

CLINICAL REVIEW OF THE SYMPTOMATIC PSYCHOSES¹

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The symptomatic psychoses are those mental pathological pictures which are of "extranervous" origin. Infections and auto-intoxications are the etiological factors.

Since Abderhalden's test and Fauser's observations a number of authorities are inclined to assume that many functional psychoses are due to autointoxication as a result of the disfunction of endocrinous glands. This, however, needs further observation. The psychoses associated with myxedema, Graves's disease, Addison's disease and chronic tetany represent distinct clinical entities and do not belong to the symptomatic psychoses. From the group of the symptomatic psychoses should also be excluded those mental disturbances which are the result of intoxication with minerals, alkaloids, etc., as we see in alcoholism, pellagra, as well as those symptom-complexes which are secondary to a number of psychoses due to gross organic diseases, as, for instance, general paresis, cerebral arteriosclerosis, fracture of the skull, concussion of the brain, etc.

From the etiological standpoint the symptomatic psychoses could be divided into two large groups: *Exogenous* and *Endogenous*. To the first group belong the infection psychoses; to the second group belong the mental syndromes which are the result of the disturbed function of the viscera.

The study of the symptomatic psychoses becomes more and more important since their relation to internal medicine and their somatogenesis become more established. The clinical pictures of the symptomatic psychoses cannot be characterized briefly, as we know very little about them. They may be very similar to those of the

¹ Read by title before the seventy-fourth annual meeting of the American Medico-Psychological Association, June 4, 5, 6, 7, 1918.

idiopathic psychoses; for instance, epileptiform excitement due to a toxic state may not differ from a genuine epileptic twilight state. The physiological process taking place in the symptomatic psychoses due to an infection may not differ from that due to an autointoxication; in both it may result in the production of a "tertium quid" which brings about the autotoxic state. The disturbed metabolism once established, no matter if due to agents of exogenous or endogenous origin, produces at first mental disturbances because the selective affinity between the cells of the nervous system and the toxins is greater than that between the toxins and cells of other tissues. The neuropathic taint or presence of some mental diseases increases the intensity of fixation of those "tertium quids."

The Exogenous Group. *The Infection Psychoses.*—The infection psychoses are those mental disturbances which accompany the invasion and proliferation of different pathogenic organisms and are the result either of the effect produced immediately by the pathogenic invader or its toxins, or are the effects produced by the absorption of the destroyed elements of the pathologic tissue.

The clinical pictures of the infection psychoses represent great variations in the degree as well as in the form. Certain manifestations occur with special frequency, for instance, difficulty of comprehension, sense-falsifications, disturbances of orientation and perceptibility, marked emotional changes or apathy, restlessness or stuporous conditions. Kraepelin divides the mental pictures occurring in the infection psychoses into three chief groups: deliria, confusions and exhaustions. While Banhoeffer distinguishes deliria, epileptiform excitements, twilight states, hallucinoses and amentia pictures with the prevalent character either of a hallucinatory, catatonic, confused or maniacal conditions. Kraepelin's classification seems to be more adaptable.

How far and whether all these forms of the pathological pictures are in causal relation with the special forms of the primary illness is not definitely established. Some authors are inclined to believe that the different forms of the psychoses of the infectious diseases cannot be differentiated from each other, nor from other mental pictures, while Kraepelin believes that we will in time learn to recognize not only the particulars of the infection psychoses in general, but also those of the special forms which develop in the course of certain infections. He bases this assumption upon the idea, that the individual infectious disease has a different toxin working upon the cerebral cortex. This is shown in the ability of our nerve tissue to manifest excessive variations in the effects produced by chemical

influences. We also know that certain infections, as for instance, tetanus and diphtheria leave our psyche almost intact, producing on the other hand grave nervous disturbances; while others, as for instance, lyssa and typhoid, as a rule, produce more or less marked mental disturbances. In the delirium grave we also see a distinct syndrome which is due to an infection, although the character of the infection is unknown yet. This permits us to assume that the refinement of the diagnosis of the psychoses of different infections through sufficient observation is quite possible. The clinical picture, according to Kraepelin, will represent not a single manifestation but a certain composition of symptoms, certain relation of partial disturbances to each other and certain mode of development and outcome. In the diagnosis we will have to take into consideration the chief illness, the history of the origin of the mental disturbances, the possibility of a mixed infection, the condition of the kidney, heart, liver and blood, and finally the gross destruction of the cortex through obstruction of vessels, through hemorrhages or softenings.

