he left his post, came back through the communication trenches, wandered about for 24 hours, and then joined another unit in a rest area. Here he regained his normal consciousness and reported himself as a straggler. Many cases of similar wandering and "loss of memory" are undoubtedly due to epileptic automatism, but these also occur in hysterical and psychasthenic conditions and in some of the psychoses.

The acts performed in these automatic states, and especially in those of short duration, are generally of the same character in each case. They are often related to some habit or habitual occupation of the patient, but he can succeed in adjusting himself to new or strange conditions, and therefore behaves with apparent reason and purpose though in a state of abnormal consciousness.

Similar mental disturbances also develop after attacks of minor epilepsy or petit mal, but they are usually less marked and more transient. The patient is often dull or confused for a few minutes, but rarely excited. Automatism is more common. As a rule the patient resumes the conversation or action in which he had been engaged immediately the attack is over; there is, in fact, only a momentary break, but occasionally he starts another subject or act, and may continue speaking of or doing something entirely irrelevant to his environment until normal consciousness returns.

It sometimes happens that genuine epileptic seizures are followed by unmistakable hysterical convulsions. This is one of the conditions to which the term *hystero-epilepsy* is applied. These hysterical attacks resemble those which occur in other circumstances, but come on during the phase of post-epileptic confusion while the patient is in an abnormal or altered state of consciousness. The diagnosis of hysterical attacks in epileptic subjects is often very difficult and many of the points of distinction usually emphasised are of little value. In hysterical outbursts after epileptic fits conscious-

ness, for instance, is often severely affected, as the patients are often in a state of post-paroxysmal confusion or automatism; then even the corneal reflexes may be lost. Biting the tongue and sphincter incontinence may be due to the preceding epileptic seizure, and change in colour may be of the same origin. Consequently it is often only direct observation of the attack by the doctor that enables an accurate diagnosis to be made; then the more organised and purposive nature of the movements, their longer duration, the occurrence of dramatic incidents, the presence of the corneal reflexes, and the reaction to other painful stimuli, the prolonged rigid phase in which the trunk is frequently in the position of opisthotonos, the possibility of arresting the attack by firm handling, and the occurrence of sobbing, weeping, and other so-called "hysterical" manifestations after the attack has ceased, usually indicate the true nature of the convulsion.

PSYCHICAL EQUIVALENTS OF SEIZURES.

In some epileptics convulsive or minor seizures are at times replaced by suddenly developing mental disturbances which assume different forms. Most commonly, perhaps, they consist of confusion, either momentary or more prolonged, or of curious dreamy states combined with simple automatism, but cases of longer lasting automatism in which the patient wanders or carries out complex acts may be also observed. They usually pass off as quickly as they appear, leaving a complete amnesia for the time, which is sometimes retrograde, extending back further into the patient's past.

In other cases sudden and apparently motiveless outbursts of excitement or delirium occur, in which the patient becomes restless and violent or liable to impulsive acts. Hallucinations of a simple nature, anxiety or ecstatic states, or a stupor of variable intensity, may also develop as an epileptic equivalent. The duration of these attacks is very variable; some are of little more than momentary duration, as a sudden outburst of temper which subsides as quickly, but states of depression, confusion, and anxiety may last for days. They are liable to recur in any case in which they have occurred, and the subsequent attacks usually take the same form.

There can be no doubt that these mental disturbances are often true equivalents—that is, they replace the more common epileptic seizures, but it is probable that they sometime follow slight or minor attacks which were not recognised.

EPILEPTIC INSANITY.

Many of the mental aberrations already described would properly come into this class, but for practical purposes the term epileptic insanity can be conveniently reserved for the more permanent mental changes that by making the patients dangerous to themselves or others, or incapable of looking after themselves, necessitate special supervision or institutional treatment.

Dementia is the most common of these conditions and the ultimate fate of a considerable proportion of all chronic epileptics who survive. It is much more common in cases in which the fits commence in early life than at or after puberty, but it may

develop in any patient. Frequent seizures and more particularly numerous attacks of petit mal, the occurrence of post-paroxysmal or equivalent mental disturbances, and a bad heredity all predispose to dementia.

First memory usually begins to fail, especially for events of the past and for those of no immediate interest to the patient, but as the dementia progresses and the field of interest becomes more and more narrowed even the happenings of moment are not fixed or retained. At the same time attention and the power of observation diminish, comprehension becomes more difficult, interest is restricted and almost wholly self-centred, the patient grows duller, gradually becomes slower in thought and movement, and is often dirty in his habits. At the same time he usually acquires the dull passive expressionlessness of face and posture that often enables the observer to recognise his state by a glance. It is generally difficult to arouse or excite patients in this state, but some are irascible and liable to fly into sudden and violent tempers.

This state of dementia is permanent and irrecoverable. It must be, however, recognised that similar symptoms, suggesting an oncoming dementia from which recovery is possible, sometimes occur when seizures, and particularly attacks of petit mal, have been frequent. An excellent example of this is a man whom I first saw several years ago as an out-patient when he was 14 years of age; he had been having numerous attacks of both major and minor epilepsy and was so dull, slow, and inattentive that I formed the opinion that he was passing into dementia. Under treatment the seizures ceased and he improved rapidly. He recently called to inform me that he had remained free from fits and by his own efforts had educated himself, had been admitted a solicitor, and had done so brilliantly as a clerk that he had just been invited to join an important firm of lawyers.

There is a common idea that the administration of bromides makes patients dull and stupid and is even responsible for the onset of dementia. This, I believe, is fallacious, unless the drug be given indiscriminately and in enormous doses; the amount necessary for the adequate treatment of epilepsy has in my experience never this effect, and the benefit that may be obtained by it certainly outweighs the small risk. Luminal is probably in this respect a more dangerous drug.

Mania.—In other cases the most important symptom is the occurrence of periodic excitement or maniacal outbursts, which make the epileptic the most dangerous of all lunatics. These outbursts often follow seizures, but they occur independently of them or of any other adequate cause. In them the patient becomes very impulsive, violent, and not infrequently homicidal. Such outbursts may occur in a man who is relatively normal in mind between the attacks, but there are frequently other symptoms; some patients are dull, self-centred, impetuous, or childish in conduct; others are confused, amnesic, and disorientated, or between the outbursts there may be symptoms of a paranoid character.

Dipsomania, or bouts of drunkenness, are occasionally found among these cases. Some seek in alcohol relief from the depression and anxieties to which they are subject; others give way while in a confused or semi-automatic state after a fit or series of fits. In this phase they are probably abnormally susceptible to the effects of alcohol. I have met a clergyman who has for years epileptic attacks at long intervals, after one of which he is liable to wander from home and has no recollection of what happens until he wakes up from a drunken sleep, frequently in a house of ill-fame. He never touched alcohol on any other occasion.

EPILEPSY AND CRIME.

In view of the various mental abnormalities, both episodal and permanent, that occur in epilepsy, and of the fact that many of its subjects come from tainted stocks, it is not surprising that epileptics not infrequently fall into the hands of the law. A certain number of criminals of degenerate types also develop the disease after conviction for misdemeanours or crimes. Healy, who investigated nearly 1000 habitual criminals in America, found that 7.5 per cent. were subject to epilepsy. Lombroso's view, that the repeated offender is really an epileptic though he may present none of the typical manifestations of the disease, is undoubtedly an exaggeration, but it may contain an element of truth.

In the first place the essential mental characters of the epileptic often predispose to criminal acts. His irritability, impetuosity, and lack of full moral and emotional control may lead to such acts of violence as assault, homicide, or arson; while his egotism, poorly developed social instincts, and love of the dramatic may bring him into conflict with the law in other ways. As a rule the sexual instincts of the epileptic are low, but occasionally a vigorous appetite, combined with defective moral sense and control, leads to sex misdemeanours, either personal or perverse, or to rape.

The automatic states and conditions of altered consciousness which occur after major or minor seizures, or independently of them as psychical equivalents, are very important from the medico-legal aspect, as in these states the patient is not consciously aware of what he does and is unable to distinguish between right and wrong, and as he preserves no memory of his actions on return to his normal level he is unable to place them in a rational relationship to his ordinary life. In states of confusion or automatism he may become violent and inflict injury on person or property, or he may appropriate some object that makes him liable to a charge of theft; the common tendency to undress may simulate purposive exposure, or wandering may bring a charge under the Vagrancy Act. Occasionally these states of altered consciousness are responsible for serious errors in business or conduct which may lead to civil actions. I recently saw a man who had been for years subject to occasional attacks of epilepsy, some of which had been followed by prolonged automatism; while discussing an important business proposal over the telephone he had a minor attack, part of the

evidence of which was that his correspondent admitted he suddenly ceased talking and mumbled for a moment as though considering the point, and then entered into a very disadvantageous engagement of which afterwards he remembered nothing.

The motiveless and irrational nature of acts committed in these states often leaves no doubt of their nature if it is known that the patient is an epileptic, but in other cases the question of responsibility is difficult to decide, as the aberrations of consciousness vary from complete loss to only the slightest disturbance. The tendency of a person in epileptic automatism to carry out acts similar or related to those at which he was engaged when the attack came on, or to those of his habitual occupation, often gives these acts an apparently rational character that may suggest that they have been committed in a state of normal consciousness. Medical evidence in the case of an epileptic charged with a crime may not therefore be capable of affirming non-responsibility, but it can often show that there is a reasonable probability that the accused committed the crime while in an abnormal state of mind.

TREATMENT.

The first essential in the management of the mental abnormalities of epilepsy is the care and treatment of the primary disease, for in the first place the episodal symptoms, such as attacks of confusion or excitement or maniacal outbursts, occur less frequently or may cease if the convulsions and minor seizures are diminished in frequency or arrested; and in the second place, the more frequently the seizures occur the more rapid and certain is the eventual mental deterioration.

The bromides are still the most valuable drugs we possess for the arrest or alleviation of epileptic manifestations, and consequently they should be administered in adequate doses to all patients, unless there is a very definite contra-indication. It must be again emphasised that the commonly held view that bromide necessarily makes the epileptic dull and slow and hastens the onset of dementia is incorrect. A small proportion of patients, it is true, do not tolerate bromide in even moderate doses, but the great majority undoubtedly improve both physically and mentally when the drug is properly administered. The dose should be that from which the maximum benefit is obtained; rarely more than 40 to 60 gr. a day is required. It is usually preferable to give the necessary amount in one or two large daily doses than in several smaller ones, and when possible it should be taken at such times that it exerts its maximal therapeutic effect at the hour when the attacks generally occur. A dose of 20 to 30 gr. at bedtime often checks nocturnal epilepsy, while if the attacks occur in the early morning one dose at bedtime and another immediately on waking is often efficacious. Regular and continuous administration is essential; when the effective daily dose has been determined it should not be varied until the patient has been one and a half or two years free from symptoms.

Borates, in the form of sodium biborate or borotartarate of sodium, in doses of gr. x. or more, two

or three times a day, either in conjunction with bromide or alone, are useful in some cases. Belladonna is often a most valuable drug, especially in the treatment of minor epilepsy followed by automatism or confusional states, but it must be given in large doses approaching the physiological limit. Luminal, which has recently become popular, is certainly very effective in many cases, particularly in major epilepsy, and it is also useful in diminishing excitability and restlessness in patients with mental symptoms. Changes in character after prolonged treatment by luminal, which do not clear up when the drug is stopped, have been recorded.

The general care and regulation of the life of the epileptic is also important. If the seizures are not very frequent and there is little mental deterioration the fewer restrictions placed on the patient the better. Children, for instance, should be allowed to attend an ordinary school and play on equal terms with their fellows if it is possible, but frequently special schools or a private tutor are necessary; even then they should be encouraged to mix freely with other children unless they suffer from serious mental or moral defects. Similarly adults should be persuaded to take up or continue some useful occupation. There are, of course, risks in this policy, but it is preferable to run them than expose the patient, especially a child, to the cramping effects of isolation on mental health and development.

In other cases institutional treatment in colonies or mental hospitals is necessary or more advisable than home life. This is evident in the case of an epileptic idiot and in many young persons with secondary dementia, for not only can they receive more suitable care in a properly equipped institution than in a private house, but their presence in the home is a serious burden on their parents unless adequate assistance in their management can be obtained. It is also undesirable that gravely defective individuals should be too closely associated with normal children. Many feeble-minded and less severely afflicted children and adolescents can be looked after and safely kept at home, though for instructional purposes a special boarding-school is often advisable for a time; in others certification under the Mental Deficiency Act is necessary on social rather than on medical grounds.

The greatest difficulties arise in the treatment and management of those patients with periodic outbursts of excitement or mania who are normal, or almost so, between the attacks. The impulsive violence that characterises some of these attacks, their sudden onset, and the impossibility of keeping the patients under constant supervision, frequently makes it necessary to place them under certificate, or to persuade them to enter some institution voluntarily. In many cases the medical man who does not give this advice faces a serious responsibility. When, however, the social position of the patient permits the provision of attendants and care in a suitable environment, institutional treatment may be avoided.

The occurrence of confusional states and of automatism not attended by manifestations of violence rarely necessitates institutional treatment.

CHAPTER XXXIV.—MENTAL DISTURBANCES IN HYPERTHYROIDISM AND HYPOTHYROIDISM.

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Hyperthyroidism.—Mental Symptoms.—Treatment.—Hypothyroidism.—Mental Disturbances.—Treatment.

HYPERTHYROIDISM.

MENTAL disorder is frequently found associated with hyperactivity of the thyroid gland. Three clinical varieties of hyperthyroidism may be recognised: (1) A simple hyperthyroidism, (2) toxic goitre, (3) exophthalmic goitre, and a short clinical description of these conditions may usefully preface the discussion of the mental symptoms.

Simple Hyperthyroidism.—There is usually in this condition a general enlargement of the thyroid gland. Such an enlargement may be obvious, approaching to the size of the parenchymatous goitre of puberty, or it may be so slight as to fall within the upper limits of normal variation in size. Cardiac erethism is a constant feature. The pulse-rate shows an exaggerated response to any emotional stimulus. Even the stimulus of clinical examination may be sufficient to cause an increase in the pulse-rate. The pulse frequency is usually increased during the whole of the waking period and is occasionally associated with some irregularity of rhythm. There is mostly a fine tremor chiefly noticeable in the hands, and there is a certain degree of muscular weakness associated with subjected feelings of fatigue. The skin is hot, increased sweating and flushing readily occur. The respiration-rate is accelerated and shallow. A history of loss of weight can usually be obtained, and an invariable increase of the basal metabolic rate clinches the diagnosis. In doubtful cases the determination of the basal metabolic rate should invariably be undertaken. The thyroid secretion is to the body as the blast to a furnace, and any hypersecretion has as its most constant effect an increased basal metabolism. The patient complains of general dyspeptic symptoms, headache, insomnia, and a constant sense of anxiety and restlessness.

Toxic Goitre with Hyperthyroidism.—In such cases a parenchymatous goitre may have been present for a considerable period, often many years, without causing symptoms; following some period of mental or physical stress, sometimes obviously attributable to an infectious illness, the symptoms of hyperthyroidism supervene. The goitre itself shows as a rule some increase in size.

Exophthalmic Goitre.—There is no necessity to dwell on the well-known symptomatology of this condition. It is only necessary to insist that in this disease the activity of the thyroid may undergo involution without the disappearance of the exophthalmos, and consequently the degree of

hypersecretion of the thyroid should be controlled by means of frequent observations of the basal metabolic rate.

MENTAL SYMPTOMS.

A consideration of what is known of the relation of the internal secretion of the thyroid to the activity of the nervous system facilitates the understanding of the mental disturbances accompanying hyperthyroidism. The thyroid hormone, in addition to its action on the basal metabolic rate, increases the excitability of the sympathetic system. A dose of adrenalin insufficient to cause glycosuria becomes efficient after a preliminary administration of thyroid extract. The vasomotor skin reaction to adrenalin introduced intradermally becomes more pronounced after the administration of thyroid, and an excessive skin response to adrenalin has been used by Goetsch for the diagnosis of cases of hyperthyroidism.

The relation of the thyroid to other ductless glands whose activity is expressed by the sympathetic system is best exemplified by the seasonal relations of thyroid activity to the gonads, especially in the female. The organic resonance of the body to emotion consists generally of reactions which are governed by the vegetative nervous system. It is another question as to what extent such reactions are invoked by direct nervous control or by the intermediary action of hormones, such as adrenalin, produced by nervous stimulation. The essential fact is that the excitability of the sympathetic system is increased by thyroid hypersecretion. Such emotional reactions are evidenced by the vasomotor response, the cardiac acceleration, mobilisation of glycogen, capillary and intestinal disturbances, the increased coagulability of the blood, the presence of adrenalin in the blood, the pilomotor and sweat reactions, and the increased conductivity of the skin. Using the last of these reactions the writer was able to show that the administration of thyroid experimentally caused an increased emotional reaction, and clinical observation has demonstrated the greater intensity of such reactions in cases of hyperthyroidism.

We should expect, therefore, that the cardinal feature of the mental disturbances accompanying a condition of hyperthyroidism would be of the nature of a general hypermotivity complicated to a greater or less degree by the exhaustion asthenia following on the excessive metabolism. The general mental disturbance of the case of hyper-

thyroidism will be to a great extent determined by the type of character which such an increased emotional excitability influences. Some patients will show a hectic restlessness and a desire to undertake tasks beyond their strength. The majority, however, exhibit a typical anxiety state, coloured by a more or less pronounced hypochondriacal tendency. All patients show themselves to be hyperexcitable to any emotional stimulus. Their emotional control is defective. They are easily roused to fits of temper, and when thwarted readily give themselves up to fits of depression characterised by mistrust of themselves and suspicion of others. Sleep is deficient and troubled by anxiety dreams.

Such are the general outlines of the anxiety neurosis of hyperthyroidism. Exacerbations occur in which the mental symptoms resemble in many ways those of manic-depressive insanity, from which they may to some extent be distinguished by their greater mutability and the ease with which they can be influenced by external suggestion.

Symptoms of hyperthyroidism are not infrequent in many well-developed cases of manic-depressive insanity and agitated melancholia, and in such cases periods of excitement correspond with the appearance of symptoms of hyperthyroidism and subside when the thyroid symptoms abate. In view of the fact that states of emotional stress cause an aggravation of the symptoms of hyperthyroidism, it is reasonable to assume that in such cases the psychical state is correlated with stimulation of the thyroid, and the resultant increase of the thyroid secretion by heightening the excitability of the emotional mechanisms reverberates in a vicious circle on the psychosis. It must be borne in mind, however, that the mechanism involved in all such cases is by no means always a simple thyroid hyperfunction. The relation of the thyroid to other ductless glands, such as the pituitary, the pancreas, and the gonads, forms a chapter in endocrinology which is practically unexplored.

The prognosis of the mental symptoms of uncomplicated cases of hyperthyroidism is not unfavourable. The symptoms, however, may last for many years till the involution of the thyroid occurs with the onset of the decline of life. The same remark applies to the condition of toxic goitre, though in these cases there is a tendency to recurrence, and a period of hyperthyroidism is occasionally followed by enlargement of the thyroid necessitating surgical intervention. The prognosis of exophthalmic goitre, in so far as it is influenced by various forms of treatment, cannot be discussed here. The occurrence of prominent mental symptoms in exophthalmic goitre is generally an unfavourable sign and should be a factor in deciding on the adoption of radical measures.

Treatment.

The treatment of the mental symptoms of hyperthyroidism is necessarily that of the condition of hyperactivity of the gland itself. Any stress, mental or physical, must be eliminated. Absolute rest in bed should be enforced in the early stages

of treatment, and the patient kept in condition by daily massage. In view of the frequency with which hyperthyroidism appears to be a response to local infection a rigorous search must be made for any such source of intoxication and the condition appropriately treated.

Dietetic treatment is an important factor. The principal indication is the reduction of the protein element of diet to a minimum, since there is ample evidence that protein feeding is a direct stimulant of thyroid activity. It is, furthermore, a matter of clinical observation that meat is particularly harmful, and it is therefore desirable to eliminate meat entirely from the diet and to depend for the protein supply on bread with a minimum of fish and eggs. Cheese, by supplying the tryptophane constituent of the internal secretion of the thyroid, is probably as harmful as meat. The second indication is based more on experimental than on clinical evidence, and its rigid enforcement may involve a degree of disturbance in the patient's diet that is only justifiable when other measures fail. It has been shown that certain constituents of fresh milk, butter, and eggs have a stimulant action on thyroid secretion. These constituents apparently belong to the class of the vitamins, and in the absence of further investigation it is not known whether the vitamins of fruit and vegetables have a similar action. The extreme logical course in the present state of our knowledge would be to insist on boiled milk in very small quantities, to substitute margarine for butter, and to prohibit fresh fruit and salads. Such extreme measures have been adopted abroad with some measure of success, but the physician would do well to trust in the first instance merely to the prohibition of meat and general diminution of protein. Fats and carbohydrates should be increased to the limit of the patient's digestive tolerance, and cod-liver oil when tolerated should be given.

The *medicinal treatment* of hyperthyroidism is by no means satisfactory. One indication depends on the fact that deficiency of iodine in the diet may cause thyroid hyperactivity. There is strong reason to believe that this fact does not by any means apply generally to the pathogenesis of hyperthyroidism. At any rate, whilst some patients are improved by small doses of iodine, others not only fail to improve but are occasionally made worse. The iodine may be administered as potassium iodide, and a dose should in no case exceed 3 g. in 24 hours. The condition of the patient should be carefully observed and the treatment at once suspended if there be reason to think that the symptoms are not improving or are becoming more pronounced. Good temporary results have been claimed for the administration of iodine in the form of the tincture in 10 per cent. solution. The dose should be about 0.2 to 0.35 g. per diem. The cessation of the treatment is, however, invariably followed by relapse. An increase in the hardness of the thyroid is an indication for the diminution of the dose. An old treatment of hyperthyroidism by the administration of atropine or belladonna has still many adherents, the atropine being supposed to diminish the thyroid

secretion. I have obtained rather better results by substituting tincture of hyoscyamus in 30-minim doses three times a day for the atropine treatment, as the calming action of hyoscyamus on nervous excitability is added to any inhibitory effect of the atropine on the gland. The discussion of the X ray treatment of hyperthyroidism and the question of surgical intervention in cases of exophthalmic goitre cannot be considered here. The treatment of the general restlessness and excitement by drugs is rarely indicated. Paraldehyde may occasionally be called for as a hypnotic, but the exhausted nervous system of hyperthyroidism tends to be unduly depressed by the frequent administration of sedatives. Throughout the course of the treatment the physician must be constantly on the watch for cessation of thyroid hypersecretion and the onset of hyposecretion or thyroid inadequacy. This tendency of the pendulum to swing to the other extremity is by no means infrequent in all cases of simple hyperthyroidism and the milder cases of exophthalmic goitre. Such a happening is not always easy to detect and it is for this reason that the frequent determination of the basal metabolic rate is so greatly to be desired. As soon as the metabolic rate approaches normal drug treatment should be suspended and meat cautiously introduced into the dietary. The determination of the basal metabolic rate is by no means a matter of great difficulty, and with the portable apparatus introduced by the Americans does not call for the attendance of the patient at a laboratory.

HYPOTHYROIDISM.

MENTAL DISTURBANCES.

Some degree of mental disturbance is never absent from the condition of hypothyroidism, and the recognition of thyroid insufficiency is a matter of great importance to the psychiatrist. Though this is not difficult in pronounced cases of myxœdema, in the early cases of hypothyroidism it may present some considerable difficulty, and this is indeed very great in cases where a thyroid insufficiency supervenes in a case that is being treated for excessive activity or hyperthyroidism.

