THE PSYCHOSIS OF ADOLESCENCE.

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In the beginning of my practice in affections of the mind, the occasional appearance of a young man or young woman was not considered as presenting unusual problems. Difference of age was not assumed to be a fundamental factor in determining the symptoms, treatment or management of disease, and routine observation as then conducted revealed only the manifest evidences of disturbed mental function and was not concerned with interpretation or analysis. As time passed on and experience increased, certain peculiar symptoms, as katatonia, apraxia and the like, were observed which appeared to be limited to adolescent cases. These were then looked upon as curiosities, and later were found worthy of close study. They led to contemplation of the normal attributes of youth and brought to view characteristics not found at any other period of life. The sudden awakening of feelings and passions, redundant energy, rapid mental processes, scintillating wit, as in plays upon words and phrases and unique association of ideas; hopefulness and enthusiasm, vigorous and retentive memory, hasty decision, persistence to the point of obstinacy, scorn of obstacles, represents the attitude toward a world opening to the expanding vision as new and strange, and reveals a crisis in growth the significance of which is not to be underestimated. It is evident that the evolution of inherent traits determines the departure toward good or evil, and examples of mental destruction apparently originating at this time, though really representing defect of development, are not wanting. But this is an occasional occurrence and is not always so. Appalling would be the outlook upon life if all cases of mental disorder in adolescence bore upon them the stamp of incurability, and yet the modern conception favors this belief. Superabundance of nervous and mental activity may be assumed to carry in itself possibility of dis-
turbance, but implies as well power of recuperation. With the purpose of ascertaining how far this is true, and what significance, if any, may be attached to the symptoms, this investigation of the hospital records of patients between fifteen and twenty-five years of age has been undertaken. The limits of age are somewhat arbitrary, for, as Dr. Chapin tersely remarks: "Some persons are in an adolescent state when others have passed out of it—adolescent all their lives."

The symptoms characteristic of mental disease at this time of life are manifested in orderly sequence in the following extraordinary case, which gives an unusual opportunity for analysis.

Case 380 was that of a young man, aged twenty-five, native of New York, who had had considerable responsibility as foreman of a large gang of two hundred workmen. His family record and antecedent personal history were without blemish. In the autumn of 1903 he said that others were jealous of him and had charged him with misappropriating money; that he was being watched. During the winter he was obliged to begin work at an early hour and lost sleep. In April, 1904, he became restless and apprehensive, and during the week from April 20th to 26th, went from place to place to escape detectives and policemen. During the night of the 25th he slept on the grounds of a suburban residence some fifteen miles from his home, to escape arrest. He was found, slept at home during the day, and bruised his hand by forcing it through a window after he awoke. The night was restless, with frenzied outbreaks, in which he attempted to force his way through windows, and destroyed his bed-frame. On the following day he succeeded in breaking through the window and had the appearance of extreme terror of every one who approached. He then lay quietly, and was hesitating and evasive in replies to questions. He counted his fingers wrongly with each eye separately, and with both. He said he saw a black object on the wall (the flue face) but did not know what it was; a glass in the ceiling (the electric light) but could not name it; that he did not recognize his sister, but she must be his sister, because she said she was, although she did not look like his sister. He often required repetition of a question, delaying his answer, as if from suspicion, said he remembered nothing of what had happened, and when alone with his sister, asked what was the meaning of it all, and what was to be done to him. Three days later he was quiet, but unreasonable and obstinate, and resisted all care, saying he was innocent, and asking to be taken to the chair that was ready for him. He was strong and vigorous for several days, and then became suddenly exhausted and emaciated quickly. On May 4th it became necessary to feed him by nasal tube and saline infusions were given. He responded. On May 12th he lost control of the lower extremities, which were limp and flaccid, without atrophy, and with increased knee-jerks but no ankle clonus, and without disturbance of electrical excitability. These limbs appeared entirely anaesthetic and analgesic, and there was loss of control of the sphincters.
The upper limbs were not affected, except that he appeared indifferent to painful impressions upon them as well as upon the trunk, face and head. During the last week in May he was stolid and unresponsive, only occasionally answering questions. For several days he shouted repeatedly, "Put him out!" looking fixedly at what he said was a man walking around his bed. He again refused food and was fed with tube. He recovered from the paraplegia. On the morning of May 27th he began to strike the bed with his fists, rhythmically following one with the other. He watched others intently, and, if opportunity presented, made some sudden and impulsive effort, as attempting to strangle himself with the sheet. During the first two weeks in June he carried on a series of energetic automatic movements, consisting of rotation of the head from one side to the other, and striking the bed with his fists alternately, the movements of head and limbs accompanying one another rhythmically. The paraplegia returned, and on the morning of June 15th he was in a state of fixed cataleptic rigidity. This continued, but after a time was associated with the peculiar automatic movements somewhat modified. He did not strike the bed, but with the forearm partially flexed, carried the limb to and fro across the chest, in a sort of weaving manner, rotating the head as described at the same time. This state of catalepsy and automatism continued during his waking hours for about one year, when the automatism gradually grew less and ceased in May, 1905. He did not speak from May 23, 1904, to May, 1912. On June 22, 1904, he opened his eyes when approached, and signified his wants by motions. The tube feeding was continued until Thanksgiving Day, 1905, and he was spoon-fed from then until Thanksgiving Day, 1910, when he began to accept solid food, and there was relaxation of the rigidity. He then began to walk with assistance, but was prostrated by an acute febrile attack, lasting for two weeks, in which he vomited and fainted several times. It was necessary to return temporarily to liquid food. In May, 1911, he was properly clothed, and gave attention, for the first, to the care of his person. He sat at table with the family. The ability to walk returned suddenly. He indicated his wants by pointing to letters of the alphabet in newspapers and thus spelling out words for others. In June, 1911, he was given an automobile ride, and viewed places and buildings in Albany and Schenectady which had been constructed during his illness and which he had indicated his wish to see. He inspected critically an electric light installation in the house next his own. He shingled the roof of his house, writing his name on every shingle, trimmed the apple trees, and walked unattended about the village. In the early summer of 1911, he journeyed to Albany, unattended, had his hair trimmed and bought two collars. Afterward he made frequent trips to Albany, walked a great deal and made purchases, but never spoke. He met acquaintances who asked questions, and when he failed to reply, said "I didn't know you could not talk. What ails you?" He described this afterward. From June 1, 1905, throughout his sickness, he read newspapers, magazines and books, though at the earlier period members of the family turned the pages. On his recovery, in 1912, he told correctly all of the information he had read,
and all that had been mentioned in his hearing during these seven years, even to dates. He was interested in automobiles, and an automobile was purchased for him. In May, 1912, he was viewing a neighbor's car in a garage. Two men were present. He was making signs with his fingers as was his custom, and it was noticed that his lips were moving as if to form words, but there was no speech. He walked home, entered the dining-room, and said to his sister, plainly and distinctly, and without emphasis or other change from his normal voice: "I think Dr. —— likes our automobile better than he does his own." He then discussed its tank capacity and dimensions of the tires, and remarked that his watch had not been cleaned in twelve years.