A. THE DELIRIA.—The deliria from clinical standpoint are classified into different forms.

1. *The Fever-Deliria*.—The morbid pictures represented by the fever-deliria is by no means a uniform one. Kraepelin and Liebermeister distinguish several grades of mental disturbances which correspond to the periods of development of the pathological processes in the brain, disturbances which from the manifestations of irritation gradually lead to those of inhibition and complete abolition of the psyche.

The first grade is characterized through general malaise, feeling of strangulation in the head, sensitiveness for strong sensory impressions, irritability, apathy for mental work, mild restlessness and disturbed sleep with vivid frightful dreams.

In the second grade the disturbance of consciousness is deeper and the falsifications of perception rapidly increase the defects. The ideas assume a great vividness and depend in their course more and more upon the dreamy state, departing from the influence of consciousness. Disconnected imaginations are mixed with single real perceptions, which bring the patient for an instant to consciousness. Restlessness is growing, marked exhalation or depression takes place.

At this time the patient merges into the third grade of the delirium. Complete disorientation and deep cloudiness of consciousness set in; disconnected flight of ideas, strong and changeable outbursts of moods with raging motor overactivity develop. Fre-

quently at this period, transitory somnolence, exhaustion and uncertainty of motion is added.

In the fourth grade the excitement is reduced to carphology, the patient mutters single disconnected words or sentences, and finally sinks into a condition of continuous unconsciousness and coma.

How far the special forms of the fever processes influence or affect the form of the delirium is very little known yet. In variola, scarlet fever, erysipelas, sometimes also in articular rheumatism and pneumonia the rapidly developing confusional excitement predominates, while in typhoid the pathological picture is characterized through the delirious dazed condition and disorientation. A separate form of fever-deliria represent those occurring sometimes in articular rheumatism and scarlet fever with hyperpyretic temperature. In these cases after mild prodromata, restlessness, talking in sleep, mutism, there appears a rapid developing and extremely intense delirious excitement, which either continues until death or is transformed into deep unconsciousness.

The pathological bases of the fever-deliria are the effects produced by the infectious pathogenic toxins and the factors associated with fever. In favor of this conception is the fact that the delirious disturbances are by no means strictly dependent upon the height of the body-temperature. We see it in typhoid, for instance, where the mental disturbances are more pronounced toward the period of convalescence at a temperature between 98° and 102° and where delirium of different intensity occurs at a similar temperature; in typhoid, smallpox and erysipelas facialis the delirium is very pronounced, while in tuberculosis it is very slight. Children, women and nervous persons are easily inclined to delirium even at the slight elevation of temperature. The prognosis of these disturbances, according to Kraepelin, is very serious, and the mortality taking in consideration only the cases with marked delirium is 39 per cent.; while the mortality in the cases of delirium with hyperpyretic temperature is 80 per cent. The duration of the psychoses in most cases is over a week. The disturbances as a rule subside with the decrease of the fever; the patient becomes again organized and clear; the morbid ideas, however, remain for a certain time manifest; the patients are easily fatigued and have difficulty of comprehension, remain sensitive and irritable. In some cases the fever-delirium assumes the form or is transformed into an infection psychical disturbance, so that the common origin becomes evident.

2. *The Infection-Deliria*.—The infection-deliria comprise those forms which accompany infectious diseases and are marked through

the feverless course. This delirium shows through its intensity and peculiar mental disturbances the independence of the psychosis from the degree of the temperature. While in fever-deliria the pathological overheating of the nerve-tissue plays a serious part, here the effects of the toxins of the infections play the chief part. We ought therefore to expect that the peculiarity of the underlying process will show itself markedly in the infection psychoses.