The principal signs of thyroid deficiency in early cases may be briefly summarised. The thyroid gland itself may be hypertrophied as in simple goitre, or diminished in size in the condition of simple hypoplasia. The skin may be atrophied and pigmented; sometimes myxœdematous patches are found and not infrequently scleroderma. In the fully developed cases the myxœdematous skin is, of course, easily recognisable. The nails are seamed and brittle, the hair prematurely grey, lustreless, thinned, and brittle. Dental caries is usually well marked. The cardiovascular signs are those associated with fatty and sclerotic changes in the myocardium. The pulse tends to be slow and the blood pressure low. On light exertion, however, the patient is dyspnoic and the pulse often becomes irregular. Albuminuria is not uncommon. Occasionally there is a marked

fragility of the bones and ununited fractures may be found. The facial expression in the very early cases offers no very definite indication beyond a certain heaviness and the characteristic malar flush; in the later stages it tends to approach the well-known myxœdemic facies. The metabolic disturbance is evidenced by a subnormal basal metabolic rate. Such patients react hardly at all to a subcutaneous injection of thyroid extract that would cause tremor and tachycardia in a normal subject. The cutaneous reaction to the intradermic injection of adrenalin is less marked than in the normal subject.

The mental disturbances that may occur in hypothyroidism are characterised above all by a general depression of mental activity. Slowness of apprehension is accompanied by slowness in execution. The patient apprehends simple propositions slowly and with obvious difficulty, often only after several attempts. Thus the understanding of a simple letter may involve the slow reading of every sentence several times. There is little confusion, the patient does not misinterpret, he simply fails to interpret except at the cost of prolonged effort.

The simplest tasks necessitate such a degree of strained attention for their accomplishment that exhaustion readily supervenes and the patient complains of inability to concentrate his attention for any length of time. Memory is much impaired, particularly for recent occurrences. Recollection appears to be a lengthy and laborious process, which the patient attempts to spare himself as much as possible by having recourse to written agenda for all the simplest daily details.

Such is the mental disturbance in the milder cases of hypothyroidism. In the severer types and in those with well-marked myxœdema the difficulty which is experienced in any mental operation is so great that the performance of the simplest task involves an overwhelming degree of effort and the consumption of endless time in preparation. As the disability progresses a stage is reached when the mental hebetude causes a paralysis of all mental activity, and the patient sits incapable of any act requiring a minimum of intelligence. In the early stages insight into his mental condition on the part of the patient is good. He is perfectly aware of his slowness of apprehension and execution, and will complain of the difficulty that he experiences in concentration. He is, however, unemotional and rarely shows much distress at his condition. Later on, however, in a certain number of cases a weak and querulous state appears. The patient is often anxious, worries over details, and threatens suicide. He is restless and plaintive, cries and whimpers in a childish fashion, and in a few cases develops delusions of persecution. These cases give rather the impression of the querulous behaviour of a fretful child than of any hyperactivity of the adult emotional mechanisms. The course of the malady seldom shows any improvement in the absence of treatment, but the symptoms are not necessarily progressive except in those cases in which well-marked symptoms of myxœdema supervene, and

in these the untreated condition tends towards complete amentia.

TREATMENT.

The treatment of the mental symptoms of hypothyroidism resolves itself in the first place into the specific thyroid treatment. The administration of thyroid extract by the mouth requires to be constantly checked by clinical observation. Whilst the thyroid extracts sold by firms of high repute appear to be fairly constant in potency as far as concerns the products of any one firm, there is as yet no method of physiological standardisation, and the iodine value which has been uncritically selected as a standard of potency is of only relative importance. Given the same technique it will show that the products of any one firm remain fairly constant, but in the light of recent work it cannot be regarded as an absolute index of the amount of thyroxin present. There is a tendency to give much too large a dose of thyroid, and it is by no means infrequent to see cases of minor hypothyroidism under treatment with thyroid extract exhibiting all the symptoms of hyperthyroidism. The drug is frequently pushed till a change in the pulse-rate is noted. There is little justification for this procedure. An accelerated pulse often is the first sign that the patient has received an excessive amount of thyroid extract.

The ideal method of control would be the determination of the basal metabolism at frequent intervals. Where such a procedure cannot be adopted a close watch should be kept on the weight and the general nervous condition of the patient. Any emotional outbreak is an indication for reduction of the dose. Tremor in the outstretched hands, complaints of flushing, excessive sweating or coryza also indicate that the patient cannot tolerate the dose. As a rule, it is best to start patients on a dose of 2 gr. per diem of some standard thyroid extract, such as that of Messrs. Burroughs Wellcome and Co. At the end of a week, if there be no signs of marked improvement as evidenced by the clinical condition, the dose may be doubled, and after a further week's treatment without any definite result the dose may again be doubled. It is rarely advisable to increase the thyroid extract above 6 gr. in the 24 hours, and most patients react to about half this dose.

The case must be carefully watched for any of the early symptoms of hyperthyroidism, and whenever possible should be controlled by observations on the basal metabolic rate. In cases where this is impossible, the intradermic reaction to adrenalin furnishes objective evidence of the effect of hyperthyroid medication. If the patient has failed to react to the intradermic adrenalin test, using a solution of 1 in 200,000 adrenalin, before treatment, this test should be repeated once a week, and as soon as a normal reaction is noted the dose should not be further increased.

Technique of the Adrenalin Test.

The technique of the adrenalin test may be summarised as follows. When 0.05 c.cm. of a 1 per 1000 solution of adrenalin is injected by a fine hypodermic needle, pushed just under the epidermis,

so that its whole intradermic course is clearly visible through the skin, the resultant swelling assumes after a few minutes a dark-blue colour as if ink had been injected. The swelling then becomes surrounded by an alabaster-like halo which grows in intensity and extent, often sending out irregular shoots in one or more directions. Around the white halo appears in turn a red halo, more or less intense in colour and width. Frequently a contraction of the pilomotor muscles occurs, giving an appearance like goose-flesh to the alabaster zone. Having reached its maximal development in half an hour, after a stationary period of an hour or so, the reaction gradually disappears, the blue spot changing to red, and leaving ultimately a small swollen papule. By using a more dilute solution—for instance, 1 in 200,000 to 1 in 1,000,000—the reaction is less intense but always preserves the same type. It differs, however, by the absence of the central blue spot, for which a small red mark is generally substituted later on, and the red halo is not always prominent. The excitability of the sub-epidermal test in ordinary circumstances lies between dilutions of 1 in 200,000 and 1 in 1,000,000 (Parke Davis phials). The adrenalin test cannot, however, be compared for accuracy with the estimation of the basal metabolism.

Owing to the fact that in a hypothyroid condition proteins are ill-tolerated, it is generally recommended that the patient should be put on a diet containing a minimum of protein, such as that recommended above in cases of hyperthyroidism. This treatment is, however, wrong in principle. Protein ingestion, particularly the use of meat, acts as a stimulant to the thyroid, and once the patient is on treatment with thyroid extract the meat diet should be slowly increased, and as the condition approaches normality the patient should receive a diet containing rather more meat than is usually consumed.

The lethargic, ineffectual conduct of the sufferer from hypothyroidism generally causes friends and often the physician to attempt to stimulate the patient by encouraging him to attempt more than he considers himself capable of doing. There is no justification for this line of treatment. The patient is really unable to exhibit more nervous energy, and there is nothing to be gained by increasing the fatigue of the depressed nervous system. He should, on the contrary, be allowed to remain as quiet and free from small anxieties as possible, and the first sign of improving health will be the spontaneous increase of his activities.

The duration of the treatment in mild cases will depend entirely on the ease with which normal activity reappears after the exhibition of thyroid extract. Once this has been well established the dose of thyroid should be rapidly diminished, as there is always the risk of the condition passing into one of hyperthyroidism. The advanced cases where myxœdematous symptoms prevail are seldom able to do without thyroid extract, but even here periods suggesting hyperthyroidism occasionally supervene, and in such cases the administration of the extract must be at once suspended.

CHAPTER XXXV.—MENTAL SYMPTOMS IN EPIDEMIC ENCEPHALITIS.

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Clinical History and Pathology.—Mental Symptoms in Early and Late Stages.—Wide Variety of Mental Changes.—Diagnosis, Treatment, and Prognosis.

EPIDEMIC encephalitis or encephalitis lethargica (popularly, sleepy sickness) is an acute contagious disease, the virus of which attacks the central nervous system and for the most part its grey matter. Though it seemed to make a first appearance rather suddenly in 1917, in which year von Economo, of Vienna, published a description of it and named it encephalitis lethargica, authorities all agree that the disease was not a new one. It seems likely that it had, up to that time, been sporadic with very small and infrequent outbreaks of an epidemic character, but then began to appear universally in epidemic form. It was this appearance as a widely-spread epidemic which led to its description and recognition as a definite disease entity.

At the present time the physical and mental changes due to the lesions it causes in the central nervous system are giving rise to great anxiety from the medico-legal, as well as from the purely medical, aspect. It is recognised that the difficult question of how best to treat and supervise the patients of all ages who are suffering from the mental changes following the disease has to be settled, and powers must be given to some authority who shall be responsible for their welfare. Cases are met with all over the country and in every class of life; the numbers, though not at present great in proportion to the population, are ever increasing. A certain number find their way into the mental hospitals and mental deficiency institutions, but these are few. Some, owing to their moral obliquity, get into the hands of the police for various offences—indeed, it is possible that in the past serious crime has been due to the effects of this disease, though the fact has not been recognised. All the sufferers produce trouble and anxiety in the home, and, without proper care and training, many will not again be able to become orderly citizens, but will go to swell the ranks of delinquency.

CLINICAL HISTORY.

The disease is contagious, and appears to be spread by carriers who are resistant to it infecting those who are not resistant. The virus, besides being found in the brain and cerebro-spinal fluid, is also found in the saliva and naso-pharyngeal secretion, and it seems probable, from experiments, that the route of entry is through the naso-pharyngeal mucous membrane. It is also probable that it cannot pass the undamaged mucous membrane. Instances in which direct infection can be traced from one case to another, though they have occurred, are rare. Such cases have

been reported from families, schools, and institutions, and also where nurses and others have come in contact with patients in the course of attending on them during the acute stages of their illness and during relapses. The incubation period has not yet been definitely determined, but would appear, from the few cases reported in which it could be even approximately reckoned, to be from 10 to 24 days. The outbreaks generally occur in the colder months of the year, but no month has been exempt. Individuals of every rank of life and occupation and of both sexes are equally liable to it. No age period, from infancy onwards, seems more liable to contract it than any other, and all ages are affected to the same extent, though the mental after-effects appear to be more marked and more frequent in the younger patients. It is at present impossible to fix the mortality-rate with any degree of accuracy owing to the disease being so often unrecognised and therefore unnotified. Observers in different countries have made estimates, based on the cases which have come under their care, and these vary from 7 to 50 per cent., the average from these estimates being approximately 18 to 20 per cent.

PATHOLOGY.

The pathological findings may be shortly considered under the headings (a) macroscopical, (b) microscopical, and (c) bacteriological and biochemical.

(a) The naked-eye changes are found to be very few and infrequent. There may be some milkiness and slight thickening of the pia, with congestion of the vessels, or, more rarely, ecchymoses or extravasations, over any area of the brain. Cases have been reported in which the findings have been of a much more gross character and showing hæmorrhages, but these are rare. On section a slight congestion of the brain substance may be apparent, as shown by small bleeding points, generally in the grey matter. These are most likely to be observed in the parts about the aqueduct, fourth ventricle, and basal ganglia. There may be some distension of the ventricles with excess of fluid.

(b) The most noticeable microscopical change is the perivascular small-celled infiltration which occurs especially around the smaller vessels. Every kind of cell degeneration seems to have been noted in all parts of the grey matter, but the cells principally affected are the ganglion cells. Changes have been described throughout the grey and white matter of the central nervous system, and

even in the peripheral nerves. Minute bodies have also been found by different observers, within and outside the nerve-cells, but the meaning of these is undetermined. There is usually some proliferation of the glia cells. These vascular and cell changes do not occur all over the brain, but are generally focal in character, being most frequently found in the grey matter of the pons, medulla, and basal ganglia. Another point of interest about these changes is that they are found to be of different ages, showing that the disease is apparently a progressive one, and that the virus, like that of syphilis, remains active for long periods even if quiescent, producing fresh inflammatory lesions from time to time. Wimmer¹ remarks that "the histopathological findings indicate a constantly active morbid process within the central nervous system."

(c) Much experimental work has been done on this disease, and inoculated rabbits and monkeys have displayed the typical symptoms and lesions. Wimmer² sums up the knowledge so far obtained on the subject when he says, after remarking that it must be considered an established fact that the disease is an infectious one and *sui generis*, "Its pathogenic noxa is an invisible, filterable virus, extremely resistant to glycerine, desiccation, heating (to 55°); it keeps virulent for long periods in water and milk, it can be destroyed by carbolic acid and permanganate of potash." The virus has been found in the brain, cerebro-spinal fluid, saliva, and naso-pharyngeal secretion; and experimental work has shown that there are points of similarity between this virus and that of herpes febrilis.

The Wassermann reaction in both blood and cerebro-spinal fluid is, with rare exceptions, negative. Protein and sugar are usually normal in the cerebro-spinal fluid, but there is often a cell count above the normal, especially in the acute stages of the disease and during relapses. There are usually no blood changes, except a possible leucocytosis during periods of acute symptoms.

THE MENTAL SYMPTOMS.

The mental symptoms are those which mainly concern us here. They are found to occur frequently, and if not invariably, at any rate in all acute cases. They may be discussed under two heads: (1) those of the early stages, and (2) those of the later stages. It must be borne in mind, however, that the morbid processes appear to be constantly active, that relapses are common, and that this constant activity may cause fresh symptoms to appear which overshadow or change existing ones. From what has been said briefly about the pathology it will be readily understood that the mental symptoms can be of the widest variety, ranging from the mildest to the most severe of all types. Being due to both toxic and organic causes there will be effects, not only on the psychic areas as a whole from toxæmia, but also upon certain localised areas from organic lesions, the latter differing in site in each case. The mental symptoms due to toxæmia occur in the early stages of the

disease and during relapses, whilst the latter or residual symptoms will be functional or due to organic causes. Each epidemic seems to have some prevailing type of mental symptoms; there is never anything approaching uniformity, and therefore no typical case for description. That certain broad types frequently appear is due to the fact that the ganglia and parts around the aqueduct are the most generally affected.

Mental Symptoms in Early Stages.

Mental symptoms of some kind occur in every acute case of the disease, and in character they are of the toxic varieties. The severer symptoms can be divided into two types, the lethargic and the delirious. In the lethargic type, besides the somnolence which is so common, the patient displays, when awake, a mental hebetude, a slowness in reacting to mental stimuli of any kind, which cannot fail to be noticed. The duration of the somnolence is very variable, and the hebetude continues for some time longer before passing off, if it does so. The patient appears dazed and thoroughly confused and apathetic. During the waking intervals he is often restless, noisy, and excited. The lethargy in this disease often takes the form of an inversion of the sleep rhythm, that is to say, the patient is unable to keep awake, or to be kept awake, during the day, and is unable to sleep during the night. When this occurs he is usually restless, noisy, and excited at night. In the delirious type restlessness, mental or physical, or both, takes the place of lethargy, or masks it. The symptoms are acute and assume the form of delirium, of mania or depression, confusion, delusions or hallucinations. During some epidemics mental symptoms of these kinds, accompanied by insomnia and an exacerbation of the symptoms at night, have been the rule, and have helped the diagnosis. The delirium is usually of a low, restless kind, accompanied by hallucinations and increasing at night. At times it simulates delirium tremens so closely as to lead to a mistaken diagnosis. The maniacal symptoms as a rule lack the rapid emotional variations and ideational pace displayed in true acute mania. Restlessness and noisiness are marked, especially at night. Depression is often accompanied by suicidal attempts. This depression is often of the agitated variety, and is usually accompanied by a mental slowness behind which there seems a lack of that utter subjectivity which is characteristic of true melancholia of psychogenic origin. In both the maniacal and depressed cases there seems to be more insight than is found in a manic-depressive psychosis. Cases have been reported which showed Korsakow's syndrome—polyneuritis with delusions.

These or other marked mental symptoms persist for a variable time, but, in the majority of cases, tend to abate. This is shown by the fact that though cases have been so common, yet the number of patients who have been certified has been very small. Symptoms of a functional kind, of psychoneurosis, are generally left, and may be the only marked symptoms during the early stage of the disease. The lethargy and somnolence very frequently remain for long periods after the acute

¹ Chronic Epidemic Encephalitis, 1924, p. 284.

² Op. cit., p. 292.

stage of the disease has passed, and are very troublesome. The cause of the lethargy, since it is so common and persistent a symptom, has given rise to much discussion. Taking into consideration the facts that it is often absent or replaced by distinct insomnia, and that very frequently it is the rhythm of sleep that is altered, it would appear that it is due to some definite lesion rather than to a toxæmia produced by the virus.

Mental Symptoms in Later Stages.

Mental symptoms which occur in the later stages of the disease are still more varied than those in the earlier stages. When it is remembered that the disease is a constantly active morbid process within the central nervous system, it can be realised that any of the mental states enumerated above may occur or recur at any time; but besides this there are some mental changes which do not become apparent until later. Between the appearance of these later symptoms and the early stage of the disease there is frequently an interval during which the patient is apparently well, and this interval may be quite long—three or more years. Long intervals, however, are rare, and the usual course is for the changes to manifest themselves within a short time of the original attack. Permanent dementia seems to be uncommon, but cases of apparent deep dementia which ultimately seem to have recovered have been reported. I had one such case under my care in a man aged 65, who was to all appearance suffering from senile dementia of a restless type with complete loss of memory for recent and long past events, and also of orientation for time and place. The prognosis seemed to be hopeless, but there was surprising improvement up to a certain point, after which I lost sight of him, and could not ascertain if the improvement was maintained.

Dementia præcox is often simulated in the frequent cases of mild Parkinsonism with catatonia, and the mental slowness which, on close examination, is found in many instances to be more apparent than real. Much of the easy mental fatigue and loss of memory of which these patients complain, and which, with their slowness, are the cause of their inability to work, may be found to be due to anxiety neurosis, the anxiety being about their own physical and mental state. These symptoms appear to be very frequent in those cases where lethargy persists, and the patient finds that any attempt at mental concentration produces lethargy at once. This lethargy seems to be quite different from ordinary desire for sleep. Several patients have described it to me as an imperative impulse to drowse, even though they are actively anxious to keep awake; and that, though they apparently go to sleep, they seem to themselves merely to get outside the active world and then to lose consciousness. At times when this occurs they are conscious of what is going on around them for a little time, though unable to take any part in it. If anyone tries to keep them awake by such action as shaking, the effect is only to arouse active resentment which they are unable to show. Dreams occurred in one case which

were remembered and which were often of a curious sense of levitation, the patient feeling as if he had lost all weight, was floating in the air past people and things in the room, and then passing through the wall into the next room or out into the street. This dream began whilst he was still conscious of what was going on around him. This patient remarked that he had warning when the lethargy was coming on by a curious thrill at his heart, and the only thing he had ever known to avert the attack was a sudden shock happening just as the lethargy was commencing. This had occurred on two occasions with him. Two other things frequently noticed with lethargic patients are the sudden and extraordinary return of mental and physical energy on arousing them, which is quite out of keeping with their usual apathetic state, and their ability to perform instinctive or automatic movements with rapidity and precision.

THE WIDE VARIETY OF MENTAL CHANGES.

Mental changes of every kind have been reported, and changes in the emotional make-up are very common, probably from lesions in the thalamus and region of the basal ganglia. Curious psychomotor hallucinations must be mentioned as they often give rise to peculiarities of behaviour which seem difficult to explain if the true cause is not known. A girl of 19 was under my care who had had the acute attack at the age of 14, and whose mental growth seemed to have ceased at that age. She could not be got to hold her head up, but kept it bent forward even when she lay down in bed. If she was induced to straighten it she would bend it forward again in a very few seconds quite suddenly. After much questioning she explained that when she extended it she had the feeling that she was going to suffocate by the muscles of respiration ceasing to act. With care and encouragement she was cured of the habit.

But the most striking of the mental changes which occur, especially in children and young people, are the sudden and complete alterations of character and temper. These changes are not at all rare, and show themselves either suddenly or insidiously at varying intervals after the onset of the disease. The patient who, before the illness, was hard working, full of interest, good-tempered and happy, becomes idle and mischievous, lacking in interest, irritable, impulsive, and malicious, a source of grave anxiety to parents and guardians. The complete change in morality is often dramatic in its suddenness. Lying, thieving, sexual immorality, and even inclinations to murder appear in children of the most respectable and respected families, whose upbringing and education have been of the best, in whose family history no record of any such tendencies can be discovered, and whose previous moral character and disposition were good. Changes of the reverse kind, from bad character and disposition to good, I cannot find recorded. There is generally, though not always, to be found some change on the intellectual side as well. There may be distinct intellectual degradation with loss of memory for the subjects

in which they have received instruction, or merely a change in intellectual outlook shown by a slyness or wiliness which did not exist before. Cases showing these changes of character are coming into the out-patient departments of our hospitals in increasing numbers, and the complaints of the parents are grievous to hear. The child who hitherto has been good-tempered, trustworthy, and a help in the home, is now untruthful, dishonest, has lost all regard for right or wrong, is irritable, has attacked brother or sister with a knife or other weapon, and cannot be left without constant supervision. When seen this child may be found to be bright and intelligent, with nothing to indicate any such failings and nothing on which to base any certificate of mental deficiency or insanity. The domestic disturbance caused by these patients is often enough to reduce a previously happy household to a state of chaos. A. J. Hall² quotes one case reported from an asylum of a boy aged 15, who improved so much after a year's residence that he was discharged. Soon after this he was arrested by the police for assaulting a girl of 17 who had laughed at him and whom he had nearly strangled. On his brothers promising to look after him he was bound over, but a month later committed suicide by hanging himself to the end of his bed with his necktie. Enough has been said about these cases to show how grave can be the results of the disease, and how important it is to recognise the cause.

DIAGNOSIS.

The diagnosis of the disease in a mental case is not generally easy. A full history is of the greatest importance, as also is a careful examination of the nervous system. A history of sudden onset, lethargy, salivation, cranial nerve palsies, together with absence of changes in the cerebro-spinal fluid, or other change which laboratory investigation can reveal is helpful. The conditions most likely to give rise to difficulties in diagnosis in the early stages are tuberculous meningitis, before the changes in the cerebro-spinal fluid become pronounced, and intracranial tumour without changes in the fundus.

The early symptoms of encephalitis lethargica may be confused with those of poisoning of various kinds, indeed, in one of the earliest epidemics, that in 1917, they were considered to be due to botulism. In the later stages various mental diseases may be closely simulated, and again the central nervous system as well as the history must be closely investigated. The presence of extrapyramidal symptoms and the disturbance of rhythms in automatic or reflex movements are common signs of the disease. There may also be involvement of the pyramidal tracts. Cases of mental change of recent date showing signs of Parkinsonism, alteration of rhythms, loss of associated movements, salivation, ocular palsies, or history of diplopia are always suspicious. Some cases can be confused with epilepsy from the history of fits which may simulate the convulsions of that complaint, but these when observed closely will be found not

to be true epileptic fits. Syphilitic affections of parenchymatous and meningo-vascular types are distinguishable by the Wassermann and other tests of the blood and examination of the cerebro-spinal fluid, though it is possible, of course, for epidemic encephalitis to be implanted on to a syphilitic patient. Dementia præcox is liable to be diagnosed in cases occurring in young people when the symptoms include sudden changes of mood or character, together with repetition of words or phrases, noisiness, catatonia, a general childishness of behaviour and possibly an increase of weight. History of the onset of the disease, absence of any of the degenerative stigmata, and of family history of mental or neurotic tendency, and careful examination of the nervous system should clear up any doubt.

TREATMENT AND PROGNOSIS.

The treatment of the mental symptoms in the earlier stages depends on their character and severity. Rest in bed with careful nursing and attention to guard against accidents or suicidal attempts are the essentials. Sedatives may be required in cases with insomnia, but are best avoided. Certification should, of course, be avoided at all costs if possible, and the charge of the case will lie in the hands of the general practitioner and the consultant who should be asked to advise in most cases.

Difficulty of safeguarding the patient at home may, despite every effort, render certification necessary, so that the patient may have the advantages of institutional treatment. The law, as it stands at present, does not allow treatment in a mental hospital to any uncertified person who does not express a wish to remain. In children showing character changes much good is done in an institution where kindly and intelligent treatment together with training in various occupations and in regular habits is carried out. So far this has only been possible when the patient has been placed under certificates, which proceeding is not always possible or desirable. The increasing numbers of these cases and the great difficulty of dealing with them makes it imperative that some provision should be made for their care and treatment. At the beginning of the year 1925 there were under certificates in mental hospitals in this country 150 patients suffering from the after-effects of this disease, of whom 43 were under the age of 20 years, and 60 more were under care in mental deficiency institutions, these also being under the age of 20.

Questions as to prognosis are very difficult to answer. The difficulty arises from two causes: first, because the disease has not been under observation for a long enough time to be certain to what extent recovery holds good; and, secondly, because fresh foci of the disease may occur at any time and produce fresh mental symptoms. That even the most severe mental symptoms may improve to such an extent as to be deemed recovered is certain, but whether this apparent recovery is permanent or not cannot at the present time be stated.

² Epidemic Encephalitis, 1924, p. 122.

CHAPTER XXXVI.—MINOR PSYCHOSES.

ANXIETY STATES AND HYSTERIA.

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*The Anxiety States.—Somatic Symptoms.—Mental Symptoms.—Treatment, Physical and Symptomatic.—
The Intimate Knowledge of the Patient.—The Position of the General Practitioner.—Hysteria.—
Diagnosis from the Psychoses.—Treatment.*

I. ANXIETY STATES.

SYMPTOMATOLOGY.

THE symptoms of an anxiety state may affect any part of the body; they may be somatic or mental. In the majority of instances the bodily manifestations overshadow the mental; indeed, it is possible that a large number of those patients who in any practice are often ailing, are suffering from this condition—they are the “dyspeptics,” the patients with “weak hearts,” those with “debility,” and so on, large groups which are usually not demonstrated to medical students because they have no physical signs of interest to correspond with their multitudinous complaints. A patient suffering from an anxiety state is probably one who will require some help for a long time, and it is the patient's own doctor who is in the best, who is often in the *only*, position to carry the course of treatment through.

The symptoms somatic or mental arising in any part of the body have no physical explanation. It would not be possible within any reasonable limits to enumerate them; indeed, I find myself being constantly presented with new ones. All that is attempted here is to set down the commonest, acknowledging that the list is incomplete.

Somatic symptoms are general and local.

GENERAL SOMATIC SYMPTOMS.

The general symptoms are in the main two in number—fatigue and loss of body-weight. The fatigue is out of all proportion to the state of the body on physical examination, and to the amount of exertion which has been alleged to produce it. It is often also selective. For example, a patient will say that even talking exhausts him; he may give that example straight away at the first interview, and yet he will in most cases be able to talk about his case to the same doctor to whom he has given this information for as long as that doctor is willing to stay with him, and will not complain of the fatigue which such an effort should be causing. It will be found also that fatigue sets in later, that is, takes longer to develop, when the exertion is of a nature which the patient is willing to undertake and in which he is interested; and it should be borne in mind that this is a phenomenon which in less obvious degree is to be found in all of us. It is also characteristic of anxiety fatigue that it brings other symptoms in its train, such as headache and insomnia. Normal fatigue does not

do so; normal fatigue is on the whole a pleasant sensation, but this kind of fatigue never is.

The loss of weight may be so great as to give rise to considerable anxiety as to whether organic disease is present; it is usually accounted for by the friends by the fact that the patient eats little, but anxiety per se does bring about a loss of weight.

LOCAL SOMATIC SYMPTOMS.

These symptoms are associated with or referred to the various systems of the body.

The Nervous System.

We may place the following in this category:—

1. *Headache*.—This is the most convenient term to use, but any discomfort in the head may be complained of; perhaps even more common than actual pain is a feeling of weight on the head, of pressure, or of the head being stuffed with something. These feelings may be generalised over the head or they may be curiously localised. In the latter case it is peculiarly difficult to convince the patient that there is no localised lesion.

2. *Giddiness*, when complained of, is a subjective sensation of unsteadiness, not an apparent rotation of external objects.

3. *Pains* in all regions of the body are common. They are often designated “neuritis,” “rheumatism,” “fibrositis,” and the like. But a great many vague pains all over the body may be due to the anxiety state, and they are relieved only when this state has cleared up. More localised pains are also common, especially pain in the spine and, above all, about the sacrum, severe neuralgic pains in the rectum, and pains in the breast. The two latter are commonly allied with the fear of cancer.

4. *Insomnia* is one of the commonest and most important of the nervous symptoms. There may be difficulty in getting off to sleep, and sleep may be achieved only shortly before the patient has to get up; there may be constant waking with long intervals; or the patient may get off to sleep at the usual time to awaken at 3 or 4 in the morning and to remain awake. The patients often complain that their sleep has been unrefreshing, and that they wake up more tired than when they went to bed.

5. *Ocular Symptoms*.—Intolerance of light is very common; it may be so great as to necessitate the

patient spending most of the day in a darkened room; but it should arouse the suspicion of the presence of an anxiety state when a patient wears tinted glasses, and states that he does so because it prevents headache.

Musæ volitantes are complained of frequently, and are usually regarded by the patient as a sign that his liver is out of order. It is curious how few people seem to know that they are a normal phenomenon.

In functional asthenopia the patient can read only for quite a little time, then the letters become blurred and run together, and if the attempt to read is persisted in pain ensues. It is characteristic of this condition, after it has been in existence for some time, that the patient will narrate that he has seen many oculists. It will often be found that all of them have differed from their colleagues in slight degree, usually about the angle of a cylinder, while all of the prescriptions will have done a great deal of good for a period of days or months, but in the end the condition has recurred.

6. *Aural Symptoms.*—Tinnitus in varying degrees is common along with a slight degree of deafness. Patients are also troubled a good deal by the noise of their own pulses, especially when trying to go to sleep. Intolerance of noise accompanied by hyperacusis is also frequent.

The Alimentary System.

Loss of appetite is common; it may sometimes even amount to complete anorexia, and there may then be great loss of weight. The appetite is often very capricious; the sight of food may abolish what there is; the patient may complain that the mouth has become dry and sticky, and that "the food goes round and round in the mouth."

Indigestion is complained of frequently, the chief complaints being weight and fullness after food, and distension with eructation of wind which may go on for hours. The patients usually say that they are very careful about what they eat, and they adduce a considerable list of things which give them indigestion. Yet the avoidance of these seems to benefit them little, for, careful as they are, the discomfort continues.

Constipation and diarrhœa are both common complaints. Mucous colitis may be purely a nervous phenomenon.

The Circulatory System.

Cardiac discomfort of some sort is complained of almost universally. Palpitation of the heart is one of the commonest symptoms. It may come on when the patient is doing nothing, but it is also frequent after exertion of a slight character. Because of this the patient is firmly convinced that there is something wrong with the heart, and unfortunately this belief has often been backed up by medical opinion. The patient has been told not that the heart is diseased—he is usually emphatic in his statement that he is aware that it is not—but that it is weak or dilated or that "its nerves are affected." He therefore fears to put it

to the strain of exertion. Now palpitation is one of the normal accompaniments of fear. If a patient fears that exertion may strain further his already strained heart, the prospect of exertion may bring on the symptom; and thus we shall often find that if such a patient is taking a walk he will begin to suffer from palpitation at the mere sight of a hill which lies in his way, and he will usually attribute this to the amount of exertion he has already made.

Associated with palpitation there is frequently cardiac pain along with dyspnœa, the sense of constriction in the chest with fear of impending death, and to this latter has often been given the dreadful name of pseudo-angina.

Vasomotor symptoms are also common. Of these among the most distressing to the patient is blushing. This may be so great as to make it almost impossible for her—for it is usually a young woman who is afflicted in this way—to take part in social life. She cannot go into a company of people without becoming suffused all over. The self-consciousness which accompanies this may make her renounce social life altogether, a situation further dwelt upon in the next section. Pallor, coldness of the skin, and sweating are also found.

The Urinary and Genital Systems.

Frequency of urination is common. This may be due to the secretion of an excessive amount of urine or it may be connected with an irritable condition of the bladder, the amount excreted being normal or less than normal. It may be also one of the symptoms which makes social life impossible, as it may be aggravated by the attempt to go into company.

Pain is often present which is referred to a loose kidney, especially if the patient's attention has been directed to the fact that it is loose.

In men impotence is common. It may be that the patient has lost interest in sexual affairs, but he may also have impotence with desire; or there may be some faulty functioning, such as disappearance of erection when the act is about to be consummated or emission at the moment of penetration. These symptoms are causes of the greatest unhappiness, as are nocturnal emissions, for the patient is apt to blame himself for their occurrence, connecting them in his mind with acts of masturbation for which some fearful punishment had been promised him in his boyhood.

In women disturbances of menstruation are common. Irregularity and excessive pain may be symptoms of an anxiety state. In the sexual sphere dyspareunia and frigidity are found—the latter is a very common phenomenon, and it may amount to actual loathing of the sexual act.

This is a résumé of the somatic symptoms, and it must be remembered that some of them, in severe cases even all of them, may dominate the whole clinical picture, so that the mental symptoms may be masked. The latter may hardly be the subject of complaint as the bodily symptoms may occupy the patient's attention so much; but mental symptoms are always present and will be found if inquired for.

Many symptoms are not discovered because they are not inquired for. These patients will not tell all their troubles to one who is not interested enough to ask. And unfortunately the attitude adopted towards them often is, that, as they are highly neurotic, it is just as well that they should not be encouraged to dwell on their symptoms. This idea is not a sound one.

MENTAL SYMPTOMS.

Inability to concentrate is always present, and seeing that the patient is subject to so many bodily discomforts this is not surprising; but even when these are few—and they may be—the symptom will still be found. As we are dealing *ex hypothesi* with a state of anxiety this is to be expected, for in normal life anxiety will always be found to interfere with concentration.

As a corollary to want of concentration there is a bad memory for recent events, and forgetfulness in the execution of the common acts of daily life. In consequence of these interferences with the smooth working of the mental machine there is almost always the apprehension present to the patient that his mind is deteriorating and that he is going to become insane. This is especially one of those symptoms that in the large majority of instances will not be complained of spontaneously. The patient is too fearful of the imminence of the disaster to wish to have it confirmed, too fearful that if he mentions it he will be considered insane now and possibly be sent to an asylum; yet it is a symptom which will be spoken of readily enough if asked about; it is one to which a frank discussion on the nature of insanity will bring untold relief. As a matter of experience these patients do not become insane in the sense in which the laity understand insanity—that is, they do not perform outrageous acts, and they do not become certifiable.

Shyness and awkwardness in company are common; they are part of a sense of inferiority which is the most usual mental state in these patients. This sense of inferiority is often to be explained by the idea which the patient has that he is less clever, less well educated, or less moral than the majority of people whom he meets. Often enough there is some foundation for the two first ideas, for education, both at school and later, will have frequently been interfered with because the patients have been ill so often. Again, one does not feel clever if one cannot concentrate the mind. But probably these are not the important reasons for the feeling of inferiority in these spheres; they are what is called rationalisations—i.e., reasons put forward because to the patient they seem reasonable. The important reasons are commonly to be found in the circumstances of childhood when the patient was dominated to an unusual degree by someone in authority, most often by the father. The sense of moral inferiority is connected most often with the occurrences of sexual thoughts and practices. The patient may think that sexual thought is in itself sinful, while he usually holds the most pessimistic views about the effects of masturbation. He may have concealed from himself that these ideas are

the cause of a feeling of inferiority by means of the psychological forces of repression; and some rationalised cause may be put forward in their place. Sometimes the disguise is ludicrously thin; at other times it may be very complete. As an instance of the former—and such cases are common enough and can be found by anyone who will take a little time for their discovery—there may be cited the example of a man who had anxiety symptoms with marked feeling of inferiority which he stated emphatically were due to smoking. He smoked very little, but his history when he went over it revealed the fact that he had masturbated. It revealed also that when he was a young man a doctor had foretold an illness of the kind he was undergoing if he masturbated. He had not forgotten this occasion, and it came out in the ordinary history; he did masturbate, he did get the symptoms as promised, and yet he had never seen for himself any connexion between the doctor's prophecy and the onset of the symptoms, although the latter was exactly what had been foretold. It will be understood that if it is difficult for a patient to see an obvious connexion like this, it will be much more so when the causal ideas are more deeply buried; and it is one of the main difficulties in the application of psycho-analytic methods of treatment that the patient is unable to see the point.

Normal and Morbid Fears and Anxieties.

Fears and anxieties are always present among the mental symptoms, and these may be conveniently classified into normal and morbid. It is normal that a man whose head is working as badly as has been described should fear insanity, and such a fear may usually be benefited by direct explanation; it is not normal that a man should experience fear in crossing an empty street, and this is a morbid fear or phobia. The patient himself is aware that the fear is ridiculous, and therefore nothing is gained by telling him that it is; he is also aware that whenever he tries to cross the street he can do so only after intense effort. There is always an explanation somewhere of a phobia, but it is an explanation which has been repressed into the unconscious. The finding of this will bring benefit to the patient. In addition to these very definite fears about something whether justifiable or not, but still about something, there is also in most cases a condition of vague apprehension which the patient cannot define. He does not know what it is about, only that it is there.

TREATMENT.

The treatment of these conditions will depend on what is believed as to the psycho-pathology; these beliefs have been legion, and have led, therefore, to treatments without number. Most of the forms of therapy have in their day been attended by satisfactory results in large numbers of instances; and as they have differed so widely in their nature, being now a treatment by pessaries, now a treatment for astigmatism, here a rest-cure, there a work-cure—the list could be indefinitely extended—

only two views can reasonably be held. One is that the complex described may be the consequence of any ill to which the body is heir, and the other is that anything which a patient believes in will do him good. The first view cannot be maintained for many reasons, of which perhaps one of the most striking is that the cases which any enthusiast seems to treat, and to treat successfully, are not selected cases; they comprise, as a rule, nearly all of those that he sees, the treatment being given whatever the symptoms. There is this also in common to all these diverse forms of treatment—they work only in the hands of the man who believes in them; other equally competent specialists, who try them in a sceptical frame of mind, get no results.

The Frequency of Temporary Success.

This, therefore, leads us to examine the second view and see if it is worthy of credence. The thesis is maintained here that all patients suffering from the group of symptoms which have been described under the anxiety states are individuals who are finding life too difficult from the emotional standpoint. They are being overwhelmed by the emotional stresses of life; what is reasonable for other people is exaggerated for them out of all proportion. Various events in their life-history have contributed to this emotionalism. Every emotional stress has caused symptoms, and by the time they have been ill for some months or years they are subject to despair about their condition. Their symptoms are exactly the symptoms which any one of us may experience temporarily as the result of anxiety, sorrow, worry, or other depressing emotional state; and, as has been suggested, a very considerable number of the symptoms of any such patient are due to despair about the very state in which he finds himself. It appears to him to be a condition which most doctors do not understand and which none can remedy. If this be so we can understand why any enthusiast can cure or relieve to a very considerable degree a large number of these patients. If he can get them to believe that he understands their state and can cure it, he will of necessity remove all those symptoms which depend on this despair. This, unfortunately, is not the whole story, nor is it the story at all in a large number of instances; but it is nearly the whole story in so many that the results, the immediate results at least, are good enough to make enthusiasts about a treatment believe that their psycho-pathology and treatment are correct.

The doctor in general practice does not feel quite the same about it. He cannot be enthusiastic about methods when he has seen relapses—the specialist does not see many of these, for the patients who suffer from them are apt to go elsewhere next time. The doctor in practice can do everything that need be done for most of these patients, but it will not be along such dramatic lines. The rest of the story which the specialist did not attempt to reach was that the patient had other anxieties, worries, despairs which were never dealt with. They must be dealt with somehow if the patient is to be helped

effectually, and they cannot be dealt with until they are known.

Need for Intimate Knowledge of Patient.

The essential, then, is that the doctor shall get to know his patient, and that is not a thing to be done in a quarter of an hour nor in any number of quarters of an hour. When a doctor is consulted by a patient for bodily symptoms or for mental symptoms of the kind described under the anxiety states, and when he can find nothing wrong after a thorough physical examination which should include necessary laboratory tests, he should consider the case as a serious one and should take steps to get to know the patient. At the moment he should give no opinion and prescribe no treatment, and if he is, as he usually will be, pressed for time he should arrange to have four or five interviews close together which should last nearly an hour each, for the purpose of getting to know the patient's history. The importance of giving no opinion at this stage cannot be exaggerated; more patients are plunged into deep anxiety states by being told that "their hearts though healthy are weak," or that "their digestions are not very strong," than will be believed by those who have not taken down these patients' histories with fullness and care. It may be felt that no one could ever have four or five hours in one week to devote to a neurotic patient, but every doctor in practice is devoting many more hours than that to a number of neurotics. The time is given to each in dribbles, which better rationed would give more decided results.

The first interview should be devoted to a complete review of the functioning of the whole body, every organ and system being investigated. It will be found that the patient, far from complaining too much, has not spontaneously told anything like all his symptoms. He has been snubbed too often for that, but if he finds someone who is willing to hear first of all to what extent he is suffering, he will then himself be willing to tell much which he had hitherto told to no one.

The next thing is to get the history of the illness itself, and then to hear as far as possible the salient points in the life-history of the patient as a member first of all of a family, then of a school, and then in the grown-up world; and above all we wish to hear how everyone, from his parents onwards, seemed to treat him. We shall then be in a position to know how he has reacted towards life, and whether the reactions now so excessive were really not at some time well justified. If we then tell this patient, and not till then, that he is not ill in his body, and that these symptoms are only the result of all the anxieties he has had, he will believe us. Listen well to any nervous person, and the danger is that he will believe too readily anything you say.

The taking of the history in conjunction with the physical examination will not only enable the patient to get rid of the fears of bodily disease which were causing many symptoms, but also it will thereafter be easy to demonstrate to him that he has been practising many restrictions which are hampering his full enjoyment of life. These he will be able to drop. It is more particularly in

connexion with rules of diet, the care of the heart, and the careful use of the eyes that this can be demonstrated. Those who have been troubled chiefly with dyspepsia have usually been very careful about what they have eaten, and often their diets have been meagre and uninteresting to the last degree. If their history demonstrates clearly that their attacks of dyspepsia originated in anxiety about something in their lives, and that they had, and have, no real connexion with food, they will become emboldened to try something more interesting, and this is an enormous gain. Nearly all our social life is connected with eating; not to be able to eat the food which others eat, not to be able to enjoy it, is nearly the equivalent of renouncing social life; and this renunciation is the surest way to achieve further cultivation of neurotic symptoms.

Fear that the heart is not quite strong, that its "nerves" are affected in some mysterious way, leads to fear of taking exercise, to fear of games like tennis, to fear of taking a walk; and these things, too, are renounced with all the ill-effects which not being able to do what others do entails. Other common social habits often also get the blame for symptoms with which they have nothing to do. An example of this was the case of the man who attributed his symptoms to smoking. This case furnishes an excellent example of a general law, a law applicable to everyone, but much more to nervous than to healthy-minded people. We all try to avoid painful thoughts, not voluntarily but automatically. Thoughts which are discreditable to ourselves are not perceived; they are replaced by others which are less discreditable, or indifferent, or praiseworthy. This man replaced one explanation which he should have believed by another, which had a certain possibility of truth, because the former was discreditable while the other was merely foolish. The striving, however, is to find a praiseworthy explanation, and many patients succeed in doing this, so that by far the most popular explanations of the anxiety states are those which depend on ideas that the patient has overworked, that he has succumbed in a valiant struggle against the unkindness and injustice of other people, that he has been subjected to quite unusual stresses and strains, and, of course, that he has some disease which accounts for his symptoms.

The Value of Careful History-Taking.

It might be thought that to take the patient's history would be only to receive a recital of the grievances and heroisms which have been the patient's lot. Brief conversations with these patients would certainly strengthen such a view, and the first long interview will certainly bring forth confirmation. But the patient himself is not really happy over his own explanations, and longer acquaintance will give him enough confidence to bring forward the doubts and scruples from which he has been suffering; and once he has begun he will go on. He has been conscious, more or less vaguely, that the ideas put forward to account for his condition are not wholly satisfactory, and when the total situation is reviewed,

many facts whose connexion with other facts he had previously ignored will become patently connected. In great part as he talks he will do this connecting process for himself. In this way there will arise for discussion many doubts, anxieties, and scruples about which the patient had formed no very clear ideas, because he had never discussed them with anybody, not even with himself.

But an idea, or the energy connected with an idea, is not got rid of so easily. If we are to be comfortable in our minds we must thresh our difficulties out; we cannot get peace by trying to ignore them. It is as if a man drifting towards bankruptcy were to try to get solvency by refusing to examine his books. The doctor must, therefore, be prepared to discuss all questions with his patients; most of the questions which will turn up for discussion are moral questions, and a large number of these moral questions are connected with sex. It is for most doctors a highly distasteful rôle which they will now have to occupy, but unless they are prepared to accept it they had better leave anxiety cases alone. A doctor may say that he has no wish nor right to set himself up as a moral judge, that, if that is anyone's duty, it is the duty of the priest. The reply is that no one is asking him to be a judge at all. The patient when he comes down to the realities of his history will almost certainly be condemning himself most heartily and for what? In most cases because he has had sexual thoughts or because he has masturbated. The first, it should not be difficult to show, is a mere matter of physiology, a proof that the patient is normal; the second is now known to be very common and is regarded as a stage of development, anyhow unworthy of the disproportionate condemnation it receives.

Other things which the patient feels now to be oppressing him will come up, which a doctor may discuss as usefully as anyone else. The patient will be found, perhaps, to be harbouring resentments and hates against certain people, often against people long dead, but with whom he has never felt reconciled; frequently these are his parents. Sometimes the feeling has been manifestly justified, sometimes it has not. If the patient is one who readily communicates his thoughts, reasons which are justified will usually emerge. The parents have often been too domineering or have imposed themselves too much on the patient, so that his adolescence is, or has been, one long ineffectual revolt. There are plenty of young men of the age of 30 whose parents sit up for them in the evening when they go out, sit up pleasantly and ungrudgingly, but still are there evidently to see that all is well. There are plenty of women up to much older ages who are allowed no thoughts, no friends, and no correspondence which are not fully shared by their mothers; they may be unaware of how much these things are affecting them till they begin to talk of the galling nature of their servitude; when they begin to do so they can also begin to see where their trouble begins. Or there may be an excess of affection for someone which is clogging the patient's activities; too great survival of affection for the parents or the home may prevent a young man or woman from living away from them

in comfort. From both sets of causes, hates and loves, symptoms may develop which may on the one hand prevent a patient from being able to live at home, or on the other to leave it. The patient will not put it so; he will have some other reason such as that the climate there does not suit him. But care will detect real causes, and in this way we may often find that the illness comes to serve a purpose, that it conduces towards a desired end. The termination of the illness, in fact, is not altogether wished for by the patient, though this is a thing he may not have perceived himself and will probably dispute hotly. That he should perceive it is very desirable. It is one of the great difficulties which prevents the restoration of health, and pointing it out to the patient is an occasion for the exercise of the highest skill on the part of the doctor. It is easy for the doctor to see it; most difficult for the patient. If the pointing out is done unskillfully the resistance on the part of the patient to seeing it will be augmented. This resistance is not a conscious thing; it is wholly automatic, and therefore the patient is not blameworthy if he does not see it after it has been indicated. The doctor will be on surer ground if he blames himself for clumsiness.

The Rôle of Encouragement: the Position of the Practitioner.