The psychosis begins with prodromata, discomfort accompanied by a certain excitement which lasts until the active period of the disease takes place; fatigue, depression and "spasmodic elations," irritability and internal restlessness characterize the further course. In very difficult cases marked cloudiness of consciousness comes to the surface and finally the so-called *initial-delirium* develops. The initial-delirium was frequently observed in typhoid and less frequent in smallpox. Aschaffenburg distinguishes two forms of initial-delirium. In the first we deal with a quiet delirium, pronounced delusions and sense-falsifications. The patients believe to be poisoned, persecuted, condemned, forsaken, have auditory hallucinations, see threatening creatures, fire, etc. Sometimes they relate in detail their imaginary adventurous experiences, having at the same time a marked apprehension or depression. The second form can develop itself from the first and is characterized through maniacal features, which at the beginning can be very mild. The excitement grows rapidly to complete confusion; flight of ideas, sense-falsifications, disconnected delusional ideas, intense fear with senseless or purposeless motor-overactivity; the temperature may show a slight elevation and the pulse be accelerated. The desire for food or sleep vanishes almost completely, the general condition gives the impression of a grave illness.

The initial-delirium is especially intense at the beginning of smallpox. The patients are very cloudy, confused and inclined to violence or suicide; the condition may resemble the twilight state of an epileptic. Sometimes convulsions still complete the resemblance of the picture. The mental disturbance usually begins on the third or fourth day of the disease and subsides only a few days after the eruption takes place, or it continues until suppuration sets in. Some cases remain incurable with a weakened mental condition. The course of the initial-delirium represents sometimes lucid periods during which the patient remains in a stupid, cloudy state, not realizing in what condition he is in. Usually the disturbance lasts a few days only. With the onset of the highest temperature the delirium may disappear or be transformed into fever-delirium. In

every case the possibility of a fatal outcome is very great. According to Kraepelin only 40 or 50 per cent. of the cases survive or recover. The recognition of the initial-delirium represents considerable difficulties. They are mistaken for epileptic confused states, however, the course of the disease, the grave physical condition and the flight of ideas which does not occur in epilepsy will clear up the diagnosis.

The initial-delirium in typhoid is characterized through cloudiness and difficulty of orientation in the presence of a mild maniacal condition or excitement. It may remind of a general parietic, but the age and the absence of the physical symptoms will exclude general paresis. The presence of cloudiness and absence of negativismus and stereotypy would differentiate it from catatonia. The initial-deliria of typhoid and smallpox resemble to a high degree the rare forms of intermittent delirium. Here an intense, fearful excitement with deep cloudiness and regardless violence takes place. The onset is sudden, lasts a few hours and follows by a sound sleep after which there is a more or less complete inability to recall the occurrence. The delirium is sometimes accompanied by convulsions, so that it resembles an epileptic twilight state. It occurs in the tertian or quotidian and seldom in the quartan fever. This delirium is sometimes preceded by mild disturbances and is either a concomitant manifestation of the fever-period of the malarial attack, or it takes the place of the fever so that it represents the feverless course of the malaria larvata. The attacks of larvata form of the intermittent delirium are sometimes followed or preceded by a shorter or longer period of an usual attack of malaria. The cause of this disturbance is evidently the invasion of the brain vessels by malarial plasmodii. Quinine usually brings an immediate relief.

Influenza is often followed by deep disturbances of consciousness, confusion, fearful excitement and numerous sense-falsifications in the presence of a low temperature. Sometimes this condition is accompanied by paralysis of speech and deglutition, and by other paralytic manifestations. It lasts usually one week. The influenza bacillus or their products invade the brain and produce sometimes encephalitis or a brain abscess.

Pulmonar tuberculosis is seldom accompanied by delirium. A few cases were recorded where a mild confusion with auditory and visual sense-falsifications, self-accusatory ideas and changes between apathy and apprehension were observed. The delirium disappears in spite of the progress of the physical process. Sometimes such symptoms precede the development of tubercular meningitis.

In lyssa there occur deliria with extensive reflex-spasms which are interrupted by lucid intervals and continue until the fatal collapse ends life.

In septic processes there develops usually a pronounced cloudiness of consciousness with muttering delirium. The patients are unconscious or indifferent with difficulty of comprehension; they do not recognize the people or the surroundings, they whisper something disconnected, attempt to grasp something in the air or push themselves purposelessly. This condition is intervened sometimes by an attack of acute excitement. The picture is finally modified by the added gross brain effects as the result of an embolus or metastasis as for instance, aphasia, perseveration, palsies and convulsions.

A separate group is represented in the deliria which occur in chorea. We deal here with fantastic confusions, cloudiness, peculiar disconnected thinking, singular falsifications of perception and a tendency to form delusions. There are also characteristic choreic movements and emotional irritability present. While the patient comprehends singular impressions, he is very unattentive, distracted, forgetful, easily diverted and disoriented, unable to express himself coherently. He utters uniform, fragmentary sentences in which he incorporates real accidental impressions or perceptions. Single transitory sense-falsifications, mistakes in identities of people, fear of death, of being burned or poisoned and self-accusatory ideas become manifest. The ideas of persecution are indistinct and are neither fixed nor systematized. Emotionally the patients are now apprehensive, angry, irritable, frightened and then again silly, raging or threatening to commit suicide. Periods of moroseness with indifference take the place of the outbursts of rage. The picture is dominated by very intense choreic movements which continue day and night with only short remissions; the patients gasp for breath, utter loud sounds, throw things about the room, become violent and untidy; the speech is indistinct through the extra movements, gait or standing is difficult or impossible, the pupils are dilated, pulse is soft and slow. There is insomnia and the taking of food is very inhibited. The excitement remains at its height only a few days or weeks and gradually subsides. In favorable cases orientation and clearness reappear, the bodyweight increases rapidly and the sense-falsifications and delusions disappear. The patient, however, remains susceptible to fatigue and emotional changes for a long time; for a while the movements remain difficult and uncertain. Death occurs in about 9 per cent of the cases. In the chorea gravidarum

the recovery requires several months and the mortality is higher. The represented picture concerns the acute Sydenham's chorea.

Another group of severe deliria which is undoubtedly of infectious character is delirium grave. The mental picture sometimes follows a mild physical illness, tonsilitis, catarrhal condition of the intestines, obstinate constipation, etc., or it develops in the course of another mild psychic disturbance, which suddenly assumes a serious turn. The patient becomes sleepless, confused, cloudy, unable to be held on a subject; sees devils, angels, snakes, and threatening images; he hears voices, and expresses disconnected ideas of persecution, or expansive ideas. He is either apprehensive or elated, irritable, violent, praying or talking, able to utter only disconnected words or syllables. Simultaneously the patient develops an unusually intense, impulsive and frequently uniform excitement, continuously pounding or throwing himself around, struggling, screaming, blowing or clapping. These movements finally assume the character of simple cortex irritation, with twitching, grimacing, chewing movements and rolling of the eyes. The patients spit out the food which is given to them, become untidy and perish very soon. In several cases seen by the author there was distinct albuminuria with the presence of blood cells and granular casts in the urine, rapid emaciation and irregular temperature rising before death up to 104° – 106° . There was a pronounced mixture of profanity and religious thoughts, olfactory sense-falsifications, somatic ideas and premonitions of death; there occurred lucid intervals during which the patient was mute and clear; those periods usually lasted a few hours only. All cases seen by the author occurred in slightly neurotic individuals, mostly men and strictly temperate. To this morbid picture there were added in some cases extravasations, fat emboli, pneumonia, grave catarrh of the mouth and nose with offensive coating and scab formation; occasionally parotitis, retention of the urine and feces, complete picture. The patients perish during the first or second week. The established absolute atony of the intestinal tract, sometimes even on the third day of the active period of the disease, marks usually the gravity of the disease; the exitus letalis in such cases is certain. Delirium grave should be distinguished from general paresis by the absence of palsies: disturbance of speech, inactive pupils, etc., as well as through the absence of complement deviation in the blood or spinal fluid. In delirium grave one finds in the blood or spinal fluid staphylococci, streptococci or bacteria coli.

The catatonic is distinguished through preserved consciousness.

declining, negativismus, pronounced sterotypy, impulsive tendency to singular and senseless actions, and finally the inadequacy between the tolerable ability for perceptions and the senselessness of expression during speech.

In collapse-delirium the cloudiness of consciousness is milder, the motor impulses are less stormy, while the sense-falsifications and delusional ideas are more pronounced; the signs of declining and flight of ideas in the speech are quite noticeable.