I am making no mention of the great shocks, sorrows, and humiliations which careful history-taking will elicit, because they in themselves will probably seldom cause a neurosis. It is much more the minor disabilities on the part of the patient which are potent; they represent weakness in the patient, showing that he has been unable to deal with very ordinary situations in life, and that these have worn him down. It will often emerge that the patient has had no end or aim in life. Life has been started very often as a thing in which events were going to happen. These patients have usually not wanted anything very particularly which they were going to make out of life; or at any rate they have taken no adequate steps to carry out any desires they may have. Young men and women would like to write or paint or play an instrument and will not take the trouble to learn the elements of the technique. Many have no special interests at all, and in view of their financial position should be earning their living. "They will have to get some job." They are qualified for none. And all this often curiously enough runs along with plenty of talent. There is no end to the situations which arise from the investigations, and the doctor's rôle will be a varied one, but if he keeps in mind that here is a weakling who must be steadily encouraged—not mawkishly so—common sense will be a great guide.

As a rule the general practitioner is the person who should be the one to treat these patients. Many are going to require support and direction for a long time. Specialists are both too expensive and too few for this to be done for the bulk of the people. The doctor must himself consider if he has done all that he might have done. Too often, because he did not know the history, he has encouraged the patient in his symptoms; the patient has

said he was unduly tired, and the doctor has advised rest without inquiring whether this tiredness really represented exhaustion, or boredom, or disappointment, or what. The history would often have told him. Sometimes if he concluded that it did not represent exhaustion he has merely brushed it aside, a course which explains nothing and helps no one. A negative opinion is seldom of use. The patient does feel tired, and he knows that no one else knows what he feels. But if the matter is gone into an adequate explanation of the symptom will usually be found and then the situation can be dealt with.

As the patient feels that he is being helped over his difficulties he will improve, and the amount of improvement may be enormous, so that he may call himself cured. But there will be many times when his symptoms will return, and if really good relationships have been established between doctor and patient the origins of these will be found by pursuit of the same method—viz., by taking their history, which should now be a comparatively easy affair. Something has disturbed the patient—indeed, quite an absurd number of these disturbances will be in relation to the doctor himself. This is a somewhat trying period of the treatment, but one which must be faced. The doctor has, perhaps, become a very great person in the eyes of the patient, and the patient may have fancied all sorts of things about him which are of importance because the doctor is of importance. So the patient fears that the doctor is getting tired of him or is offended with him; or he fancies that he is leaning too much on the doctor; finally the patient may have fallen in love with him. Direct facing of the difficulty will put all this right, but for the doctor this is a very difficult period in the treatment of nervous patients, and badly handled it may cause mischief.

In a certain number of cases the good which is derived from the treatment described may be very little, and it may be considered wise to proceed to the deeper methods of investigation which go under the name of psycho-analysis. This is not the place to describe either the theory or practice of psycho-analysis, which is not a procedure to be recommended to anyone not specially engaged in the treatment of psycho-neurotic patients. It is full of pitfalls and dangers, and while it is very tempting to make a start with it, the practitioner will be wise if he resists doing so.

Physical and Symptomatic Treatment.

There are finally the questions of physical treatment and purely symptomatic treatment. A physical condition which requires treatment should, of course, be treated, but the tendency is to treat by physical means what should be treated by psychological means. Palpitation, dyspepsia, and headache will usually yield to the treatment of the various anxieties. Drugs do these symptoms good for a time—i.e., so long as hope lasts; when it has disappeared they do no good, and this happens in the end with most cases. Drugs are the easier method for doctor and patient, and the latter at first likes them. They save both parties trouble; they save the patient the pain of finding where he has been wrong, and of seeing that he has to

some extent brought his illness on himself. Therefore physical treatment obtains preference. To what extent some people will go in the way of seeking relief by formidable physical measures is well exemplified in those patients who have undergone five or six grave abdominal operations for the relief of anxiety states where the symptoms were mainly abdominal. It is often a matter of difficulty to decide whether an anxiety patient should undergo an operation. The general rule is that he should have it if the operation is one which it would be advisable for him to undergo if he had no anxiety state, but that no operation should be performed in the hope that it will cure an anxiety state.

Certain symptoms may require special treatment. If there is great emaciation with visceroptosis and dyspepsia, rest in bed is indicated till, say, a stone in weight has been gained. Such patients have become physically run down, and this must be remedied. They are exceedingly difficult to build up unless they are put to bed.

Insomnia will diminish or disappear when the anxieties begin to be relieved; a most important anxiety to be relieved is that connected with insomnia itself. The patient fears he will become insane or that his brain will deteriorate if he does not sleep. Explanation that these dire events will not happen will dissipate the fears. But if the anxieties which are keeping up the insomnia cannot be found or cannot be dealt with, hypnotic drugs may be necessary, and should not be withheld. The dangers associated with them are largely imaginary. A hypnotic such as veronal may be administered for many months without harm and without craving being established. Prolonged sleeplessness is disheartening and may lead to other symptoms. Dyspepsia is a symptom which is commonly kept up by anxiety about what may be eaten. The history will show that it became worse in periods of stress; the taking of each meal became a source of anxiety and therefore a cause of dyspepsia. If a little care in explanation is given, it is not very hard to get these patients to eat ordinary food without any attendant discomfort.

Two physical methods are much to the fore at present—endocrine therapy and treatment of local sepsis. Endocrine therapy acts perhaps solely by hope; anyhow, there seems to be no endocrinologist of standing who is certain about the action of gland extracts in such clinical conditions.

With regard to eradication of local sepsis, as already stated, operations should be performed on these patients as if they were not suffering from anxiety states. No one would leave an infected antrum or tonsil untreated in a healthy person. We shall not make life easier for one finding life very difficult if we neglect these pathological conditions; but the treatment of them *per se* will not cure anxiety states, though it may easily be followed by temporary benefit. The history of the treatment of these states by the eradication of sepsis is a long and chequered one. At one time pyorrhœa was the offending agent; then it became unimportant and apical caries was the fashion. The interest for the moment has shifted rather to the tonsils and sinuses.

II. HYSTERIA.

The bodily symptoms of hysteria are, as a rule, much more characteristic than those of the anxiety states. Hysteria presents itself to the mind of the observer, and the question of whether a given paralysis is organic or hysterical in origin is one which examination will almost always settle, whereas the question whether the weak action of a heart is organic or not is always more difficult.

The symptoms, as in the case of the anxiety states, may be divided into somatic and mental. The somatic symptoms do not demand a long description—indeed, everybody knows them. They are as a rule very public symptoms; there is no need for the patients to talk about them as everybody can see what they are. They are most commonly paralysis of some part of the body, contractures of some portion of the limbs, clonic or choreiform movements. The paralysis or abnormal movement may be visceral, as is exemplified by the occurrence of aphonia, dysphagia, vomiting, or fainting. Complete loss of appetite of the most dramatic kind has been described under the name of *anorexia nervosa*.

MENTAL SYMPTOMS.

If any of these bodily symptoms has been well established the mental state is commonly one of contentment. The young woman with *anorexia nervosa* is quite happy in not eating. She protests and feels that she is quite well, though she has become a skeleton. The patient with paraplegia lies contentedly in bed, smiling on everyone.

But if bodily symptoms are not present a different picture is provided. The mental states in hysteria may be seemingly normal in the presence of such symptoms; in their absence they may be normal with highly abnormal episodes. These include amnesias, fugues, somnambulism, trances, deliriums, hallucinations, emotional attacks of great intensity, and phantasy. If bodily symptoms have been present and have been removed, the ordinary symptoms of the anxiety state may supervene.

In *amnesias* there is a definite wiping out of a block of time; it is not that there is the loss of incidents here and there, but a blank for a definite period of minutes, months, or years. The patient may be aware that he lost himself at such and such a place and at such and such a time. He may recover himself at a wholly different place and not be aware of how he got from one to the other. He is then said to have had a *fugue*.

In these states, for which there was afterwards amnesia, the patient may be delirious and be talking apparent nonsense. When opportunity occurs it is worth while to listen carefully and for some time to such conversation, as it will often refer to something which is highly distasteful to the patient's personality, something which that personality is anxious to forget. Indeed, this is the *raison d'être* of the amnesic period. The main personality cannot face something; it becomes split, the split-off portion forming a consciousness of its own with

which the main personality will have nothing to do. This secondary consciousness may be perfectly capable of conducting the patient's affairs after a fashion, not usually the best fashion, but still not obviously outrageous. Thus in the case of a young man seen lately where there had been two fugues, each of which had lasted about 36 hours, and after each of which the patient had found himself many miles from the point where he had lost his memory, the recollection of what had happened was discovered by a hypnoidal process. In each he had taken complicated walks in crowded streets, including the crossing on foot of Piccadilly-circus; his conduct must, therefore, have appeared fairly normal. There must have been a "consciousness" in charge. In each the same thought had dominated all his proceedings—viz., how to get to a lake or pond and drown himself. In each he had spent long periods of time beside ponds, but had never summoned the courage to go in. The whole affair was orderly, and under the control of a mind which was capable of exact memory, but a mind whose content was so repugnant to his main mind that the latter had refused to have anything to do with the set of ideas, which had therefore become dissociated from it.

Somnambulism differs from the fugue in that it comes on with sleep, and that as a rule the patient does not wander very far. The patient though apparently asleep is usually quite able to take care of himself. There may be a distorted recollection of the event; the features of the house may be distorted into the features of a dream which is remembered. Thus one young woman who jumped down several steps had in her sleep been climbing over rocks and had jumped off one about 5 feet high, and so on.

Trance states may also occur, but are not very common. The patient in trance will probably swallow milk when it is time for food if it is presented, will use a bottle to empty the bladder, but will refuse probably all other contact with reality. These features should distinguish the state from the stupor of graver mental conditions.

Hallucinations are fairly common among hysterics. They are usually reported by the patient and recognised as such. They are most commonly visual, though auditory ones are found also. It is of the utmost importance to determine whether the patient recognises that they are occurrences within himself, which his mind has projected so that they appear to proceed from the outside, or whether he insists that they have external reality. It would be rash to say that the latter attitude indicates insanity, as we should then have to assert that all spiritualists and many devotees are insane; but in the absence of some belief held by others which sanctions the appearance of spirits, an insistence that hallucinations have objective existence is suggestive of insanity rather than of hysteria.

Hysterical Fits.—These may be obviously emotional attacks, such as attacks of passionate sobbing, rather more dramatic than those of ordinary people; or they may be accompanied by such dramatic movements that they hardly resemble

the emotional attacks of ordinary people; finally, the movements may be so wide, the loss of control so great, that the attack may be called a fit. In it as a rule the movements are different from those of true epilepsy; they cannot be described, because they may be of any nature, but there is usually not the orderly march from the tonic to the clonic which characterises the latter state. They may resemble movements of defence, movements of aggression, or some other purposive action, or they may be a mere wild flinging about. The patient is apparently unconscious, but it is probable that memory of what happened during the fit is not really lost any more than it is in a fugue. The deep reflexes are not usually abolished, and the plantar reflex is usually downwards immediately after the attack, but this rule is not absolute, despite statements to the contrary. Indeed, it would be well if every so-called epileptic were subjected to a careful mental examination, as without doubt some of those who are classed as epileptics are really suffering from hysteria.

Phantasy or day-dreaming is a thing in which everyone indulges; but the hysteric does so to an extent which is beyond reason; and after a time the dream takes on a degree of reality, but not of so intense or so great a character as in a delusion; the patient may be capable of being reasoned or persuaded out of it, but the belief in some experience which did not happen may at times be very real.

DIAGNOSIS.

The mental state of hysterics between the obvious hysterical manifestations may give rise to great difficulties in diagnosis. It may be extremely difficult to determine whether the hearing of voices is of the nature of hysteria or psychosis, the willingness of the patient to recognise that the voice arises within himself or not being the point of importance. It may be most difficult to know whether the story of a young girl that she has been assaulted is one of fact, of hysterical phantasy, or of delusion; and the distinction between the last two is hard, because the border-line between them is vague. The hysteric has played with the idea till she very nearly believes it, then she begins to say that it has happened, and all the time she is not very clear about what she is speaking of. The standard of deciding must be what happens. Whether other symptoms of a psychotic nature become evident, or whether this is a statement made by a person who shows other hysterical symptoms, are the criteria on which the practical diagnosis must be made.

TREATMENT OF HYSTERIA.

The treatment of hysterical manifestations and of the hysterical state must depend, as in the case of the anxiety states, on the view held about their pathology. The idea universally held about the pathology of hysteria is that it is mental, but just where the mentality has gone wrong is the subject of controversy. Here the view is put forward that the origin is the same as in the anxiety states, but that the usual appearances of anxiety even to the patient himself may have been lost because the patient has attained a certain end.

The patient with a well-marked hysterical disability is usually placid; he has none of the bodily manifestations of anxiety such as cardiac discomfort, indigestion, or insomnia. The reason is that as a rule the disability has taken him out of some struggle for which he had not felt equal. You cannot expect a man to go into a coal-mine if he has become paraplegic; you cannot expect a woman to continue the struggle of earning her living by sewing if she has lost the use of an arm. Someone or some agency will have to take care of such a person. It must be clearly understood that the patient has no inkling of the truth of what has happened. If he has, he is not an hysteric, but a malingerer.

To such a patient it seems that for excellent reasons he has lost the power of his limbs; he received a blow on the back, his legs thereafter felt weak. He knows that the power to move the legs resides in the spine, and he has seen mates, who had their spines injured, lose the use of their legs for ever. The weakness in his own legs has gradually increased till he cannot use them at all. His spine is certainly damaged. Many doctors have been dubious, but there were usually enough of them uncertain to make him feel quite certain that the damage was severe; and by the time he is badly paralysed his mind is quite made up about it. With all the modern apparatus for the relief of industrial catastrophe, he is at first at least free from financial anxiety. He is certainly in no hurry to resume a disagreeable occupation, and therefore he is quite placid about the whole affair. There is a whole-hearted belief that he truly cannot move his legs, and this belief is the immediate cause of the disability; it must be a first aim of treatment to alter this belief, and when this has been done the patient will lose his disability.

How is this to be done? The history of the case must be taken with the same care as was advised in the sections on the anxiety states. When this has been done periods of stress will be found which ultimately culminated in something which gave rise to the disability. A workman unhappy at home, encounters a slight strain to his back and develops paraplegia. If the history of the accident merely is gone into the domestic factor will certainly be missed. It will not occur to the patient that it can possibly have anything to do with the illness, and yet it may be a factor of importance in keeping up the disability even greater than that of the Workmen's Compensation Act itself. The paralysis gets the man into hospital away from the hated environment, and he may be in no hurry to get home. The history then will take several interviews, and at the end when the doctor knows his patient and has carefully examined him, he will probably be able to make his patient believe that the condition

exists because it is not wholly wished that it should disappear. If this has been done gently and with the patient's full consent the disability will usually vanish. This is probably the best method of dealing with a gross hysterical disability. It makes the patient see that the illness depended on himself, it gives the opportunity of discussing and therefore of readjusting a series of important stresses and strains, which were undermining the patient's resistance to the onset of nervous symptoms. If other methods such as those of electricity or hypnotism are employed, the patient learns nothing, and he will always believe that his mental attitude had nothing to do with either the illness or its recovery; that it was someone else's business to cure him, and that someone else actually did so. On relapse the results may not repeat themselves. Moreover, if as is here put forward, the hysterical state is only a camouflaged anxiety state, the patient should on the removal of the hysterical symptoms pass into the anxiety state which itself is at the same time being treated.

Other hysterical symptoms of a bodily nature, and some mental ones, are usually amenable to a therapy of this kind—i.e., persuasion after the history is known; but others are not open to it as the symptoms involve loss of memory; but the amnesias of hysteria are no more essentially real than is hysterical paraplegia. In both conditions the patient cannot perform the function in question, and in both he can be induced to do so. Something in each case is inhibiting the function; in amnesia there is something which is too painful to be remembered. If the rest of the history is obtained the doctor with experience may be able to make a shrewd guess at the cause of the amnesia, but in amnesic patients some process which approaches hypnotism gives fuller results.

Patients with amnesic periods are easy to hypnotise; they have already been practising the same thing on themselves. If they are asked to lie on a sofa relaxed in mind and body and told to become drowsy, they will usually become sufficiently hypnotised for the purpose in hand. They may then be led through the amnesic period starting from the last thing they remember. The recovery of the memory will reveal some constellation of ideas which they are not facing. They are told that they will now remember all about it on waking; the ideas can then be faced and some attempt made to deal with them. The other mental symptoms and the bodily fits all involve and are dependent on amnesia, and are all amenable to treatment of this sort.

The rest of the treatment of hysterical states is to be conducted on lines similar to those indicated for the treatment of anxiety states.

CHAPTER XXXVII.—MINOR PSYCHOSES.

OBSESSIONAL STATES.

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Definitions of Obsessions.—General Symptoms.—Classification: Obsessions of Indecision, of Fear, of Irresistible Propensities.—Treatment.

DEFINITIONS OF OBSESSIONS.

M. Legrain defines an obsession as "every cerebral manifestation, either of the intellect or of the affections, which, in spite of the efforts of the will, forces itself on the mind, thus interfering for a time, or in an intermittent manner, with the regular course of association of ideas"; and he goes on to say that every action consciously accomplished, which cannot be inhibited by an effort of the will, is due to an obsession. Hack Tuke says that "imperative ideas are morbid suggestions and ideas imperiously demanding notice, the patient being painfully conscious of their dominion over his wish and will." The painfulness may determine the outbursts. Mercier called obsessions "parasitic mechanisms"; they are truly parasitic as they are fixed on the attention of the victim; they seem to cling so firmly to the mind that they absorb all its energies, so that in time, like many other parasites, they gradually cause decay, and finally death, of their host—for mental degeneration is sure to follow if the obsessions are not got rid of.

GENERAL SYMPTOMS OF OBSESSIONS.

Recognising that obsessions form a mental entity, there are certain general symptoms, both mental and physical, that have to be noted.

1. In a large proportion of the cases of obsession there is a distinct hereditary predisposition to one of the neuroses, and in a family where there is a case of obsessions, we may likewise find examples of imbecility, dipsomania, precocity amounting to genius, and even insanity, showing that in such cases there is possibly an original defect in the germ. Should a comparatively mentally stable person suffer from obsessions the prognosis may be considered good—at least the disease is not likely to go on to actual insanity; but when they are found in an unstable individual, with a neurotic tendency, then our prognosis must be more guarded, for in the latter case the powers of resistance are primarily affected, and in time become so weakened that the sufferer gives way to his imperative obsession.

2. Impaired physical or mental health tends to make obsessions more prominent. When a person subject to obsessions is run down in health, the obsessions are liable to recur, and to disappear when his health is restored. Further, fatigue often gives rise to them, and when there is prolonged mental exhaustion, such as after long nursing, with want of sleep, obsessions, with other mental manifestations, are liable to make their appearance. The victims of sudden frights, such as were found in cases of "shell-shock" in the late war, in many cases displayed obsessions in the later stages.

3. The actual attacks are usually accompanied by mental distress and anxiety, internal conflict, hesitancy of thought and action; again, there are symptoms of an emotional character, due to the influence of the autonomic system; thus there may be blushing, a feeling of engorgement of the head, pain over the heart, accompanied by palpitation or tachycardia, or pain over the epigastrium with a sensation of sickness, or there may be giddiness which disappears with the passing of the attack.

4. The attacks tend to occur in a periodic manner—*psycho-rhythm* it is called. There is a close interdependence, of course, between the body and the mind, and none of us is equally stable, mentally or physically, at all hours of the day, or every day alike. Sometimes we are bright and cheerful, at others we are dull, depressed, and "liverish"; the sun hides its face from us, and our every effort seems to go wrong. There is a certain order in these ups and downs, and a similar alternation, or periodicity, is evident in the case of mental diseases. After keeping records for 15 years, I was able to verify the statement of Esquirol that, with respect to the incidence of insanity, there were ups and downs, and that the onset of mental disease occurred much more frequently in the summer months than in the winter time. Thus it is that in mental health, as well as in mental ill-health, we have a psycho-rhythm, and the attacks of obsessions may take place at a set hour each day, or they may occur once a week, or once a month, as the case may be, and the patient gets in time to know the premonitory symptoms quite well. When the condition is unrelieved the attacks tend to recur more frequently, until they become constant.

5. The obsessional attacks usually maintain the same characters during the entire life of the patient, hence the term "fixed, or imperative, ideas."

6. Obsessions occur among those with a neurotic heredity and a neurotic diathesis; such are examples of degeneracy, and they often present stigmata either in the genitals, head, ears, or palatine vault, and are subject to tics and nervous disorders such as migraine. In a second class we have cases where there is no heredity, and the condition has been caused by some sudden strain or illness. We have these two types as congenital and acquired obsessional psychoses; for in the former series of cases there is a defect which dates far back in the history of the individual, perhaps even to intra-uterine life; and, therefore, although the disease may not make its appearance until adult life, it has been there dormant for many years, only manifesting itself on some exciting cause.

CLASSIFICATION OF THE OBSESSIONS.

Manuel Régis subdivides obsessions into: (1) obsessions of indecision; (2) obsessions of fear (the phobias); (3) obsessions of irresistible impulse.

(1) OBSESSIONS OF INDECISION.

Obsessions of indecision, called by the Germans *Grübeln*, are milder and modified forms of the condition which, when found in the insane, are called *folie de doute*. They are by no means rare. We have all experienced the questioning of spirit that arises when, on retiring to bed, we wonder whether we have locked the door or turned off the light. We go back to make sure. One return may satisfy us, but should we be still uncertain we may go back again and again, and it is this latter uncertainty that constitutes the disease—even repeated assurances that we have done what was required failing to remove the doubt in our mind that something still remained to be done; the doubt has obtained a grip that no amount of reasoning will relax. Or we may wonder within ourselves whether we have posted our letters in the right envelopes, and we may worry over this matter until we hear from our correspondents.

These are the simplest and most common forms, but there are other cases in which the obsession is more defined; while in the examples given the condition is for the most part temporary and easily got rid of, in others it may be more permanent and fixed, and the symptoms, mental and physical, which accompany it are of a more severe nature. Thus, the individual may distress himself over abstract and ridiculous questions, as in a case described by Ireland where a well-educated young man persistently wondered why a chair had four legs. Why not only one? The answer occurred to him that, according to the laws of nature, a chair could not stand on only one leg. Having satisfied his mind on this question, his wandering thoughts hurried him away in other directions in the same doubting spirit. While the paroxysm existed, and each attack usually lasted for several hours, he complained of a feeling of distress, and a burning sensation in his head, and he was only able to note the surrounding incidents of life in a listless and drowsy manner. A case, described by Legrand du Saulle, was that of a merchant whose mind was absorbed by questions of colour: he wondered why colours were unequally diffused? Why the trees were green? Why women married in white? Why black was the mourning colour? Why the rainbow had seven colours?

These are the *realists*, who are always questioning the most trivial matters, which for the time are not trivial to them, for, in their endeavours to find answers to their doubts, they suffer great distress of mind. The *scrupulous* are persons who are always weighing their acts according to their consciences, fancying that they may be doing wrong, or that they are neglecting duties, perhaps of the most trivial sort, whether religious, social, or connected with business. Then there are the *timorous*, or "men of little faith," who seem to have a very humble idea of their own capabilities. Their trouble may take the form of being afraid of

doing some indelicate act. Esquirol describes the case of a young lady whose mind was continually disturbed lest she should accidentally carry off some article of dress or of value with her, and who spent much of her time in brushing her clothes, taking off her shoes, examining her hair, and even the chair she last sat upon, lest something not her own should stick to her.

Then we have the *counters* who are unable to refrain from making calculations. The victim of this obsession counts the trees he passes, or the lamp posts: he counts the number of P's in the book he is reading, and may be able to tell you the number of S's there are in the Bible. Du Saulle's patient, who was worried by colour problems, likewise was a "counter"; as he was leaving the consulting-room he cried out, "You have forty books on your table, and you wear a waistcoat with seven buttons. I apologise; I cannot help it, but I simply have to count." One wonders if he counted correctly; seven must always have been an unlikely number of buttons for a waistcoat.