3. *Post-Infection Psychoses*.—The post-infection psychoses represent another group of deliria which are the result of the after effects of injuries of the cerebrum at the climax of the infectious disease. In the previous group the deliria last only as long as the toxin circulates in the body, in this group it continues after the other symptoms disappear. Single delusions, which originated during the delirium are retained in the form of "residual delusions" even after orientation and consciousness have returned. The patients relate different adventurous experiences with absolute conviction about their reality. They have different somatic ideas. Kraepelin's patients believed that their skulls were open, the nose was bitten up by a horse and again replaced, or that a friend was in possession of his nose for twenty-four hours, or that he brought, from his house, young lions to sell. These delusions are adjusted usually in the course of a few days or weeks and are identical with those which occur in delirium tremens and epileptic twilight state.

The form of the primary morbid process evidently plays a serious part, and the duration of the symptoms depend on the gravity of the effect on the nerve tissue. Such residual delusions with delirium of a post infectious origin occur most frequently in typhoid. Here also we see single sense-falsifications of hearing, sight and smell, the patient sees bodies of his relatives, hears alarms, perceps terrible stench or "feels a bullet in his head." This general feeling continues to remain after consciousness returns.

A similar mental picture represents an infection delirium which develops sometimes between the eruption-fever and suppuration-fever of smallpox. We deal here with suddenly appearing distinct falsifications of hearing and sight while no confusion or disorientation is present. The patients see people entering the room, pigeons and flowers flying in the air, they hear music, accusations or threats—a condition reminding us of an alcoholic or cocaine intoxication.

The fact that certain psychic disturbances set in after the eruption fever goes down, compels Kraepelin to assume that there is another group of deliria which begin simultaneously with the fall

of the temperature or follow the latter. He denotes this group as collapse-deliria. Here we deal with extremely stern confusions, phantastic sense-falsifications, flight of ideas, change of moods and vivid motor excitement. The onset is sudden. Sometimes insomnia and mild restlessness precede it for a short time. The patient rapidly loses orientation, the surroundings appear unsafe to him, consciousness becomes cloudy, illusions or hallucinations of grandiose character appear. The patients see crowds or faces, angels flying in their rooms; hear the poor sinner's bell sounded; believe themselves in a fabulous position in life, present at the world's destruction or their own funeral. Thoughts and speech are incoherent, flight of ideas develop and senseless alteration of verses and rhymes in talking or singing become manifest. Such mental pictures were observed after pneumonia. Regularly there are present disconnected changeable delusions, the emotional state is mostly elated and erratic; however, mild, transitory, fearful or angry outbursts may take place. Frequently we meet with an unreasonable, planless resistance. The sleep during the climax is completely abolished, or there is only a short, suddenly interrupted slumber. The patient pushes away everything, spits out the food, or swallows it ravenously. The nutrition is poor, the skin is pale and cold. The body weight sinks rapidly, the pulse is small and frequently very slow. The reflexes are exaggerated and a pronounced tremor is present. The duration of the collapse-delirium is only several days, sometimes only hours, seldom more than one or two weeks. Orientation almost always reappears suddenly after a long sleep. Suddenly they begin to realize that they are sick and accept food voluntarily. Some cases clear up for a short time in order to merge again into a confusion. The recollection about the past psychosis is a cloudy one, the patients are seldom able to relate the single delirious experiences.

The excitement is replaced by the need of restfulness. The body rapidly increases in weight. The outcome of the collapse-delirium is as a rule a favorable one, when we succeed in preserving the patient's life. The danger of physical collapse is very eminent, especially when the fundamental illness leads to injuries or complications. On the other hand in the rapid developed, apparently discouraging cases, we are surprised by the sudden favorable change.

The collapse-delirium is by no means a uniform disease. It develops apparently as the result of sudden changes in the whole condition of the infectious disease, and is observed mostly in pneumonia, erysipelas facialis and la grippe, less frequently in articular

rheumatism and scarlet fever. It must, however, be noticed that after erysipelas the numerous sense-falsifications and the delusional formations dominate the picture, while in pneumonia unconsciousness, flight of ideas and an extreme confusion prevail.

Previously the physical exhaustion, which is produced through the infectious disease, was considered as the cause of such exhaustion, hence the name—infection exhaustive psychoses. The fact that puerperium, hemorrhages, insufficient nutrition, emotional disturbances do not produce similar pictures made Kraepelin depart gradually from this point of view. He found that the most cases which he previously considered as collapse-delirium were conditions of other diseases, namely, circular or catatonic excitements. He found that collapse-delirium, as an idiopathic disease, does not occur very often and only those which follow the infectious diseases should be so nominated; moreover, he seldom met a similar mental picture as the result of a grave exhaustion which followed phthisis or carcinoma; on the other hand he has seen collapse-delirium not being associated with marked exhaustion, because it occurred in illnesses of short duration without serious disturbances of nutrition. Furthermore, the sudden onset and rapid course of the delirium would be incompatible with the idea that such a rapid and grave exhaustion could form and then vanish. Finally it was observed that the onset of the delirium was strictly coincident with the decline of the temperature, so that a certain relation between both processes could hardly be questioned. It must be assumed that with the critical end of an infection there take place certain changes in our body which also affect the nerve tissue. The absorption of the pathological products can also play a part in the production of this mental state, and it is therefore not without significance that collapse-delirium was frequently observed in articular rheumatism immediately after the decline of the swelling of the joints.

The collapse-deliria are distinguished from the fever-deliria through the following: the patients are disoriented, consciousness is less cloudy, the sense-falsifications and the delusional formations as well as the flight of ideas and pressure of speech are more marked.

It is difficult to distinguish from manic depressive insanity. The previous history, the signs of an infection, the sudden development of an intense confusion with numerous vivid sense-falsifications will distinguish it from manic depressive conditions, and instead of the overemotional happiness of the manic depressive, the emotional condition in the collapse-delirium is of a more anxious color. The

course is more stormy and shorter. The catatonic excitements are distinguished through better orientation, unnoticeable oscillations of the emotions, peculiar disturbances of will, impulsive and uniform motor pressure. The epileptic twilight states are distinguished from the collapse-delirium through more cloudiness, less sense-falsifications and less delusional formations. The past history will be the deciding factor.

B. ACUTE CONFUSION (AMENTIA).—Under this name Meinert described a morbid picture which is characterized through more or less pronounced cloudiness of consciousness with various symptoms of irritation of the sensory or motor region. Similar pictures were observed in infectious diseases. There develop acute hallucinatory falsifications of perception and motor restlessness. In favorable cases it leads to recovery in not less than one or two months. Clinically it is related to collapse-delirium which, however, is more stormy.

The disease begins with insomnia, internal unrest, anxiety, excitement, forgetfulness, and premonition of death. Patient cannot collect thoughts and complains of confusion in head. The consummation of external impressions becomes more and more disturbed; he is unable to connect singular impressions with each other or with the past experiences. However, he is attentive and makes efforts to notice the occurrences around him, but, at the same time is not able to make systematic observations. Frequently sense-falsifications develop. The emotional condition represents a crying, irritable anxiety with discomfort and suspicions, seldom stupor; at times there is present an internal tense condition with outbursts of rage. The patients are restless, attempt suicide, undress themselves constantly, hide under the bed, are crying or singing, talking, resisting and utter confused imprecations; their actions are slow and persistent, or planless and disconnected. The excitement takes place at intervals, while between these excited states the patients remain quiet or are stuporous with pronounced orderautomaty.

Besides these depressed cases of acute confusion there occurs, almost exclusively after typhoid, another type of acute confusion which is accompanied by flight of ideas and adventurous ideas of grandeur. The patients are easily set to crying and have no insight. The reflexes are exaggerated, pulse retarded, temperature subnormal, and frequent untidiness becomes manifest. The acme of the disease is reached in the first week. The stormy manifestations gradually subside; the patients become, for a while, connected in speech and thought, in order to merge again into cloudiness and

restlessness. Not infrequently, even at the beginning of the disease, there occur lucid periods for several hours or days. The recovery usually takes place gradually and, as a rule, the patients are quiet for a long time before they are in a condition to collect their thoughts or to understand the events. They usually show fatigue when they converse or write. Exitus letalis is rare. Heart failure, phthisis, sepsis and the possibility of suicide make the prognosis grave.

The amentia conditions develop most frequently in infectious diseases which do not develop stormy, namely, after typhoid, articular rheumatism, smallpox and cholera. The picture is not a uniform one. The chief manifestations, as for instance, difficulty of comprehension and thinking, the sense-falsifications and motor excitement can be of various degrees. However, the disturbances of associations, and perplexity with quiet depression or mild stupor is more pathognomonic for the confusion following articular rheumatism, while simple sense-falsifications with preserved orientation and mild confusion is characteristic for phthisis. More pronounced excitements with hallucinations, delusions and change of moods are more prominent after typhoid.