There is no end to the examples of obsessions of indecision, as anything which may raise a doubt may be their stimulus, and the paroxysm may be accompanied by intense mental distress only partially alleviated by the carrying out of the obsessional command.

The attacks at first occur at long intervals; then they make their appearance periodically, and finally, depending much on the health, mental and physical, of the victim, they tend to become constant, so that the patient is never free from the distress caused by his doubts.

(2) OBSESSIONS OF FEAR.

Obsessions of fear (phobias) are less common than those of doubt, and they may be considered as a stage further in the downward progress of the mind towards insanity. Of this condition H. M. Bannister says "the sufferer suffers from an uncontrollable dread, usually confined to a single object, or class of objects," and J. P. Falret defines the condition as "partial alienation with predominance of fear of contact with external objects." The fear obsession is extremely persistent; it tends to become chronic, and gradually to overcome the mental independence of the individual, who is reduced to a state of an automaton, retaining always perfect mental lucidity and consciousness.

Classified according to their nature, we have the fear of objects, the fear of places, elements, and diseases, and the fear of living beings. There is the fear of hydrophobia or cancer, the fear of defilement, the fear of the sight of blood, the fear of pointed articles, of knives or swords (*aichmophobia*), of the sound of bells, thunder, or fire-arms, of darkness, of the odour of certain flowers or perfumes, and of the taste of certain articles of food or drink. There is the fear of certain animals, such as cats and mice; and, finally, it is a question whether, in some cases, the object itself may not be fear—the fear of fear is an experience many had during the war.

W. A. Hammond tells of a case of *mysophobia*, the fear of contamination or defilement, in a lady who

so dreaded contamination that, after touching or handling anything, she invariably washed her hands; she even thought the water she had used for this purpose was contaminated, so that she was compelled to wash her hands again; even her gloves required washing, because they possessed pores through which she thought defilement might pass. She recognised the absurdity of her ideas, and yet, after the doctor had felt her pulse, she took a handkerchief from her pocket, moistened it with eau de Cologne from a phial, and wiped the spot which his finger had touched.

Then we have *claustrophobia*, the fear of closed spaces, and *agoraphobia*, the fear of wide spaces. There are many people who fear to cross a wide space or a broad street alone; it is not the risks of an accident they dread, but they have a morbid terror at the seemingly illimitable space they have to traverse before reaching safety on the other side. It is curious that such persons can often cross quite easily, and without any fear, if they have a companion with them. Under *agoraphobia* we may include fear of spaces above as well as around. Grainger Stewart tells of a patient who could sit in comfort in church when under a gallery, the close proximity of the roof to her head giving her a feeling of security which she could not obtain in the body of the lofty building.

The fear of precipices (*cremnophobia*) or of summits (*acrophobia*) are similar conditions to those of agoraphobia—the fear essentially is lest an impulse to precipitate should be given way to. The swaying of such a bridge as the Clifton suspension bridge, the rushing water below, and the examples of many previous suicides, made the bridge particularly dangerous to this class of persons. A similar fear sometimes seizes many when standing on a railway-station platform as an express train rushes past; the sensation is increased by the suction caused by a rapidly moving object, and victims of this phobia have thrown themselves in front of the train on impulse.

Both women and men occasionally have an intense dread of intruding themselves in society gatherings, a condition being thereby aroused so distressing to the victim that it forms a handicap to some women in their social duties. Such individuals are very self-conscious, they blush readily, they imagine the company is talking about them, and should they be looked at, or even should a pause occur in conversation as they enter the room, a miserable feeling is set up that they had been the subject of talking, and that everything they say will be noted and become the subject of gossip afterwards. It can easily be understood how such experiences might lead, in time, to the development of actual delusions of suspicion or persecution, and so on to insanity. Persons who are deaf are very apt to develop such delusions.

There is the reverse condition, a fear of solitude, as when a man, under the fixed idea that he is unable to leave his house unaccompanied, pays an employee to be his constant companion.

Lastly, we may refer to cases, mostly females, who experience intense fear of animals (*zoophobia*), especially such harmless ones as mice, beetles, and

spiders. Cases are known where the mere proximity of some animals will cause them to be actually ill. The emanations and smell of certain animals, such as the horse, have been known to set up an attack of asthma in persons subject to this disease, and the researches by Dr. J. Freeman into the toxic idiopathies are of interest in this connexion.

(3) OBSESSIONS OF IRRESISTIBLE PROPENSITIES.

Obsessions of irresistible propensities are those in which the fixed idea has for its effect not a fear but an irresistible impulse. These obsessions more closely approach insanity than the other forms. We have examples of this obsession in such conditions as onomatomania, kleptomania, pyromania, dipsomania, erotomania, suicidal and homicidal impulses.

Onomatomania is a condition in which the obsession is the distressful seeking for a word, lost in the memory. Advancing years bring to all people the annoyance of being unable to recall a name, but in onomatomania there is, in addition—and it is this which constitutes the disease—an irresistible impulse to repeat some name or some word that will obtrude itself on the attention. Thus, in this form of obsession, there is forgetfulness of names, and an irresistible impulse to repeat certain names which the subject appears forced to utter. The literature of psychiatry is replete with instances where a forgotten name, word, number, or date has been a constant and recurrent torture to ill-balanced individuals. But to be unable to find the word may be replaced by an irresistible impulse to say the wrong thing—to swear or blaspheme, in season and out of season. Highly educated and well-bred women suffering from this obsession are sometimes unable to restrain themselves from uttering obscene language publicly, and when they realise what they have done their distress is very real. It is a well-known fact that among the insane we occasionally find strictly brought up women, nurtured amidst refined and often religious surroundings, who so far as can be ascertained have never been within hearing of such terms, giving expression to absolute filth. It is impossible to explain this phenomenon except by assuming that the language had been heard at some time or another. Patients who are possessed by this obsession are generally high in the scale of mental degeneration, and suffer from a loss of mental equilibrium; the most trivial cause may start the symptoms that usher in an attack, which is associated with a disproportionate distress.

The irresistible impulse to repeat coarse or obscene words is frequently associated with *tics*; there are jerky movements of certain parts of the body, shrugging the shoulders, blinking the eyes, sudden blowing of the nose, grunting, or spitting, and these movements occur before the explosive ejaculation of vile language. The tics are the stigmata of hereditary neuropathy.

Kleptomania is the irresistible impulse to steal. While Savage places this disease among his cases of "moral insanity," Régis considers it as an obsession, and within the borderland class. It is

admitted that the habits of pilfering and theft are common in the insane, especially in the early stages of general paralysis and in cases of secondary dementia; nevertheless, this symptom is also found as an obsession in persons who are otherwise quite sane, and it should, therefore, be considered as one of the obsessional psychoses. The condition is most usual among women and is often associated with disorders of the reproductive organs. C. Marc details the story of a pregnant lady, occupying a high position in society, who stole a roast chicken from a pastry-cook's to satisfy the keen appetite which the smell and sight had suddenly aroused in her. This was a purposeful theft, but in some of the well-known and authenticated cases the thief could have had no use for the booty. In true kleptomania the attack is usually accompanied by resistance and distress, and the attacks are generally of a paroxysmal character. The article stolen is of little value compared with the patient's means; a motiveless impulse seizes the victim which is imperative and uncontrollable, and the crime is committed before she realises what she has done. Shame and terror at the crime committed cause sudden attempts to hide it.

When kleptomania occurs in the prime of life, especially in a man, we should be on the look-out for manifestations of early general paralysis, for it is often the first indication of this disease. In many cases it is extremely difficult to decide whether the case is one of simple theft or whether it is due to disease, and therefore unpunishable. The circumstances attending each case must be taken into consideration before arriving at a conclusion, but the perfectly proper acquittal in police-courts of wealthy victims of the obsessional form of kleptomania seems illogical, especially to the poor. That the lady pilferer may know she is doing wrong cannot be considered as proof of her guilt and her responsibility, for persons of unsound mind may know what they are doing, and that they are doing wrong, and yet may not have the power to resist doing the wrong. Such offenders cannot be considered guilty in a law-court.

Pyromania is an irresistible impulse to set things on fire: it does not concern the culprit whether he only burns a piece of paper or whether he burns down a palace, it is all the same to him. Pyromaniacs are found usually among boys and girls apparently normal, as well as among epileptics, imbeciles, and demented, when it is undoubtedly a symptom of insanity. Meckel was the first to use the term "impulsive incendiarism," and to describe it as a new disorder, and B. A. Morel says pyromania occurs as an instinctive form of insanity in some children with hereditary predisposition—children who are weak-minded, although not quite imbecile, who suffer from a moral defect the result of an inherited neurosis. Such children are likewise addicted to stealing and lying, and are cruel to animals. Savage tells of a boy who set fire to each institution he was sent to after being there only a very short time. While in such cases pyromania cannot be considered a mental disorder *per se*, but rather the outcome of a primary moral insanity, there are certainly instances

where it occurs as an irresistible impulse, and as such it must be considered among the obsessional neuroses, although it is very closely associated with insanity.

Abulia is the condition where the person is unable to exercise his will-powers while his other faculties are not necessarily affected; he is unable to rise from a sitting posture—the desire to rise is there, but the more it is attempted to rise, by so much is the feeling of distress and trouble increased. Not only in such simple but definite acts as rising from a chair may the will-power cease; in other acts such as mounting the stairs, dressing, speaking, writing, even in standing, the will-power may suddenly fail, and no matter how strenuously the victim may desire to carry out some intention he cannot give the impulse to the muscles concerned. The condition is accompanied by similar symptoms to those found in connexion with the other examples of obsessional neuroses, from which it differs by having its starting point in a lesion of the will to act, and not in a lesion of the will to arrest action.

TREATMENT.

The treatment of the obsessional neuroses is thankless, for the prognosis in so many cases is very bad—the disease tending to tenacity, chronicity, and incurability. We cannot undo the influences of a faulty family history. Children in very early stages of some of these sad conditions can be educated into thoughts and habits of a healthy nature, but if we do not appreciate the circumstances presented to our notice by the young patient we shall have an adult who comes to consult us with respect to his obsessions.

In the early stages treatment in the home is possible, the essential thing, of course, for the medical man being not only to secure the patient's trust, but to devise remedies for symptoms as they arise, because their mitigation or removal will assist to ward off on-coming attacks. Sedatives may be necessary, but they should not be too liberally given. If the attacks are ushered in by insomnia it is of the greatest importance at this stage to remedy the sleeplessness. Changes of scene are generally beneficial, but sea-voyages cannot any longer be recommended as restful. There is no true rest in a modern mail steamer.

Practitioners should exercise discretion before assenting to the trial of psycho-analysis. Its utility in the right hands has been proved in regard to certain of the conditions enumerated, but the satisfactory results are often only to be obtained after considerable perseverance. However, the practitioner who does not help the patient to obtain well-selected assistance in this direction runs the risk of driving him into the clutches of quacks and cranks whose treatment is expensive in proportion to its futility. The significance of family history or physical defects must always be remembered when the symptoms have been weighed and any signs of abnormality detected.

As a rule removal of the patient from his home, and complete freedom from the visits of his friends and relations, should be insisted upon. Residence in the house of a doctor may be useful.

PART III.—APPENDICES.

CHAPTER XXXVIII.—ORGANISED OCCUPATIONAL THERAPY.

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The Value of Work in an Institution.—The Occupational Division.—The Purposes of the Division.—Occupation Therapy in the Home.

THE present-day conception of mental disorder, which regards it from a dynamic, psycho-biological viewpoint, has led to a more intensive study of each individual case, and has had a real bearing not only on the accuracy of prognosis and diagnosis, but also in prescribing treatment. In the past the main emphasis was placed on classification, and so long as the case was put in a convenient pigeon-hole, either as mania, melancholia, dementia or what not, the observer was more or less satisfied. This was a hard-and-fast rule-of-thumb method of differentiation, which did not help greatly in the understanding of the case. Nowadays it is not the name which matters, but the mechanism which results in the breakdown, the individual response, the fact that the ordinary wear and tear of life has not been adequately met.

For one reason or another, depending either on the constitutional make-up or on exogenous factors, a breakdown occurs. The patient fails in his social adaptations and reacts to this failure by depression or exaltation, apathy, suspicion; or else recourse is had to phantasy, in which unfulfilled wishes seem to be realised. The elucidation and consideration of these complicated clinical pictures mean careful, systematic case-taking, because each case is a problem by itself, and must be treated on its merits. Only in this way is the doctor in a position to have a clear understanding of the actual, concrete difficulties in the patient's life, to lead the patient to a better understanding of himself, and so help him to face his problems in a more hopeful spirit.

In the treatment of any mental case time is the essential factor, but progress can be helped by good nursing, dieting, the careful use of drugs, psychotherapy, and so on, but I believe that, along with these, occupational therapy should take a very prominent place. The value of organised occupational work lies in the fact that the patient is made to realise that there are still some things which he can do successfully, and even although he may have failed outside, it is important for him to recognise that he can succeed under hospital conditions. For instance, a married man, 50 years old, was recently admitted to the Glasgow Royal Mental Hospital in a state of great agitation and depression, with a history of several determined attempts at suicide. He had been worried both in regard to his family life and his business. He was treated at home under the care of private nurses, and then in a nursing home, but these methods were unavailing. His depression was so intense that he felt his life was ruined, considered himself unworthy, thought that everyone

looked down upon him, and complained especially of lack of concentration and application. In the course of ten days, after his acute period had subsided, I spoke to the occupational teacher about him, and sent him to the occupational division with a special nurse. This was a new opportunity for him. He was interested in seeing others employed, he was persuaded to do some simple joinery work himself, which he rapidly became accomplished at, and a day or two later, when I spoke to him about his work, he told me with great joy that he now had more concentration than he had thought possible. Since that time he has continued to make a steady improvement. There is no probable doubt that he would have regained his confidence in due time, but his recovery has been accelerated, and, furthermore, he has been given an outlet and an interest which are helpful to him during his hospital period of treatment.

THE VALUE OF WORK IN AN INSTITUTION.

This case emphasises in a concrete way the importance of work in relation to health. Everyone realises that the happiest people are those who lead useful, purposeful lives, and who, by their example, stimulate others to do likewise. This factor has been widely recognised and made use of in prisons, in homes for the mentally defective and incurable, in the war hospitals for wounded and disabled soldiers; in fact, it can be said that in any institution or hospital where men and women are gathered together it is essential to have as many as possible employed in work which is interesting to them; otherwise there is apt to be irritation, friction, disorder, boredom, and introspection. This is nowhere more evident than in mental hospitals, for it is well known that the wards where the working patients live are the quietest, the happiest, and the best conducted in the hospital. Mental hospitals, therefore, have always employed large numbers of patients, male and female, and for evidence of this I need not go further than the annual reports of the Glasgow Royal Mental Hospital, which date back for well over 100 years. In the report for 1820 it is stated:

"Sociality has often been promoted, while the irksomeness of confinement has been alleviated by various occupations and amusements. Bowls and billiards have been favourite games, and reading, music, drawing, have often served to arrest attention and to dispel illusion. Some write letters or poems, one solves mathematical problems, and another has long been busily engaged in composing the history of a voyage round the world. . . . Some have laboured in the garden or shrubbery grounds; shoes have been made and cloth woven by various individuals, and one

patient is at present very useful as a joiner. Some of the females have knitted and sewed diligently, and so many of them have been industriously employed in spinning that almost all the bed and table linen now used in the asylum is the product of their labour."

All this was excellent so far as it went, but it did not go quite far enough. Indirectly, it no doubt led to betterment or recovery, but the tendency was rather to consider such work from the institutional and economic viewpoint rather than from the individual and curative. It was a haphazard method; those who would work were sent to a department where they were most needed, and it was no great matter whether it was the sewing-room, laundry, or kitchen, the piggery, garden, or master of works' department. Such work helped in the management and administration of the institution, but often it was mere drudgery, and sometimes must have antagonised rather than helped the patient. All these departments are essential, and there are many patients who prefer to be so employed, rather than at more artistic jobs, but more forethought should be exercised in apportioning such work, and the curative aspect should not be lost sight of. Under the old system there were large numbers of patients who for one reason or another—inefficiency, helplessness, or poor general state of health—remained unemployed. The new system sets out to appeal to those who never previously have been employed, and to stimulate anew those who have been looked upon as failures. This is not an easy task. It is one which demands almost endless patience and good organisation.

The thin edge of the wedge towards more specialised treatment was applied by Lady Brabazon, who in 1880 formulated a scheme to employ the infirm and crippled inmates of workhouses. She offered a grant of money to any workhouse or infirmary that would try it. The superintendent of Barnhill Poorhouse, Scotland, in 1895, started this method of treatment; in 1898 it was introduced into the Glasgow District Asylum, Woodilee, and in 1899 Dr. H. C. Marr commented favourably on it. According to this scheme a number of ladies held a meeting in the asylum once a week, at which a variety of occupations was taught to patients of both sexes. Meanwhile, in the United States of America, a number of psychiatrists, among whom I would particularly mention Dr. W. R. Dunton and the late Dr. Hall, were realising the importance of this method of treatment, and an attempt was made to organise it on a wider and more detailed basis. The results produced were so beneficial that practically every mental hospital in the United States doing progressive work has now its occupational division.

THE OCCUPATIONAL DIVISION.

In December, 1922, an occupational division was organised in the Glasgow Royal Mental Hospital along the following lines. An instructor was appointed to take charge of the department, and later a male assistant was provided. In addition, the nurses, male and female, set in charge of groups of patients, were stimulated to take an interest in what was being taught, so that

they in turn might introduce the simpler types of handicraft into the wards. The question has not infrequently been raised in regard to whether the most suitable person in charge of such a division should be someone who, in the first place, has been trained as a mental nurse, or whether it should be rather a person who has specialised exclusively in handicrafts. Taking everything into consideration, I am more in favour of the latter, but whichever it is, the instructor should be someone well trained, with an ability to transmit knowledge to others, with a sympathetic personality, and with a natural aptitude to deal with patients mentally disordered. The head of the department should understand clearly that too much must not be expected, and that there is likely always to be a certain number of failures. Every effort should be directed to produce work of a high standard, but it must never be forgotten that work *per se* is not the main thing, which is that the patient is receiving individual treatment and is cultivating interests which formerly have not been touched. In order to ensure really good work there should be the closest coöperation between the occupational department and the medical and nursing staffs. This can be accomplished by frequent discussions in regard to the progress, or lack of it, of individual patients, by the medical officer sending a chit to the department with each new case, and by his instructing the director in regard to any special point which should be kept in mind. Coöperation between the occupational department and the nursing staff is often rather more difficult, because a spirit of rivalry is apt to enter in; one side is apt to think that some patients could be more usefully employed in one department than elsewhere, and the question of house-keeping versus curative training is often a source of friction. A satisfactory way to deal with this matter is for the occupational instructor to give a series of lectures and demonstrations to the nurses, so that the principles and value of the work can be clearly pointed out.

Such an occupational division does not need any elaborate accommodation, but it should be housed apart altogether from the institution, so as to create a more definite feeling of change. When we started our department at Gartnavel we selected a pleasant part of the grounds, and put up a pavilion very much of the type of an army hut, but subdivided into three divisions, two large and one small. In the course of a few months this pavilion was found to be inadequate; it was not large enough, and there were drawbacks inherent in the mixing of male and female patients. So another pavilion of a similar type was provided, one to be used by the men and the other by the women. Owing to the success of this scheme, these two pavilions are now in process of being joined by a large central hall. The idea of the central hall is to display the completed work, and also for recreational purposes. Just as there should be a work centre, so also should there be a play centre, where simple games and physical exercises can be indulged in, and it is best, where possible, to combine these two under the same instructor.

The actual working of the department means the grading of patients into any number of different

groups, depending partly on the number of patients to choose from, and partly on the amount of help available for teaching purposes. It is our custom to have three separate classes both for the women and for the men—the efficient and interested, the less efficient, the dull and apathetic. In the first group, and to a lesser degree in the second group, there are possibilities of recovery; the greater number in the second group, and almost all of the third group, are persons who can possibly be brought up to a better level, but where recovery is more or less out of the question. These groups can, of course, be more and more subdivided, depending upon the amount of assistance available. As a general rule, the classes are each of one and a half to two hours' duration, but they may be longer or shorter, in accordance with the effect. Some patients to begin with will not work at all, others only spasmodically, while others enter into it whole-heartedly, and may spend the greater part of the day in the occupational division. Where there is no contra-indication, they are allowed to do so. I feel certain that better results could be obtained if the personnel of the department was increased, but so far I have not been able to enlist the services of voluntary helpers. It should, however, be possible to get people who would be willing to come and learn methods of work and administration with a view eventually of obtaining salaried positions.

I have often been asked whether I have found one type of work more suited to a special form of mental disorder than another. The answer is in the negative. Every case is a law unto itself, and with each new patient a different interest has to be found. Some patients work better with bright colours, others prefer some purely mechanical type of work, others again respond to the delicacy of china painting or hammered brass. For the most part, when a patient first goes to the department, I like the work to be simple and not too large, so that a result can be obtained quickly, and then later more difficult and larger pieces of work can be given. The types of work which we have found of most value are raffia-work, cane-work, basket-making, chair-making, rug-weaving, simple joinery, repoussé, china-painting, embroidery, the use of the fretsaw for toy-making, and more intricate work, such as batik and barbola. With such a variety it is usually possible to appeal to practically everyone. There are, however, quite a number of patients who cannot attain any of these crafts, but such can still be used in the department to sand-paper articles that have been made both of wood and brass, to varnish, to wind wool, &c. They act as part of the team.

THE PURPOSES OF THE DIVISION.

The organisation, then, of an occupational division in a mental hospital serves many useful purposes, some of which I would like to elaborate.

1. Such a division affords an additional outlet for a great variety of interests, and offers real facilities for constructive work, not only during the hospital period, but also after return to home conditions. A good example of this is seen in the case of a single man, 40 years old, who for one year previous to his admission had shown mental

symptoms, and had received treatment in other mental hospitals. His condition was characterised by great emotional instability, depression, an attitude of suspicion. At first he was most hostile, maintained that he was unlawfully detained, that it was a "frame up" on the part of his relatives. He suffered from hallucinations of hearing, and of taste and smell. For several months his condition continued unchanged; he paced the floor continuously, he was loth to answer questions, he thought the other patients were laughing at him, he slept poorly, and looked ill both physically and mentally. After a great deal of persuasion he was induced to visit the occupational division, where he was immediately attracted by the activity, and said that he would like to learn rug-making. He proved a diligent, capable worker, who got great pleasure out of the different designs, and forthwith he proceeded to make a satisfactory recovery. Since his discharge he has continued rug-making as a hobby, and adds considerably to his income.

Another case which contained a valuable lesson was that of a young man, 20 years old, who at home had been idle and lazy. Following an episode of friction with his father, he was certified as of unsound mind, and was admitted to the Glasgow Royal Mental Hospital. He was sullen, perverse, antagonistic. At first he refused to dress himself, said that he would not shave nor wash himself, and that he would do everything in his power to make things unpleasant for his parents and those who had to do with his certification. The patient was quite clear mentally, but morose, antagonistic, and defiant. The occupational division served as an outlet for him at a most critical time. While there he saw some patients engaged in china-painting; he expressed a wish to try it and was given a bowl on which he drew his own design, and worked at it with such great success that he was awarded a first prize at an arts and crafts exhibit held in the city. In his case the occupational division made his temporary stay in the hospital more pleasant to him, and helped him to see his problem in a better balanced way.