The clinical picture can represent many similarities with certain phases of manic depressive insanity. It is important to note that in manic depressive insanity we do not see a real confusion. The patient with confusion derails easily and becomes disconnected because of impediment of volition, while the depressed manic depressive has simple difficulty in thinking and perceptibility. Vivid sense-falsifications occur more frequently in amentia than in manic depressive insanity. The emotional state can be utilized for the diagnosis. Instead of dejection or anxiety in manic depressive we meet in amentia with a crying, angry mood, and instead of the tricky, extravagant or wild happiness of the manic depressive we find in amentia childish and senseless elation. Furthermore, the disproportion between the gravity of the disturbance of the perceptibility and attention, in spite of the mild excitement, the cloudiness and fatigue, the want of mental vivacity, the silly euphory and the tractability without energy points to amentia. The vivid expansive ideas and agitation of the acute confusion could be mistaken for that of a paretic. The appearance of command-automatism, the occasional senseless resistiveness and also the obscure unintelligible conduct of the amentia patient would remind of a catatonic condition. The distinction is based upon the continuous perplexity and confusion in spite of the preserved attention in amentia.

C. THE INFECTION EXHAUSTIVE CONDITIONS.—Under the infection exhaustive conditions we class those psychical disturbances after the infectious diseases whose essential characteristics represent an exhaustion of mental activities. While in deliria and confusions we deal with more or less pronounced manifestations of cerebral irritation, here we meet chiefly or exclusively with psychical paralysis, which is either transitory or permanent. These conditions are more an expression of changes of subacute character which sometimes gradually assume a normal state. The psychical changes, therefore, either follow immediately the manifestations of irritation at the climax of the infection, or they develop later in the period of reconvalescence even without being preceded by the delirious disturbances.

The mildest forms follow the mental and physical debility which usually take place after a difficult infectious disease. The patients do not feel free and easy after fever; they do not recover rapidly, are easily fatigued, unable to think, to read, write, or to form conclusions; they are indifferent, lie inactively in bed, and are unable to sit up without assistance. The orientation and consciousness, as well as the comprehensibility, is preserved; however, vivid hallucinations appear as soon as we close the light. There appear sometimes peculiar sensations in the body which are considered grave symptoms. The patients are emotionally dejected, frequently morose, irritable or capricious, with sudden attacks of anxiety which occur especially at night; gloomy premonitions arise: thoughts of approaching death, suspicions and fear of being poisoned. Self-accusatory ideas and attempts of suicide are not infrequent. Patients are word-stingy, very reserved, stuporous, express very few of their ideas, and only during reconvalescence retail about the past delusions. They eat very sparingly.

The mildest forms occur after la grippe and articular rheumatism, in children after pertussis, tuberculosis and chorea. The duration is usually several weeks or months. The condition reminds largely of a nervous exhaustion, yet it is a grave one and does not yield to bed rest. In a number of cases the process progresses to complete abolition of psyche. The emotional condition is one of indifference or lacrimosity; the patients become inaccessible, declining, showing at times outburst of rage and profanity, there is sometimes a transitory laugh or elation. The patients are mostly quiet and mute, or restless and childishly playful. There is command-automat, but also resistance when pricked with a needle. The speech-expressions are usually disconnected and difficult to under-

stand. The sleep, as a rule, is very disturbed; emaciation is extreme; often unilateral palsies develop, defects of speech and sometimes epileptiform convulsions.

The duration even in favorable cases can be extended for several months. Under the marked gain in weight the patient becomes more active, clearer and more accessible; he starts to care for himself, to show interest in the environment, to occupy himself, although the fatigue continues for a long time. Forgetfulness, irritability and change of moods also continue until complete recovery takes place. Sometimes the body-weight increases but without simultaneous psychical improvement, and a permanent deterioration takes place. These cases represent dementia of a very severe degree and occur mostly after typhoid, articular rheumatism, erysipelas, tubercular peritonitis, smallpox, cholera and malaria.