2. An occupational division creates a new series of contacts; it means that patients are brought into touch with teachers whose *whole* time is spent in appealing to their practical interests, and who have not the same relation to them as doctor or nurse. I have known many patients whose antagonistic attitude has been modified by occupational teacher, who, naturally, has approached them in a less professional way. For instance, take the case of a male patient, formerly a clerk, who has been in the hospital for over 40 years. This man had been a "wall-flower" throughout his entire hospital residence, and when it was suggested that he should go to the occupational department the male nurses assured me that the thing was impossible, that attempts had been made to get him to work, but that it had always been quite useless. What was the result? He was started with cane-weaving, and slowly, but surely, completed a number of baskets. He was then given a more difficult weave, so as to make seats for stools and chairs, and now he is learning how to

weave rugs. This man has been rescued. He has been given an outlet and an interest which he has never had previously; life has become pleasanter and more profitable for him than heretofore. The case is undoubtedly one of schizophrenia, and although recovery is out of the question, yet the monotony of his hospital residence has been greatly alleviated.

3. Such a division creates a work-atmosphere; it means competition, and it indicates to newcomers that an attempt is being made to suit the needs of different individuals.

4. Such a division should be detached, if possible, from the institution.

All these varied factors work in together and appeal to the patient in such a way that they create a spirit of hope and new interest which means much. The patient is given a chance to prove himself capable and successful, and not necessarily a failure. Every type of mental case can be appealed to. Many cases of mental deficiency are taught orderly habits and ways of work which stand them in good stead, and it means the substitution of good habits for bad ones. Cases of depression feel that life has still something in store, the manic is shown how to direct his energy in a more constructive way, the paranoiac is side-tracked from his phantasies, and those organically ill have an aid to maintain their rapidly dwindling intellectual faculties. In connexion with this last observation I might instance the case of a man of 50 years, who at the time of his admission suffered from a series of convulsive attacks, resulting in a right-sided hemiplegia with aphasia. When this patient was able to be up he was sent to the occupational division, where he was taught how to weave a rug on a loom. At first he found it very difficult, and he was not allowed to work for more than short periods of time, but gradually he became more and more interested in this, and I believe it helped his concentration and intellectual power, and helped him to come up to a better level than he would otherwise have done.

OCCUPATION THERAPY IN THE HOME.

Moreover, many of the simple handicrafts practised in institutions can equally well be taught to patients under single care or at their own homes. The spirit of competition will be lacking, but the fascination of acquiring a craft may be a potent factor in accelerating recovery in retarding dementia or in giving self-confidence. Nearly every type of work available for patients in institutions is also suitable for patients nursed at home. Raffia-work, rug-making, china painting are examples of suitable occupations, whereas more mechanical work such as polishing brass or silver may be enjoyed by those incapable of learning crafts.

Occupation as an Instrument of Prevention.

Occupational therapy may be not merely ameliorative and curative, but it may be used as an instrument of prevention. The practitioner more than anyone else should be familiar with the family circumstances, the resources of the home, and the potentialities of further development. Every day it seems to become more impor-

tant that a person should be fitted into his proper niche; the day of square pegs and round holes should be past. Employers of labour recognise this thoroughly, and more and more are exercising greater discrimination in choosing their employees, and this is largely due to the fact that the man not contented with his job, nor suited for his job, is not a good workman. The physician has not sufficiently recognised this. He has usually considered such conditions as irritability, restlessness, discontent, and faulty habits of life generally as being due to physical factors, and has not clearly enough understood that all of these symptoms mentioned, and many more, may be due to faulty training, to unwise leadership, and to a lack of proper balance between work, and rest and play. Where such difficulties are actually met with the advice and guidance of the physician is likely to be of more value and of greater weight than that of the parents. Even in physical illness the psychological factors must not be lost sight of, and not infrequently it is more important to treat the man rather than his organs. A careful survey of the whole problem, the guidance into satisfactory work channels will, under such circumstances, accomplish more than all the drugs in the pharmacopœia. Half the battle in such cases is to maintain the patient's hopefulness, his faith in himself. Every boy and every girl, the tired harassed business man, the busy housewife, must be encouraged to develop for themselves healthy outside interests, otherwise there is apt to be discontent and friction. The husband very often does not care to do what his wife is interested in; the wife cannot get sufficient distraction from her daily round, and where such is the case trouble is not far away.

When I speak about occupational therapy I do not necessarily confine the term to what we mean by handicrafts; it may be widened so as to include all forms of activity, games, dancing, theatre-going, participation in sports, and crafts of all kinds. It should be used as a means of socialising people and of widening interests in every possible direction. It is not possible to give hard-and-fast rules in regard to how this may be accomplished, because the particulars not only depend on the individuals themselves, but are largely dependent on the environment. This aspect of medical treatment is, however, of vast importance in getting people to lead better balanced lives, and in certain cases it may play a definite part in warding off attacks of nervous and mental illness.

Although occupational therapy has been utilised, it has never been fully organised, and its great value has never been thoroughly appreciated. I have no hesitation whatever in stating that it is one of the most useful agents we possess in promoting recovery and betterment. Every mental hospital should have some such department, varied to suit the individual needs of the institution, private or parochial, rural or urban. The mental hospitals which utilise such a division tend to create among their patients a spirit of hopefulness and of happiness, which is largely lacking in those others which have no such department.

CHAPTER XXXIX.—THE FUNCTION AND SCOPE OF JUVENILE COURTS.

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Education Cases.—Neglected and Delinquent Children.

SINCE the passage into law of the Children Act (8 Edw. VII. c. 67), 1908, special arrangements have been made to avoid contact between children and older offenders wherever this is possible. Section 111 provides that a court of summary jurisdiction when hearing charges against children or young persons unless the child is charged jointly with an adult, or when hearing applications for orders or licences relating to a child or young person at which their attendance is required, shall sit in a different building or room from that in which the ordinary sittings of the court are held or on different days and at different times. When so sitting the court is described as a juvenile court. Only persons directly concerned in the case or reporters may be present, and the police officers who have to attend are not in uniform. Children and others not connected with the court are only allowed to be present while giving evidence or as otherwise may be absolutely essential. Provision is made to prevent children while waiting to be in attendance from coming in contact with adult delinquents, and special places of detention are provided for such children and young persons who have to be detained while their case is under consideration. In larger areas these are so arranged as to provide separate accommodation for young children of either sex, for elder girls and for elder boys. The aim is partly to avoid risks of contamination of children by contact with older offenders, and partly to avoid the glamour that might attach itself to a boy who had appeared in a police-court, which could but render an already difficult problem more complex.

Children may be brought before petty sessional or other courts of summary jurisdiction on account of some failure on the part of the parents or guardians to provide efficient education or proper care and control, or because of some delinquency on their own part which would equally be punishable were they of full age. In the case of education it is the guardian who is summoned, directed to make proper use of the available provision and fined if he fails so to do, but the aim of the proceedings is to secure the benefit of the child. When care is lacking the aim is to secure either better home conditions or the placing of the child with more suitable guardians or in a residential school of an appropriate character. In the third class of cases the aim is that of the criminal law but modified so as to provide proper training and education rather than punishment. Ideally, the

proceedings should be rather of the nature of a hearing of a petition on the part of the child against neglect rather than a trial on account of an offence. At any stage questions of the mental or physical fitness of the child may arise.

Education Cases.

Under the Education Act it is the duty of the parent of every child between the ages of 5 and 14 to cause that child to receive efficient elementary instruction in reading, writing, and arithmetic, and it is the duty of local education authorities to provide suitable schools for the purpose. Children must attend the schools so provided regularly unless their parents can show that they are receiving efficient instruction in some other manner. Special arrangements are made for the education of blind, deaf, crippled, epileptic, or mentally defective children; and the fact of a child suffering from such a defect is not of itself deemed to be a reasonable excuse for not causing him to attend school, save that in the case of the defective children, other than the blind, attendance at a special school cannot be enforced under the age of 7, and that in the case of the deaf the defect is up to that age a sufficient excuse against all school attendance. This latter proviso is most unfortunate, for it is in the earlier years that the deaf make the most rapid progress in learning to lip-read and to speak intelligibly.

In the larger cities there are day schools for most kinds of defective children, but in rural areas and small towns the numbers are insufficient, and it is often necessary for such children to be sent to residential schools or to be boarded out to attend a day school in some town where such provision is available. No crippled, epileptic, or mentally defective child may be ordered to be sent to a school which is not within reach of his home or to a boarding school without the consent of the parent in writing unless it can be shown to the satisfaction of the court that this consent is unreasonably withheld, and consent "shall not be deemed to be unreasonably withheld if withheld with the bona fide intention of benefiting the child." This latter proviso is of considerable importance to medical practitioners since the most effective proof of bona fides that a parent could produce is a medical certificate that a child should remain at home. Those practitioners who contemplate giving such certificates should assure themselves that the loss of education is not really

a greater detriment to their patient than any temporary disturbance that might arise from transfer to a boarding school. In the case of blind and deaf children, there is no substitute for the trained teacher, and in the case of other defectives the loss of education in early years can rarely be made up. In the schools to which children are sent there are arrangements for medical inspection and for following up any necessary treatment of a simple character. In the case of the schools for epileptics all the education is carried on under medical guidance, so that residence therein combines treatment and education.

So far as local education authorities are concerned, children are admitted to and discharged from special schools on the certificates of the school medical officers, who keep an eye on the children during their school life and examine them in detail at least annually.

The legal definitions of the defective children in the different categories are as follows:—

A blind child is one too blind to be able to read the ordinary school books used by children.

A deaf child is one too deaf to be taught in a class of hearing children in an elementary school.

Defective children are those who, not being imbecile and not merely dull or backward, are by reason of mental or physical defect incapable of receiving proper benefit from the instruction in the ordinary public elementary schools, but not incapable of receiving benefit from instruction in special schools or classes.

Epileptic children are those who, not being idiots or imbeciles, are unfit by reason of severe epilepsy to attend the ordinary public elementary schools.

The terms of the definitions are, it will be noted, sufficiently broad to allow of the special consideration of each individual. Broadly speaking, however, the child whose vision, when corrected, so far as may be is less than 6/60, requires special education as one unlikely ever to be able to do sighted work; while the child who cannot hear a forced whisper at 6 feet usually requires education as deaf or partially deaf. A child who is too crippled to journey to school or who requires special care or the material modification of the curriculum, or who wears complicated, expensive, and easily damaged apparatus, or who may require some nursing care during school hours, may be regarded as physically defective.

Children suitable for schools for the mentally defective are those who comply with these postulates: (a) that they fail to make any progress in the ordinary school subjects—reading, writing, and counting; (b) that on examination by various graduated intelligence tests they give responses equal only to those to be expected from children who are two or three years younger and whose intelligence quotients are 0.75 or less; (c) that in various performance tests they show a repetition of errors and a lack of the powers of planning to be expected at their age; and (d) that in other ways they show evidences of an innate lack of mental power or the effects of cerebral affection in early

life. (The intelligence quotient or I.Q. in the case of a child =

Mental age-score on tests of the Binet pattern

Chronological age

e.g., if a child, aged 8 years, made a mental age-score of 6, his I.Q. = $\frac{6}{8} = 0.75$; in the case of an adult the divisor is 16, that age-score being regarded as the normal by Terman.) Of course, in concluding from this that a child is defective, care is taken to ensure that his retardation is not due to ill-health or physical defect or lack of education, but is in reality of mental origin. Neither dull nor backward nor imbecile children may be admitted to special schools for the mentally defective. A backward child is one whose retardation may have been due to absence or frequent changes of school and who may be expected to pick up after a period in a lower class than is appropriate to his age. A dull child is one who is mentally subnormal in that he is from one to two years below the average, but who continues to make progress in an ordinary class, albeit at a slower rate than the average; say, at three-quarters the usual rate. A truly defective child will never make reasonable progress in an ordinary class, and even in a special class his rate of mental advance is commonly less than half that of the normal child. An imbecile child is one who "cannot be taught to manage himself and his affairs," whose attention is fleeting, who is apathetic or restless, and who is likely either to remain in a state of almost vegetative inertia or to disturb the rest of the class by his behaviour.

It is the usual practice of local education authorities if a parent cannot be persuaded to send a child to the special school of the type deemed to be suitable for him by the school medical officer, with the assistance of the teachers or inspectorate, to call him before an attendance committee who further endeavour to apply suasion. It is only if this entirely fails that he is summoned before a petty sessional court. Under the Education Acts it is the duty of the parent of any defective child to present him for examination when required, and if he fail so to do the parent is liable on conviction to a fine not exceeding £5. It is the usual practice in cases of a first offence to remand the case to give a parent the opportunity of presenting the child. In the case of any legal proceedings the production of a certificate, purporting to be signed by a duly qualified medical practitioner approved by the Board of Education, to the effect that a child is defective, is statutorily sufficient evidence of the facts therein stated, unless the parent or guardian of the child requires the medical practitioner to be called as a witness. The parent or guardian may, however, call evidence to suggest that the certificate is incorrect.¹

It has been determined by the High Court that in a case where the certificate is not disputed by the parent or guardian the justices or magistrate must act upon the certificate and must not question the child and act upon the opinion they then form.²

Education Act, 1921, Section 55 (4).
R. v. de Grey, *ex parte* Fitzgerald.

If having heard the evidence in a disputed case the court should find itself in doubt as to whether or not a child is defective or epileptic, it is provided that the matter shall be determined by the Board of Education. There is no such proviso in the case of blind or deaf children, and in these cases the court must act on its own discretion. It is provided that, if the court refuse to make an order sought by a local education authority, the court shall, unless for good cause it may otherwise determine, award costs to the parent to include reasonable compensation for expense, trouble, and loss of time incurred in attendance at the court. Once a child has been discharged from a special school on the ground that he is no longer defective or epileptic, any certificate that he is defective must be returned to the parents and may no longer be received in evidence in any legal proceedings without the consent of the child or his parents. A parent may apply for the re-examination of his child to see if he is still unfit for an ordinary school provided that the claim is not made at intervals of less than six months.

If a child is deemed to be idiot or imbecile his name must be sent to the local authority under the Mental Deficiency Act. If, however, the child is also blind or deaf as well as mentally defective the consent of the Board of Education must first be obtained. The same applies in the case of a child who is only feeble-minded but who proves ineducable in a special school or whose conduct is detrimental to others.

Neglected Children.

Under certain circumstances which involve apparent neglect or exposure to physical or moral danger a child may be brought before a court, and if that court be satisfied of the facts it may order him to be sent to a certified industrial school or committed to the care of a relative or other fit person. The circumstances under which action may be taken are set out in Section 58 of the Children Act.

"Any person may bring before a petty sessional court any person apparently under the age of 14 years who—

(a) is found begging or receiving alms (whether or not there is any pretence of singing, playing, performing, offering anything for sale, or otherwise), or being in any street, premises, or place for the purpose of so begging or receiving alms; or

(b) is found wandering and not having any home or settled place of abode, or visible means of subsistence, or is found wandering and having no parent or guardian, or a parent or guardian who does not exercise proper guardianship; or

(c) is found destitute, not being an orphan and having both parents or his surviving parent, or in the case of an illegitimate child his mother, undergoing penal servitude or imprisonment; or

(d) is under the care of a parent or guardian who, by reason of criminal or drunken habits, is unfit to have the care of the child; or

(e) is the daughter, whether legitimate or illegitimate, of a father who has been convicted of an offence under Section 4 or Section 5 of the Criminal Law

Amendment Act, 1885, in respect of any of his daughters, whether legitimate or illegitimate; or

(f) frequents the company of any reputed thief, or of any common or reputed prostitute; or

(g) is lodging or residing in a house or part of a house used by any prostitute for the purposes of prostitution, or is otherwise living in circumstances calculated to cause, encourage or favour the seduction or prostitution of the child. . . . Provided that a child shall not be treated as coming within the description contained in paragraph (f) if the only common or reputed prostitute whose company the child frequents is the mother of the child, and she exercises proper guardianship and due care to protect the child from contamination."

Section 58 also provides that, where a parent or guardian proves to the court that he is unable to control a child and that he desires the child to be sent to an industrial school, and the court is satisfied that this is expedient and that the parent or guardian understands the results which will follow, an order committing the child to such a certified school may be made. Similar action may be taken in the case of a refractory child from a workhouse or district Poor-law school upon the complaint of the guardians, or in the case of a child under the care of the guardians, one or other of whose parents have been convicted of an offence punishable by penal servitude or imprisonment.

A child may be sent to an industrial school for such time as the court may think needed for his teaching and training, but not longer than till his sixteenth birthday. Such a child may, under certain conditions, be "licensed-out" to live with any fit person named in the licence, which may be revoked by the breach of any condition upon which it was granted. A child sent to an industrial school, other than as a means of enforcing a school attendance order, remains under the supervision of the managers of the school until he attains the age of 18, and until he attains that age he may be recalled to the school and detained for a period, not exceeding three months at a time, should such a course be necessary for his protection. Under suitable conditions and with the child's consent, he may be apprenticed to, or placed in, any trade or calling, or emigrated by the managers of the school as if they were his parents. Where a child is committed to the care of a relative or other fit person the court may make an order placing him under the supervision of a probation officer under the Probation of Offenders Act, 1907. An order for the detention of a child in a certified school may take effect immediately or be made to take effect at a later date, regard being had to the age or health of the youthful offender or child. Under this proviso a child may be sent for any necessary medical treatment or, if at a school, he may be sent to an institution for treatment by the managers of the school. The school to be chosen must, if practicable, be one conducted in accordance with that religious persuasion to which the court, having heard the facts, determines that the child belongs.

Provision is made for dealing with defective children, for where the court is satisfied that a youthful offender or child is incapable of receiving

proper benefit from industrial training in an ordinary certified school, by reason of mental or physical defect, but is not incapable of receiving benefit in a certified school where special provision is made for children suffering from such defect, the order shall be for detention in such a school. Since industrial schools are provided by some managers for dealing with physically or mentally defective persons, this is the usual course. In the case of the blind or deaf, it is more usual to commit them to a fit person with a condition that they attend at a school which provides an education appropriate to their defect. In the case of a mentally defective child or young person for whom such provision could not be made on account of the grade of mental defect—e.g., for an imbecile. Section 8 of the Mental Deficiency Act, 1913, provides that on the court being satisfied on medical evidence that a child brought before them under Section 58 of the Children Act is mentally defective, it may either postpone making an order and direct that a petition be presented to a judicial authority under the Mental Deficiency Act, or it may itself make an order placing the child in a certified institution for the mentally defective, the managers of which are willing to receive him or place him under guardianship under that Act. Similar action may be taken in the case of a mentally defective child when no special industrial school providing suitable religious instruction for the denomination to which the child belongs can be found. For the purpose of the Mental Deficiency Act, the court may act either on evidence given during the trial or other proceedings, or may call for further medical or other evidence. It must be noted that the court is to be satisfied on evidence given on oath and that a mere certificate, such as is given in education cases, will not suffice. It is usual for such medical evidence to be given by the certifying officers of the local mental deficiency authority, who would then assume responsibility for the care of the individual in question, unless he were dealt with privately by his relatives at their own expense. To be thus dealt with, a child must fall within one of the definitions of the Mental Deficiency Act—i.e., in practice, he must be an idiot, unable to guard himself against ordinary physical dangers; an imbecile, unable to be taught to manage himself or his affairs; or feeble-minded, that is, appearing to be permanently incapable of receiving proper benefit from instruction in ordinary schools on account of mental defectiveness or for the same reason in need of care, supervision, and control for his own protection or that of others. The terms are not further defined and overlap a little. In every instance the condition must be due to mental defect dating from birth or an early age, and it has been held that this must be proven by evidence and not merely stated as an opinion by the medical practitioner. The exact meaning of the term early age is open to some legal doubt. The Board of Control have apparently been willing to accept certificates given for the purpose of petitions under the Mental Deficiency Act which indicate that mental defect was evident in the subject at some period

prior to maturity, say, before 16 years of age, but some magistrates have been unwilling to commit subjects to institutions unless the evidence as to defect was clear as far back as the earlier years of school life. Fortunately in the case of children before juvenile courts this is rarely a matter of difficulty; in the case of adults the lack of such evidence may lead to a failure of proceedings under the Act. Generally speaking, evidence is required that from childhood there has been a weakness of observation, reason, and other faculties, slow reaction, and a lack of ordinary prudence and self-control.

Delinquent Children and Young Persons.

The Children Act provides that a child under the age of 12 years charged with an offence punishable in the case of an adult with penal servitude or imprisonment may be sent to an industrial school or placed on probation. Under like circumstances a child of the apparent age of 12 or 13, who has not previously been convicted, may be committed to an industrial school if the court is satisfied that his character and antecedents are such that he will not exercise an evil influence over the other children in the school. Most offenders under 14 who have to be committed to schools are thus dealt with, and most usually those guilty of a first offence, or even repeated minor offences, are treated by probation; it is not until probation is a demonstrated failure that a child is sent to a school. It is not certain that this is always the best course. Probation is intended to give a child a fresh chance, and where the home influence is bad it may be that the so-called fresh chance is only the same old one, and sometimes a short term of residence in a certified school which breaks up the old companionships is more efficacious. Youthful offenders over the age of 14, or if over 12 and repeated offenders or otherwise detrimental, may be sent to certified reformatory schools in which they may be detained not less than three nor more than five years, and not in any case beyond the age of 19 years. In such schools there is special trade training of a more advanced character, so that those sent to such schools have opportunities of being especially well placed out in after life. There are, however, no reformatory schools for the mentally defective, so that any young person liable to be sent to a reformatory who is found to be mentally defective must be dealt with under the provisions of Section 8 of the Mental Deficiency Act, by the court either directing that a petition to a judicial authority be presented, or by itself making an order sending the young offender to a certified institution under that Act. Guardianship, needless to say, is rarely applicable or likely to be efficacious, in such cases.

A child or young person who, while undergoing detention in a certified industrial or reformatory school, is found to be mentally defective, may be transferred to an institution for defectives or placed under guardianship, if the Secretary of State is satisfied on the certificate of two duly qualified practitioners that such is indeed the case. Such children or young persons are usually transferred

to institutions provided by, or contracting with, the appropriate local authority under the Mental Deficiency Act, so that the certifying officer of such authority is in practice likely to be one of the signatories of the certificates required.

The nature of the offence and the circumstances under which it was committed often bear some relation to the mental status of the delinquent. Vice and crime are found among the mentally defective of all grades as among the normal population, but in the case of the feeble-minded many delinquencies can be ascribed to a lack of appreciation of circumstances or consequences or to an undue suggestibility; the offences bearing the hall-mark of inefficiency thus serve in themselves as some evidence of the low mentality of the delinquent. Charges of wandering and of being beyond control

are more common among defective than normal children, but sexual offences, begging, and neglect in the sense of residence with drunken or immoral parents are about equal in proportion in the two classes, while stealing is a charge brought against a higher proportion of those who are mentally normal. Generally speaking, defective delinquents should always be dealt with as persons in need of care, control, and further training rather than as actual or potential criminals in need of the possibly deterrent effects of punishment. Punitive measures often fail with normal individuals, and will the more fail with those whose mental state is such that they can only recognise immediate personal authority, but who are entirely unappreciative of abstract rules and laws.

CHAPTER XL.—THE APPLICATION OF PSYCHO-ANALYTICAL PRINCIPLES IN (A) THE PSYCHONEUROSES; (B) THE PSYCHOSES; (C) OTHER MENTAL DISTURBANCES INFLUENCING CONDUCT.

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Theory of the Unconscious.—The Psychoneuroses.—Anxiety States and their Equivalents.—Obsessional States.—Diagnosis and Treatment.—Neurasthenia.—General Conclusions.—The Psychoses.—Other Mental Disturbances Influencing Conduct.

THIS chapter is concerned with the psycho-analytical point of view concerning these conditions, and necessarily goes over ground dealt with by other writers from different points of view.

THE THEORY OF THE UNCONSCIOUS.

According to modern conceptions the psychoneuroses arise from difficulties in meeting the demands of reality. The disturbances in behaviour and emotion that appear in them are irrational and inexplicable when judged by ordinary standards of cause and effect, and it is only by studying them as the results of unconscious processes that we can understand their mechanism and attempt a reasoned therapy. Hence it is necessary to state dogmatically some assumptions connected with the theory of the unconscious.

(a) *Unconscious processes* are outside the awareness of the subject. Their results appear in consciousness, often as unreasonable actions or "nervous" symptoms. Even if the observer has a correct idea of their nature a tactless presentation of them will rouse the opposition of the patient.

(b) This opposition is a specific example of *resistance* on the part of the patient against a recognition of the unconscious cause of his trouble. The resistance often takes the form of denial of any cause of mental stress, past or present.

(c) Emotions unfitted to the circumstances of the moment arise from unconscious causes, and are attributed to the immediate surroundings. Thus are explained, for example, apparently causeless and unreasonable fears, and a knowledge of the process enables us to realise that the symptoms have a cause, are subjectively real to the patient, and are not to be dismissed as "imagination." The process is called *displacement of affect*.

(d) Memories of actual experiences may be banished from consciousness and become beyond recall by the patient without aid. This is *suppression*. The memories may be recovered by comparatively easy technique, and often prove to have a definite relation to the symptoms.

(e) Unconscious processes take part in the mental development of the individual, and are only brought

to consciousness by psycho-analysis. Their exclusion from consciousness is the result of *repression*.

(f) There are many determinants of any psychoneurotic symptom. There is often a *secondary aim*; some advantage, perhaps obvious to the observer, is gained by the illness, and this may be a powerful factor against recovery. The aim, however, is not to be regarded as the cause of the disorder. Compensation and pension cases afford examples of this secondary aim.

THE PSYCHONEUROSES.

Although there is no clear division between the different mental states included in the psychoneuroses, yet in their general characters the cases can be usefully considered as belonging to either the *hysterical*, the *anxiety*, or the *obsessional* group. These distinctions rest as much upon the general mode of reaction of the patient as upon specific manifestations; an "occupation neurosis" such as writer's cramp, for example, may occur in a patient belonging to any of the three groups. The classification is a useful guide to the handling of the patients, since the unconscious factors in each group possess specific tendencies.

HYSTERICAL GROUP.

Hysteria, or more specifically *conversion hysteria*, is a condition in which an unconscious wish or aim finds expression in, or is converted into, the symptom. If the aim is fully satisfied we have a pure conversion hysteria, when the patient is perfectly happy in the symptom and shows the *belle indifférence de l'hystérique* described by Charcot. Generally, however, anxiety is present or develops as the false adaptation to reality fails.

There are two types of physical disabilities in the minor psychoses. One type shows a disturbance in volition and is generally called *hysterical*. A practical criterion of the type is whether the disability is of such a nature that we can picture its sudden disappearance under an appropriate stimulation. The other shows disturbances of bodily functions outside the volitional sphere—sweating, fine tremors, dermatographia, tachycardia, changes

in stomach secretion, and the like—and these are properly called *neuroses*, using the criterion that we can picture them as being determined by changes in the intrinsic function of nerve tissue. They are autonomic changes depending upon emotion, and many psychopathologists regard mucous colitis, hay fever, and asthma as belonging to the group.

Hysterical Symptoms.—The common bodily symptoms of hysteria, almost alone amongst the manifestations of the minor psychoses, are familiar to most of us. Paralysis and contractures are to be diagnosed on ordinary clinical grounds; only in long-established cases should there be any difficulty if the practitioner is awake to possibilities, and is not misled by the false belief that only the foolish or morally perverted can be liable to physical troubles arising from mental causes. If a hysterical paresis has lasted for a long period we may see wasting in the upper limb and swelling from circulatory congestion in the lower; the reflex tone may be lowered, and the diagnosis becomes a matter of delicate judgment.

The diagnostic production of anæsthesia or hyperæsthesia is capable of wide use in early cases; an anæsthesia of the outer ear, for example, throws light upon the cause of a deafness, and the discovery of hyperæsthesia to light pin-prick in a case of "sprained back" may prevent serious mental deterioration. These indications provide no distinction between hysteria and malingering; the only distinctive signs are wasting or swelling from disuse. If anxiety symptoms are elicited the situation is clearer, for the malingerer prefers to remain on what is to him the surer ground of a physical disability.

The grip test should be better known as a diagnostic aid. The patient is told to clench his fist and resist attempts to open it. It is impossible by a straight pull to open the fist of a sick man whose volition is fully occupied in resisting, but the nervous patient will often yield with only a show of resistance. In some cases the significance of the reaction, like the production of anæsthesia, may be explained to the patient in an attempt to arrest the early manifestations of a hysteria; in fact, it is obviously bad treatment to let any induced symptom remain—we are only cultivating the disorder. It is to be noted that although it is easy to induce physical symptoms by suggestion, whether intentional or not, yet it is difficult to induce mental ones; the tendency is for many psychoneurotic patients to stress physical and deny mental disabilities.

Hysterical fits, somnambulisms, and fugues are conditions in which suppressed material rises into consciousness and takes temporary possession of the patient's personality. They may range from an aimless set of movements through seizures in which forgotten episodes find representation—these were common in war cases—to fugues in which the patient wanders for days and either "comes to" and finds himself in an unexpected situation or is taken care of and reported in the papers as suffering from "loss of memory." The mental content of past fugues can often be brought to light by a simple

technique, the patient being readily hypnotised by inducing a restful attitude and state of mind.

ANXIETY STATES.

These may occur in pure form or be associated with hysterical or obsessional symptoms, and are often obscured by the physical signs and symptoms arising from a fearful emotion. Many cases of so-called neurasthenia belong to the anxiety or obsessional group. The fear, which is without reasonable cause and is recognised by the patient as unreasonable, may be a mere floating emotion ready to attach itself to any chance object or may remain as a vague dread of nothing in particular. Besides gross exacerbations (generally called nervous breakdowns) the condition has frequent periods of remission so that the patient has good days and bad days, and in those people who have trained themselves to deny the mental aspect of their troubles the invitation to say how they feel on a bad day may serve to break the ice and obtain the true symptoms.

Phobias.—Few of us are entirely free from mild pathological fears, fear of heights or of the dark being common manifestations. In the nervousness of female adolescents a close questioning may reveal mild specific phobias and an occasional anxiety dream, the condition being a true anxiety state that may pass off or develop into a more disabling condition; it falls into Freud's group of *anxiety hysteria*, with fear of the half-suppressed sex instinct as the basis, and analysis of adults provides frequent confirmation of this view.

Extreme degrees of pathological anxiety produce signs of emotion approaching those of actual terror. Since the patient avoids the specific stimulus as much as possible, it is rare to have the opportunity of observing them. I have twice exposed patients to the cause of the phobia, and the terror produced was so striking that I regretted my action; the demonstration was, however, very instructive.

The commonest phobias are concerned with closed spaces, open spaces, trains—especially tube trains—and other vehicles, animals—especially cats—and fur or feathers. Fear of heights may take the form of being afraid to look up at high buildings. The feared objects may owe their significance to actual association with forgotten incidents, when, since suppression only is concerned, the revival of the memory is fairly easy and results in the removal of the symptom (which is not equivalent to the cure of the anxiety state); or they may symbolise repugnant repressed ideas, when deeper analysis is needed for their understanding and removal. Thus a phobia of high buildings proved to be associated in time and place with an incident in which the patient was improperly terrified; in the same patient a phobia of closed spaces, on the other hand, symbolised infantile birth fantasies which only came to light after prolonged analysis.

It is only when a phobia becomes disabling that the patient complains of it; he generally hides it as something to be ashamed of, and for this reason many practitioners regard as text-book curiosities symptoms which, when they are searched for,

become commonplace. The following symptoms were elicited in a short interview with a patient whose "occupational neurosis" had been treated as a physical disability without any attempt to inquire into anxiety symptoms: "I was nervy as a child and had horrible dreams then; was afraid to go to sleep. I don't like 'tubes'; they give me a fear of suffocation and of being buried alive. I worry about things I have said—other people wouldn't worry. At my work I dreaded the day coming. Now I have nightmares of being drowned."

ANXIETY EQUIVALENTS.

This group of symptoms is important because their mental origin is usually not obvious to either patient or practitioner. There are patients who, for reasons not clear to themselves, are impelled to deny the sensation of undue fear. They will complain of having to avoid places of amusement because of faintness induced by the bad air, that the noise of tube trains is so unpleasant that they never travel by them, that the palpitation of their dilated hearts makes them avoid all excitement. But they will laugh in one's face if asked if they ever feel afraid at these things. More deceptive still are the patients whose fear is translated into a physical symptom and never reaches consciousness as fear. The clue is to be found in the fact that the symptoms come on in situations identical with those which commonly produce phobias in straightforward anxiety cases. A nocturnal asthma that only occurs when all windows are closed is the equivalent to a claustrophobia, and the capricious specificity of other asthma stimuli indicates their identity with the cause of phobias. Analysis has sometimes definitely settled the psychological significance of asthma stimuli, whilst the frequent stories of hay fever being induced by the sight of an artificial flower are not to be explained by the facile assumption of suggestion, but should be studied from the point of view that the flower, real or artificial, possesses for the patient a symbolic meaning that precipitates the equivalent of an anxiety attack in which emotion expresses itself in a physical symptom.

In cases showing anxiety equivalents it will be found that other manifestations of a psychoneurosis are present; indeed, our text-books indicate this when they speak of the association of these disorders of doubtful pathology—asthma, mucous colitis, and the like—with neurasthenia, the nervous temperament, and conditions under other names that mark an uninvestigated mental state.

OBSESSIONAL STATES.

These differ from the simpler anxieties in being more dependent upon temperament, more deep-seated in origin, and in presenting more often, on close investigation, a history of unsuspected symptoms before the onset of the trouble for which aid is sought. Yet the difference is not definite, and even a case which at first sight appears to be a hysteria may on closer acquaintance prove to be obsessional.

Exacerbations (nervous breakdowns) and remissions are the rule, but the general tendency is towards deterioration. Most asylums contain a few obsessional cases, sometimes voluntary inmates who prefer thus to escape from a scoffing world, and it is coming to be recognised that an obsessional state may pass into a definite manic-depressive psychosis.

The characteristic of an obsession is that the patient recognises its irrational nature, and it never fills his consciousness to the exclusion of opposing ideas, differing in this respect from the delusions and impulses of the major psychoses. The obsessional subject feels that people are looking at him or thinking about him, but unlike the paranoiac he knows the feeling is groundless. Apprehensions common to this or anxiety states are recognised as without material cause, unlike the gloomy prognostications of the melancholiac, and obsessions to do foolish things are resisted in a way unknown to the subject of mania or dementia præcox.

Many of us have subjective acquaintance with mildly obsessional symptoms. The thought of hurling oneself before an oncoming train or from a height, the tendency to walk on the cracks of paving-stones or to do things "for luck," are innocent departures from the ways of the herd though of value as indicating a temperamental type which, when these departures unduly influence behaviour, is on the way to becoming pathological. Superstitions about the number 13 are permissible, but become disabling when a patient is compelled to ask for any sentence containing 13 words to be repeated in a different form. Speculations about the nature of infinity may be amusing, but they call for treatment if they haunt a person till he is reduced to a state of unfitness for any employment. The variety of obsessions is endless, but some brief grouping of them here is necessary to make what follows clear (see also Chapter XXXVII).

Obsessive doubts, sometimes called "loss of memory," lead a patient to return several times to make sure that he has locked a door or turned out the gas; when affecting judgment they may keep him in an agony of indecision as to what tie he shall wear. This indecision may affect conversation so that an answer to a question is difficult, and the patient never reaches the end of a train of thought and cannot even describe his symptoms.

Obsessive ideas cause great distress, though the bar or two of music or the line of verse that we cannot dismiss is not a serious infliction. The persistence of obscene phrases, or speculation how people of the opposite sex would look if undressed, is very painful to those over-scrupulous ones in whom the symptom tends to occur. The patient may have a feeling of the omnipotence of thought, so that the idea that a man may fall off a ladder is followed by the fear "now he will fall because I have thought it." *Loss of the sense of reality* seems an unintelligible flight of imagination unless one is aware of its occurrence; the patient may say that he does not know his head is there until he puts his hat on it, or that the table at which he points is only an idea, or that he cannot believe that yesterday ever was.

Obsessive acts may be exaggerations of the ordinary, like Dr. Johnson's compulsion to touch every post he passed—returning if he missed one; impulses to read posters, to look down dark places, to look over people's shoulders and read their letters, to balance a left-handed action by a right-handed one, are symptoms that constantly recur. But obsessive acts peculiar to the individual are so extraordinary that the practitioner must be prepared to accept as clinical material the most fantastic ceremonies. Some *habit spasms* are obsessional, the patient recognising the compulsion to carry them out and being able to control them with great effort.

Crises of agitation are states of ill-defined desire for indeterminate action, with great agitation and restlessness. They are to be distinguished from hysterical attacks, from anxiety attacks—in which the primary emotion is fear—and from "agitated melancholia."

CLINICAL SIGNIFICANCE OF ANXIETY AND OBSESSIONAL STATES.

The conditions are often hidden under physical manifestations. Patients who enjoy bad health and who seek repeated operations, till they become the despair of our profession, generally belong to these groups and can be recognised if the mental symptoms are elicited before the belief in physical disease is irrevocable. Chronic dyspepsias, heart symptoms without physical signs, persistent headaches, insomnias, symptoms of irritable bladder, occupation cramps and neuroses, and a host of other troubles can be more easily understood and handled if mental symptoms are investigated and given their clinical value. People who take anaesthetics badly provide more material, and in every large hospital one occasionally sees an "acute abdomen" with rigid belly wall, rapid pulse, even a fair imitation of the Hippocratic facies, where operation reveals no lesion, and the opportunity is lost of demonstrating a severe anxiety attack with abdominal symptoms.

DIAGNOSIS.

Apart from the aspect of the patient and the obvious neuroses derived from continued emotion—such as fine tremors of hands and eyelids, clammy hands, over-active skin reactions like dermatographia, the rapid pulse of disordered action of the heart—diagnosis depends not on the negative method of excluding organic disease, but on the elucidation of anxiety or obsessional symptoms. Remembering that emotional restraint is as characteristic of nervous patients as emotional display, that the patient has probably been encouraged to stress his physical disabilities and hide his mental ones, and that there is little danger of suggesting mental symptoms, one will often find the patient experiences relief at meeting someone who takes the symptoms seriously and regards them as objects of treatment. In fact, with a satisfactory first interview there is established that confidential relationship upon which successful handling of the patient depends. *La belle in-*

différence de l'hystérique, however, has its counterpart in the other states, and patients may deny mental symptoms with an over-emphasis which is itself diagnostic. Sometimes the symptoms have to be extracted piecemeal by questions, and, especially in obsessional cases, the patient may not realise that his peculiarities of thought and emotion have any connexion with his more obvious troubles. The psychopathologist is not surprised when an intelligent patient with a long history of various "neuroses" suddenly realises this connexion and asks why his mental difficulties had not been previously investigated.

General statements of nervousness, loss of memory, lack of concentration, and the like, are best met by a request for examples. Loss of memory may refer to actual forgetfulness or mild fugues, or to that uncertainty which may be exemplified by "I know I've done it but I feel that I haven't." "What sort of thing makes you feel nervous?" may bring out a string of phobias, or a claustrophobia may be hidden till one asks, "Could you sit in a quiet room and read a book?" In short, the diagnosis of a psychoneurosis, like that of any other morbid state, depends upon knowing what to look for.

TREATMENT.

The discovery of the deep-seated ramifications of the psychoneuroses has dethroned suggestion from the position it once held as an explanation of symptoms and a means of cure. The full determining factors of an apparently simple symptom are, when revealed by lengthy analysis, so complicated that in cases calling for a more rapid therapy we must expect them to remain hidden. Yet the practitioner can form an estimate of some of the factors concerned, and his procedure will be largely guided by that estimate and by the response of the patient to his influence; this influence, which may perhaps be described as working by suggestion, depends upon what psycho-analysts call a *positive transference*, that is to say, a form of displacement of affect in which the physician becomes the recipient of some friendly emotion that has hitherto lacked an object. Its existence means some extent of dependence on the part of the patient, who in course of time may be brought to realise it and ultimately stand alone without it. It is a phenomenon known to every successful practitioner, but in handling nervous patients its induction must be sought by deliberate means, the most obvious of which is an appreciation of the subjective reality of the symptoms.

It is in the conversion hysterics that early treatment can avert a progressive deterioration of character. One must obtain an interview with the patient alone and seek for evidence of anxiety or obsessional symptoms; only when we are satisfied that they do not exist—and the denials of the patient must not be too readily accepted—are we to regard the case as a conversion hysteria. The speedy removal of the symptom should then be our aim, and here the classical "cheery and confident" manner has its scope. According to the intelligence of the patient the means will vary from pure "bluff"

to an explanation that the patient is producing the symptoms, but does not know why or how, and that we will help him to remove it. As an example of the first method one may take hysterical aphonia: with the stethoscope on the patient's chest we ask him to take a deep breath, then to cough, then to prolong the cough into an a-a-h sound, and finally to carry on that sound to a word with full phonation. Most hysterical paralyses can, at their onset, be removed by some such simple means, but we must beware of thinking that we have cured the patient; we can only hope for a cure when the patient has been led to find out what has stimulated the trouble, otherwise the same or another symptom may soon be manifested. Some humiliation of the patient may be necessary, but the humiliation must not involve a moral judgment by the practitioner or he is likely to become the object of the next symptom. It is remarkable that when the patient believes that the practitioner understands the difficulties of the situation he will accept without resentment a very plain statement of how he is meeting them by his symptom.

A state of affairs is often met in which a more or less legitimate sense of injustice, or a lack of parental affection, may provide within the family an aim for the symptom; here again one will be chary of pointing out the position before the patient has admitted the emotional difficulties.

In cases of longer standing these methods will probably fail. Relatives may be a hindrance, and since the symptom is often a reaction to the home atmosphere we can see reasons for the success of a Weir Mitchell treatment. It provides a stimulus to recovery and the opportunity of recovering without loss of prestige; but it offers no security against a relapse. Failing the opportunity of this treatment we may try any convenient means of removal from the ordinary surroundings; whatever method is used to remove the symptom, an attempt should always be made to bring about some realisation of its cause. The treatment of a hysterical symptom as an organic one, in the hope of curing "by suggestion," sometimes has life-long disastrous results. Failure to remove the symptom may be due to powerful unconscious influences which call for psycho-analysis, or the satisfaction of a secondary aim may prevent recovery.

In *anxiety states* we are not dealing with a single physical symptom but with an emotional state. The anxiety arises from fear of something within the patient, and we can no longer avoid recognising that ideas concerning sex, often not far removed from consciousness, are most commonly the proximate cause of the fear, though a deeper unconscious predisposition is present. The practitioner must overcome his own inhibitions and, without forcing the subject, allow the patient to discuss the mental aspect of sex as naturally as one is accustomed to discuss matters of gynaecology. In the case of married patients a psychoneurosis rarely coexists with a normal sex life, the psychoneurosis being often the cause of the marital difficulty. The tradition, still extant, that would blindly prescribe marriage as a cure for neurotic young women may prove cruel to two people at least.

When one spouse comes for treatment it is often the other who needs it; frigidity or impotence of one partner may induce and maintain symptoms in the other, and neurotic illness is often treated for years without this factor coming to notice. The patient succeeds in turning a psychological blind spot upon it and is unaware of any relation between it and the symptoms. Frank discussion of the situation may have a great influence upon the symptoms, and is not of necessity followed by a departure from deeply rooted moral principles that have so long withstood the strain. *How* the symptoms work is often a matter of guess-work, but it is not uncommon for a neurotic wife to find, in the attention her illness demands, a substitute for other attentions or a means of revenge for the deprivation of them.

In unmarried subjects, even those of mature age, anxiety arises from fear of sexual thoughts. Common-sense tells us that a direct approach to the subject will in many cases provoke resistance, and patience is necessary before even conscious apprehensions are admitted; once an open attitude is induced there will often be poured out a stream of superstitions and childish speculation which, when believed, must alarm anyone. Remorse about masturbation, though linked with deeper factors, can be readily handled if we are honest enough to admit that the practice is so widespread that few escape, and that we know of no direful consequences in the physical sphere.

It is plain that frank and sympathetic discussion is the only road to the understanding of anxiety states, and the personal equation of the practitioner is an important and variable element in the discussion. It is difficult to acquire a sense of the reality of mental processes underlying the psychoneuroses except by actual experience, but one ventures to suggest that any practitioner interested in the subject has accessible to him sufficient material to give him that sense of reality. A fairly young and intelligent subject suffering from anxiety symptoms, not obsessions, of a degree sufficiently disabling to make him or her strongly desirous of cure should be selected. Sittings of an hour each must be arranged three or four times a week; the patient is allowed to lie at ease and made to obey the injunction to talk freely about personal affairs without reservation. The experimenter on his side says as little as possible, avoiding criticism or judgment, and confining himself to the enforcement of the injunction, and with luck may find that what hitherto appeared as unintelligible theory becomes a matter of clinical importance. Some benefit to the patient may be confidently expected, and though the experiment is not to be regarded as a psycho-analysis it will familiarise the experimenter with some of the material underlying a psychoneurosis and help him to appreciate such processes as suppression, resistance, and transference.

In dealing with the external situation there is danger of falling between two stools. It is right to remove actual sources of worry, but one must remember the tendency of the nervous patient to use the neurosis as a means of getting his own way

for success in that direction feeds the complaint. Perhaps a rough guide is whether the situation would call for alteration if no neurosis were present. General advice should take the form of admitting the presence of the symptoms, with encouragement to carry on in spite of them. It is futile and exasperating to explain their "foolishness" to the patient, and this warning applies more especially to obsessional cases, for in those the patient is already painfully aware of the irrational nature of the symptoms.

Obsessional patients present greater difficulties. Under an intelligent exterior and in the presence of an earnestly expressed desire for cure there lie a great capacity for obstinacy and casuistry, and a possibility of hatred which may show itself in a strong negative transference. Secondary anxiety is present if the compulsions are resisted or it may develop as a direct result of the obsessional thoughts; hence neuroses occur, but the patient is nevertheless ready to recognise the mental nature of his disability and, in fact, often has unaided insight into the origin of the physical symptoms. This attitude may seem to hold out a prospect of easy treatment, but the prospect is illusory. Although current stress plays its part in the ætiology, and alteration of environment may therefore be tried at the exacerbations, yet anything like a Weir Mitchell course must be avoided without exhaustive investigation beforehand. To shut up a patient with his own obsessional thoughts, or his anxieties, and leave him to fight them alone, is a procedure often bitterly resented. "Neurotic" patients are certainly unreasonable, but much of their unreasonableness is only apparent in so far as they know it is dictated by fears or obsessions which have not been investigated and which they cannot spontaneously reveal.

Unlike anxiety states, the obsessions offer little result to such superficial analysis as the practitioner may expect to carry out. Many mild cases carry on the work of life unaided; others may be kept at work by sympathetic encouragement, for many obsessionals are exceptionally competent at intellectual or other highly skilled work, and any secondary aim that may be present is not usually in the direction of shirking. Over-scrupulousness, indeed, is an obsessional characteristic, and obsessional sufferers from an occupation neurosis carry on under difficulties which other psychoneurotics would use as a means of escape.

The developing obsessional finds that, having yielded to one compulsion, the surrender becomes useless, and another is built up so that the symptoms become more complicated. In the presence of a favourable transference this tendency, like any other in the wrong direction, should be checked. One must be in a condition to judge how far any symptom is so distressing that the patient must surrender to it, or how far he must be urged to carry on in spite of it.

Although these cases present especial difficulties in psycho-analytical treatment, yet to young people who are in danger of becoming incapacitated the outlook is serious, and analysis offers the only hope of restoration to a useful and happy life.

The clinical psychologist frequently sees cases in which years of steadily increasing obsessional symptoms have ended in the most troublesome kind of chronic invalidism, when the prospect of relief by analysis is remote.

NEURASTHENIA.