The diagnosis is based upon the history and the course of the disease. During the period of affectivity it would remind us of a manic depressive condition, from which it will be distinguished by the defects and the debility in the domain of emotions. From the catatonic it is distinguished by the absence of negativismus.

The Endogenous Group.—The endogenous group of the symptomatic psychoses represents chiefly autointoxications as the result of the disturbed function of the viscera. Primarily the cause of these psychoses may be of exogenous or bacterial origin, so that the symptoms of this group may be obscured by toxic manifestations of a different origin.

The chief characteristic of this group is, that the mental disturbances subside simultaneously with the improvement of the function of the affected viscera or follow the elimination of those toxins which produced the autointoxication.

The symptomatic psychoses of cardiac type represent two forms of mental disturbances: *confusions* and a distinct symptom-complex which the author denominates as *neurasthenia cardialis*.

There are other mental and nervous phenomena which occur in disturbed and broken cardiac compensation, as for instance, reflected pain in the arms and chin and fear of impending death with peculiar restlessness; coma with epileptiform convulsions occurs in heart-block. It is not, however, in the domain of this paper to discuss all these phenomena.

A. Confusions.—I have observed confusions of cardiac type in acute disturbances of compensation, in acute heart dilatation or in cases of marked degeneration of the heart muscle. The symptoms are very pronounced and usually last several days without remis-

sion. The patients are completely disoriented for time and place, at times also for person. There are usually no distinct sense-falsifications. The patients are restless, aggressive and have no insight; they are emotionally slightly elated, want to go somewhere to transact business or to see their friends. The sleep is disturbed. The patients clear up as soon as the compensation improves, they regain insight, become despondent and are likely to express ideas of *tedium vitæ* or attempt suicide. The conduct becomes normal as soon as the compensation is sufficiently reestablished. The content of ideas from the period of confusion could be carried over into the awakened state when the physical disturbances become more massive.

B. Neurasthenia Cardialis.—*Nervasthenia cardialis* represents mental disturbances of a more chronic type than the confusions. The cardiac disturbances may not show any apparent or acute symptoms of decompensation. The condition of the heart may be termed as susceptible to exertions, due usually to poor nutrition of the heart muscle or to a toxic state of the organism. The author has seen these forms of mental disturbances in cases of fat degeneration of the heart, in individuals who went through several attacks of *erysipelas facialis*, in septic processes and in children five or six years of age whose history was crowded with different virulent contagious diseases. In all these cases we may not find any valvular involvement. The patients are oriented in every respect; the adults are introspective, despondent, sleep is disturbed and terrifying dreams take place. Fear and premonition of death with slight precordial distress are sometimes the chief symptoms. The patients are afraid to be left alone for fear of death, they cannot think, don't care for food or believe themselves dead and sometimes attempt suicide. The children are overemotional, crying or laughing easily, are restless and usually undernourished in spite of apparent normal color and normal intelligence. Marked improvement takes place after rest is instituted and digitalis or arsenic is administered.

The mental disturbances of renal type represent, besides those usual manifestations, as for instance, coma, epileptiform convulsions and melancholic conditions, also certain fear conditions of an acute character. The patients are terrified by illusions or hallucinations of sight and illusions of hearing; the orientation is preserved almost in all fields. The patients are afraid that they are going to be robbed and that their money will be taken or that their children are going to be executed; they are afraid that something is going to happen to them and attempt suicide at every opportunity. They

take food with difficulty and nutrition suffers markedly. The patients do not express any distinct delusions and usually recover in the course of two or three weeks. These cases occur in those kidney disturbances where the specific gravity of the urine is not fixed and where the patients respond to eliminative treatment.

The patients with psychoses of diabetic type were moderately depressed with slight changes of moods. Orientation and memory was good, speech connected. They complained of having dreams or visions, that they "were tempted by the devil to commit suicide," manifested evidences of auditory hallucinations and expressed ideas of persecution. The mental attitude is that of a mild paranoic with unsystematized ideas. The patients sometimes worry about different matters and are inclined to depreciate themselves. Marked enlargement of the ego was never present. Insight into their condition returns when the patients improve.

The psychoses of hepatic type showed impaired orientation for time, place and person. Lack of insight, failure of attention with impaired sensibilities is usually marked. The memory field shows some changes with a tendency to fabrications. Hallucinations or delusions were not present.