It will be noticed that neurasthenia does not enter into the classification used in this chapter. Most cases so described fall into the anxiety or obsessional group, but there is a residue to which the term may be properly applied. The cases show a paralysis of volition and a loss of mental and physical energy, without any of the symptoms described above, but with bodily symptoms of a characteristic type. Analysis has been recommended for them on good authority, but the prospect of relief by psychological methods is a doubtful one.

GENERAL CONCLUSIONS.

Although psychoneuroses may be related to bodily departures from health such as influenza, obscure toxic states, and the like, or phases of individual development like puberty and the climacteric, or to physical and mental stress, yet these are at most only exciting causes, and in many cases investigation reveals that the psychoneurosis is an exacerbation of a pre-existing condition. Hence attention to the physical well-being of the patient should be accompanied by a study of the mental side. Neglect of this study leads to the spectacle of the chronic nervous invalid with a fixed belief in a multitude of physical disorders; the study can only be carried out when we know what symptoms are to be expected.

The handling of the nervous patient is facilitated by a general knowledge of the unconscious processes that may be at work. These processes have been but briefly indicated here; the many ramifications of the *Edipus* situation, for example, have not been mentioned, though they come to light almost invariably in analysis, and can often be deduced from the history as offered by the patient. Even when the deduction is made it can only be used as a guide in handling the patient; a presentation of these and other unconscious factors to the patient might rouse opposition, and even if accepted on the authority of the physician the acceptance would be valueless in the absence of that emotional conviction which accompanies analysis.

The practitioner can at best make only a superficial mental exploration of the patient. With the knowledge thus gained, and by the help of a positive transference, which should be assured by understanding rather than by sympathy, he can remove the hysterical symptom, alleviate or remove pathological anxiety, and help the obsessional patient to ward off the onset of further trouble. In certain cases a formal psycho-analysis is advisable; among them are those in which the symptoms produce considerable distress, and those where bodily symptoms of neurosis demand treatment, or where exacerbations lead to "nervous breakdowns."

THE PSYCHOSES.

Although psycho-analysis offers explanations of the psychoses as the results of unconscious processes, and may be expected to help in the understanding of them, yet as a therapeutic measure little is at present claimed for it, and even amongst psycho-analysts themselves there are different views as to the possibility of influencing the psychoses by analytic methods. We may obviously exclude from consideration the organic brain diseases; the various forms of *paranoia* are inaccessible on account of the nature of the delusional beliefs, for the patient will not coöperate in the cure of a malady which he believes to be non-existent; and the manic or melancholic patient is accessible only during periods of remission.

In this *manic-depressive* group, however, reliable authorities have claimed to produce results by analysis carried out during periods of remission, even though it may be interrupted by relapses. For reasons of technique connected with the relationship between patient and analyst it seems unlikely that anyone connected with an institution in which the patient is confined would be able to carry on the analysis; moreover, if the patient is well enough to be analysed he is probably well enough to be at liberty. In cases where the requirements of coöperation, time, and expense can be met, analysis may justifiably be given a trial.

In regard to *dementia præcox* there still exist two theories of causation, the mental and the physical. Whatever theory is right, analysis is impossible when once the disease can be diagnosed with certainty, but it has in a few cases proved curative when the diagnosis seemed only probable.

A greater diagnostic difficulty arises in connexion with *epilepsy*. The clear-cut distinction between

hysteria and epilepsy no longer holds, as far as psychopathologists are concerned, and cases apparently of epilepsy have proved on analysis to be examples of hysteria. Many epileptics are inaccessible to analysis, especially when mental deterioration has occurred, and for practical purposes the choice of cases must rest not upon diagnosis but upon accessibility.

OTHER MENTAL DISTURBANCES
INFLUENCING CONDUCT.

A few words may be said about other conditions that sometimes come to the notice of the medical man. Some forms of delinquency—such as truancy, kleptomania, and intolerance of discipline—can be understood and treated if approached along analytical lines; but the investigator must distinguish between the desire for cure and the desire to escape punishment. In spite of the disrepute that has fallen upon the word, a genuine compulsive kleptomania does occur and the mental distress of the patient is naturally extreme. In juvenile delinquents the offence may turn out to be dependent upon a family situation that at first sight has no relation to it; a child dimly aware of marital infidelity on the part of a parent may react by persistent and apparently aimless stealing.

Sexual perversions offer little scope for treatment. They are rarely psychoneurotic symptoms, though often associated with them, and the mental conflict produced by them is not intrapsychic but depends upon social disapproval. The manifest homosexual, for example, might be willing to become heterosexual as a matter of convenience, but has no more inner urge to change than a heterosexual has; hence analysis is almost sure to fail.

CHAPTER XLI.—THE EARLY TREATMENT OF MENTAL DISORDER.

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PHYSICIAN FOR PSYCHOLOGICAL MEDICINE, GUY'S HOSPITAL; AND LECTURER IN PSYCHOLOGICAL MEDICINE,
GUY'S HOSPITAL MEDICAL SCHOOL.*The Emotional Factor.—Toxic Factors.—Endocrine Disturbances.—The Importance of Sleep.—Conclusion.*

THE early treatment of mental disorder is a far wider field of study than might at first appear; indeed, it is little smaller, or maybe it is larger, than a study of the early treatment of physical disease. Although during recent years we have been steadily enlarging our vision of and our attitude towards mental disorder, there is little doubt that we shall have to widen our outlook further and further still before we shall view the subject in its right perspective. Narrowness of vision has always been our danger, and this danger is not yet past. To understand the treatment of mental disorder must necessitate a knowledge of normal mind and the influences which may disturb it. As regards the latter there are many views held by various claimants, and each affirms that the school of thought to which he belongs has found the fundamental and underlying principles which govern and bring about these disorders. We have the psychogenetic and the physico-genetic schools and the theories expounded by either are varied, and outside these there stand those who claim that the biological influences are the most powerful of all. Now whilst admitting that the purely psychological factors play no small part, we are bound to recognise that there is conclusive evidence to show that physical factors are as important, if not more important; indeed, I believe that as our knowledge accumulates the physical aspect will overshadow the psychological in its primary importance. The biological factor will always have its place, but rather as a predisposing element, whereas the others may be both predisposing and exciting or exciting alone. Nevertheless, whichever way we look at it and to whichever side we may lean, we can sum up mental disorder as a reaction of the whole organism to those internal and external influences to which it is exposed.

Looking back over the history of the progress of psychological medicine, we find it passing through phases of mysticism and metaphysical outlooks on to materialism, and later, with the advent of what is often spoken of as the new psychology, the purely psychological school assumed the ascendant, but already the trend of modern thought is once more emphasising the importance of the physical factors. These changes must mean at least one thing, and that is that each claimant has some fundamental truth which it is necessary to investigate to the full; but whilst doing this

we should beware of ignoring those other verities which have a rightful claim upon attention.

THE EMOTIONAL FACTOR.

With this in our minds let me pass on briefly to review some of the psychological factors which call for consideration. Space will permit of my dealing only with what would appear to be the main aspects. Experience has long taught me, as it has many others, the importance of the emotions in the mental life of the individual. In childhood disturbed emotion may so interrupt training that education—and I use the word in its widest sense—may be greatly interfered with and a relative enfeeblement result. As years pass and experiences accumulate, the effect of the disturbed emotion will be reflected on to the reasoning side which in time enhances the difficulties of the adaptation of the individual to his surroundings. Although I regard emotion as of primary importance in the production of mental disorder, experience has taught me that there is something which prepares the way for emotion becoming abnormally active, and this is a general hyper-sensitivity of the organism itself. A keen perceptive power and a quick response to stimuli are assets which we require for success in life, and yet these very same attributes may bring about our downfall, if, from one cause or another, they become unduly active. The importance of hyper-sensitivity cannot be too strongly emphasised, as it is by understanding it and preventing it from becoming excessive that we best bar the way against the more serious types of mental disorder. With hyper-sensitivity, weak stimuli, which in a normal state would have been unnoticed, become painful, and these are quickly followed by apprehensions and fears and ultimately by disturbed emotion with its pre-occupations which are so devastating to the mental life of the individual. Hyper-sensitivity affects both the mental and physical reactions and tends to usher in fatigue, and with fatigue the organism becomes increasingly susceptible to toxic influences, and these, in turn, bring about mental confusion, and thus a vicious circle may become established. There are cases in which emotional shock of a severe kind seems to have been the main, and maybe the only, exciting factor in bringing about a mental disorder, for, as with a blow on the head, provided the stimulus is severe enough, some disturbance must follow, but I venture to think that in

the majority of cases the severity of the symptoms will largely depend upon the preceding sensitivity of the nervous system. When one comes to consider the more subtle types of emotional disturbance, the problem of unravelling the order of failure becomes more difficult, and, as this becomes more intricate, so does it lend itself the more readily to diverse theories regarding the cause and effective treatment. We frequently have impressed upon us the importance of conflicts and repressions and buried memories, and how these, charged as they may be with emotion, may remain throughout life as a dynamic force, ready at any time to play an active part in producing or keeping up a state of mental unrest. It is impossible, as it would be unfair, to attempt to discuss the psycho-analytical claims within the limits of this paper, more especially having regard to the diverse outlooks of the different schools who employ this method. Nevertheless, there is one point which becomes increasingly evident to me, and that is that the teaching of Freud is more valuable as a factor in education than as a basis for treatment. When I say this, I do not wish to convey the impression that I am not aware that many persons have had their symptoms relieved by the psycho-analytical methods of treatment, but the question one is bound to put to oneself is whether the majority of these persons might not have derived the same relief from other methods with a far less expenditure of time. That there are patients whose restoration to health has been brought about by psycho-analytical methods when all other forms of treatment have failed is no doubt true, but the same can be said of almost every other method. Therefore it is incumbent upon us to try to differentiate between cases so that each may receive such treatment as experience has shown the more likely to be beneficial. All schools of thought have learnt to appreciate that the further one gets back, that is, the nearer one gets to the beginnings of a disorder, the more likely is the treatment to bring about a restoration to health, and one of the chief reasons for this is that in the initial stages the disturbance is simple in character and is not yet complicated by one function after another becoming upset until maybe the whole organism is involved. It is when secondary disturbances become of primary importance that Freudian methods, like all other methods, are most likely to fail, and it is of interest to note that Dr. Ernest Jones claims the best results from early cases. For myself I have long been in doubt whether repressions and forgotten conflicts are as important as the Freudian school would have us believe, and I regard emotion in its conscious stages as being the more active in bringing about mental disorder. In any case, whatever our views as to the cause, that the best results are to be obtained by early treatment goes to prove the importance of prophylactic measures.

Many physical diseases have their beginnings in childhood, and this is also the case, and perhaps to a greater degree, with mental disorders. Even with our present knowledge much more might be done towards the prevention of mental disturbance

by greater care in the early training of the young. The public, and indeed the bulk of the medical profession, have yet to learn that the development of mental disorder is slow, and at times insidiously slow. Yet to those who know, or those who care to learn, the progress towards this end is definite and is marked by physical or mental changes which indicate what is taking place and what must ultimately result. The explaining away of early symptoms should be persistently attacked by the medical profession and the dangers which attend such a course strongly emphasised. Medical students must be taught to investigate the mental state of the patient and not merely to regard man as an organism with nothing beyond physical reactions. Recently I read an article in a medical journal on the matters to be regarded in the preparation of a patient for a surgical operation in which there was not one word regarding the mental state, nor a single consideration as to the emotional effect that the operation might have upon the individual, and yet this emotional reaction may be the factor which ultimately will decide the success or failure of the operation. It is often a very serious matter to overlook the early signs of physical disease, but it may be even more dangerous to disregard early minor mental changes. In the normal man the various attributes of the mind are so correlated that their proper working is of benefit to the whole, but if one important attribute becomes disordered, the working of the undamaged remainder now hastens the catastrophe. An example of this may be found in sensation, for our idea of self is largely dependent upon it, and if sensation becomes disordered, our normal equipment, ideation, memory, reasoning, and judgment may in consequence work against us and tend to bring about our intellectual downfall. The normal and the abnormal alike rationalise, but the latter bases his rationalisation upon some abnormal condition. A proper understanding of this is all-important, for it not only helps us to understand the working of the mind of the abnormal man, but it indicates to us the best way of treating him by psycho-therapeutic means. Space will not permit of my discussing the various methods of psycho-therapeutic treatment and their respective values. Each has its place in psychological medicine, but, as I have already observed, no one method can be regarded as all-sufficing.

TOXIC FACTORS.

I should like now to refer briefly to some of the more important matters on the physical side which call for consideration in the treatment of mental disturbances. The longer I work in this special branch of medicine, the more convinced do I become of the importance of the effects of toxic elements in the production of mind disorders, whether these poisons are produced within the body or acquired from without. No doubt extravagant claims have been made that all insanities, or the majority of them, are occasioned by poisons, and heroic methods have been used to counter them, with the result that more moderately minded men recoiled from investigating

this aspect of the subject as thoroughly as it undoubtedly deserves. It is a matter of common experience that mental disturbances result from toxæmia, but we are only beginning to appreciate that very striking effects may follow from what would appear to be quite insignificant dosage. This must depend largely upon the special idiosyncrasies of the person so affected. Some poisons act with greater effect upon the motor side of the nervous system, others upon the sensory or mental side. Now the more carefully we observe, the more definite shall we find the syndrome of physical signs and symptoms, and in consequence the more alert shall we be in directing the treatment most likely to be effective in bringing about a restoration to health. To employ purely psycho-therapeutic measures in a condition of this kind is to waste time and to endanger the life or the mental health of the patient. It is these toxic cases, and there are many, which emphasise the importance of being thoroughly versed in every branch of general medicine and of remembering at all times that the manner in which some persons react to poisons is by exhibiting mental changes of varying degrees of intensity. If only this were realised by the public, they would show a greater hesitation in seeking help from lay persons, whatever creed or method these may follow. No special treatment should be instituted until a diagnosis has been made, and this cannot be done until the full history has been taken and a thorough investigation carried out.

There are the more gross forms of poisoning which can be remedied by surgical means, but this should not be done without a full appreciation of the type of subject who is to be operated upon. The danger on the surgical side is that the surgeon is apt to think only of the condition which he seeks to remedy and to forget the mental reaction which he may have to encounter in the subsequent treatment of the patient. Then there are the more subtle poisons. Of recent years overwhelming evidence has been forthcoming as to the toxic effects upon the nervous system of the organism which gives rise to the disease known as encephalitis lethargica. There are also the streptococcal infections which in some persons are active in producing confusion of mind in varying degrees. Apart from this type of infection there are the special idiosyncrasies towards certain foodstuffs. I have seen epileptic fits and mental confusion follow the ingestion of eggs in persons who proved to be intolerant of these. I have seen three cases of delirium following the taking of mushrooms and a soldier who broke down with severe mental confusion after working with T.N.T. for 12 days. All these and many more similar cases go to show how large is the field of research in the investigation of toxic influences in the production of mental disturbances, and further they emphasise how necessary it is for the physician to be ever alert when treating his patients, lest he overlook what is really the exciting cause of the disorder, the continued presence of which will not only retard recovery but may even prevent it from taking place.

ENDOCRINE DISTURBANCES.

For over a quarter of a century since Gaskell first brought out his work on the visceral nervous system and later by the research of Langley, the part played by the endocrine glands in health and disease has been investigated from the standpoint of the clinician with increasing interest. Indeed, the research work done on the autonomic nervous system has shown how close is the inter-relationship of the various systems of the body. Langdon Brown, in his book on the "Sympathetic Nervous System," writes: "The evil effects of depressing emotions, of anxiety, fear, pain, and anger receive an explanation when we see that through the sympathetic nervous system they can lead even to structural changes. Designed as an intensive preparation for action or defence, the sympathetic responses may be so dissociated, perverted or prolonged as to produce through the thyroid gland Graves' disease with its dangers to life, through the pituitary body diabetes insipidus with attendant discomfort, through the pancreas and other endocrine glands excessive mobilisation of the blood-sugar which is the first stage of the metabolic disorder that culminates in diabetes; it may disorganise digestion by exciting spasm and atony in the stomach and bowels, and inhibiting the secretion of the gastric juices; it may keep blood pressure at a level which is inappropriate for the task of the heart and the arteries." On the other hand, Prof. Swale Vincent, in the Arris and Gale lecture delivered in 1922, gives a warning as to a too-ready acceptance of theories of disease based upon the working of the endocrine system, for he states that "in the minds of many physiologists there is a growing suspicion that the chemical regulation of the bodily functions is not of the supreme importance that certain schools would have us believe." Nevertheless, all would agree that the endocrine glands do play a part, and an important part, either as a defensive mechanism against mental and physical disturbances, or, if for some reason they become inadequate or unduly active, by bringing about changes which are prejudicial to the well-being of the organism. As a therapeutic measure it is as unwise to prescribe extracts of the various glands in a haphazard way in the hope of some good resulting as it is entirely to disregard them. Let us use those tests that are available as concerning the sufficiency in working of these glands and base our administration of the various extracts upon them.

THE IMPORTANCE OF SLEEP.

There is one further matter to which I should like to refer, touching as it does the very root of all treatment, whether preventive or restorative. I allude to sleep. It may seem unnecessary that I should dwell on a subject on which in principle we should all be in agreement, and yet when one comes to actual practice it becomes increasingly patent how urgent it is to reconsider the treatment of sleeplessness from time to time. Clinically we know the importance of sleep, and the physiologists tell us that sleep is the only certain

means of restoring exhausted cells in the brain and other organs of the body. Human beings and animals die within a comparatively short time if kept awake continuously, and there must be every gradation from slight deterioration to dissolution as the result of failure in the quality or quantity of sleep. Some persons are much more intolerant of deficient sleep than are others; indeed, some individuals will become definitely insane within a few days if sleep is not obtained. In spite of this knowledge, we find sleeplessness being treated in a half-hearted way. It is true that with some persons psycho-therapeutic methods may be employed or palliatives can be tried before prescribing an hypnotic, but in every case the condition of the patient must be the guide.

Hypnotics.

As a profession we are unduly timid of giving hypnotics and in consequence the public, as a whole, object to them. Brought up as I was in the same attitude, long experience has taught me the folly of such an outlook. The chief objection, I gather, is the fear of inducing a habit. Once more experience has taught me to be much more afraid of the effects of sleeplessness than of any danger of producing an addiction, a danger which is almost negligible. Let those persons who are constantly talking about addiction produce the evidence upon which they base their statements. Continually it is being urged that more and more drugs should be added to the Dangerous Drugs list, either on account of the risk of inducing an addiction, which I have no hesitation in saying is only to be found, with the rarest exceptions, in a few degenerate persons who are usually as wedded to drink as to drugs, or because these drugs may be used for the purpose of self-destruction, an argument so weak that it calls for no reply. Some medical men when confronted with a sleepless person think only in terms of bromide. Now bromides, even in moderate doses, unless taken in very large quantities of water, are very damaging to the lining membrane of the stomach by the action of the free bromine, a fact that was pointed out to me many years ago by that great clinician, Sir James Goodhart. In larger doses bromide tends to, and often does, lead to confusion of the mind, and a not infrequent experience is that of being called in to consider the question of the certification of a patient whose most urgent symptoms have resulted from the administration of bromides. These drugs, more especially in small doses, have a rôle of great value in medicine, but to my thinking their value for the treatment of sleeplessness is much over-rated and in many instances their effect is definitely harmful. The

barbitone group seems to come in for the most criticism, and yet dial and medinal are the drugs upon which I have relied in practice for many years. I have never seen any bad results and I have often used them continuously for long periods when necessary. When taking them, patients do not fail physically, and in many instances metabolism is greatly improved as the result of better sleep. I was interested to hear that Mackenzie Wallis has found no changes in metabolism in patients whom he has examined who have been taking sodium veronal for long periods. I note also that Goodall, a very careful observer, writing in the annual report of the Cardiff Mental Hospital, when speaking of the administration of sodium luminal, says that it has no deleterious effect on the physical or mental condition of patients as have bromides and allied drugs. My own experience absolutely bears out what he says. As with every other disorder, the sooner we treat sleeplessness the more quickly we shall be able to correct it, and, what is most important of all, sleeplessness quickly relieved leaves no terrors behind it as compared with prolonged insomnia. The physicians who are most likely to induce a drug habit are those who, having delayed giving an hypnotic, have permitted their patients to become terrified by the experience through which they have passed, with the result that they are reluctant to break away from the means which has afforded them relief.

CONCLUSION.

To sum up, the aim of psychological medicine is the same as that of other branches of medical science, to prevent disease. Next to this it is to seek to treat disorders in their earliest phases, and, in order to be able to do this, it is necessary to instruct the public so that they may observe early mental changes and ask advice regarding them, and what is perhaps even more important is to see that all medical students are instructed in mental disorders in a very different way from that which is at present carried out in most medical schools. In the past the teaching has been confined to advanced states of mental change and in consequence a very distorted view has been given to the subject and how it should be regarded. Finally, as to the methods that we should employ in the treatment of these disorders, let us beware of regarding side-tracks as main avenues, however attractive they may appear. On the other hand, we must not brush aside every new process without careful investigation, but extract such values as may be in it and assimilate them to those methods which have stood the test of research and clinical experience.

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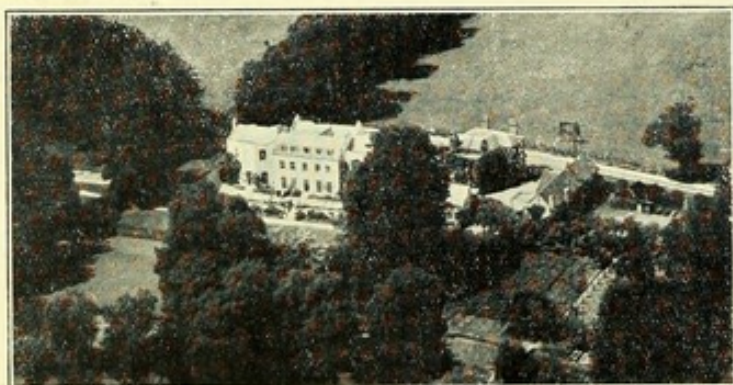
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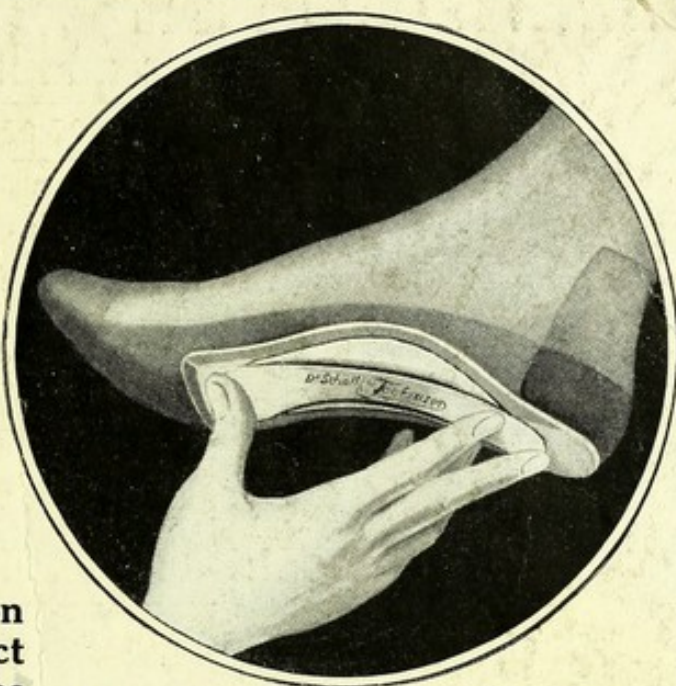
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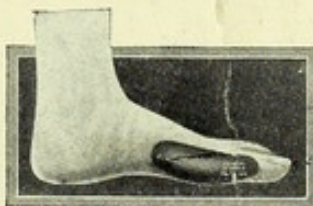
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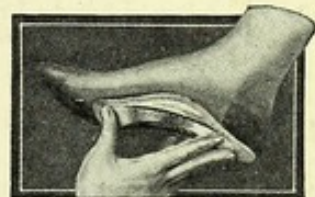
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