He has since been normal in every respect. His weight, when the sickness began was 135; in 1914 it is 175 pounds. His cheeks are ruddy, and his actions and movements are alert and vigorous. There is no indication of the prolonged attack, which he never mentions, though from time to time he speaks of incidents which attracted his attention and comments upon them intelligently.

A resumé of this case shows a young man of unblemished family and personal history whose sickness was ascribed to the demands of too great business responsibility. The attack began with a prodromal stage of anxiety, which developed into suspicion and finally into apprehension. The outbreak was sudden and was manifested as a state of intense fear, with efforts at self-protection developed to a point of unreasoning desperation. The mental energy was at this time concentrated upon the fear, to the exclusion of any exercise of judgment or reason. As the agitation subsided, suspicion was still revealed by evasion and denial, until finally the patient ceased speaking and continued silent for eight years. Coincidently with this cessation of speech were diminution of motor activity, and two short periods of paralysis of cerebral origin, associated with transient hallucinations, and loss of general sensation. The motor disturbance lost its voluntary character, changing to rhythmical, automatic movements of the head and upper extremities, which gradually grew less and ceased at the end of a year. They were accompanied by cataleptic rigidity, which continued for six years. For one year he was fed mechanically by tube without offering resistance, and for five years longer he was fed by spoon. The steps of restoration were shown in resumption of one function after another, until the last one, speech, returned, in a peculiar and significant manner. The mimicry of speech by movements of the muscles concerned revealed the first attempt, followed shortly after by natural and
successful accomplishment. This completed the restoration to health. Throughout this long attack of eight years there was full ability to receive mental impressions and to retain them: memory was perfect. In contrast with this was the inability to convert these impressions into logical action, and to inhibit or overcome involuntary movements, which became rhythmical and automatic as they represented the uncontrolled function of lower cerebral structures.

The inferences to be drawn from this series of events are, first, that the mind was overwhelmed by an imperative idea or fear, the ascendancy of which was gained during the abeyance of the highest of all mental functions, that of deliberate judgment; and, second, that further suspension of cortical function resulted in absence or perversion of motor energy. The receptive power of the brain was retained, as shown by the preservation of memory; the ability to form judgments and to execute, was absent.

Few of the functions of the brain are simple and direct, and its activities are not only manifested in the operations of organic life, but involve the higher realm of the mind, in which resides all that is peculiar and personal in character, by which the individual is distinguished from every one else.

The mind at adolescence is at the stage of evolution in which sensory and motor functions are most energetic and only slightly under the inhibitory influence of reason. Adolescence is a clearly defined epoch of life with characteristics entirely its own. The transient period between childhood and maturity, it is the real beginning of independent existence. The youth passes from the supervision of parents and the traditions of the family to engage in the struggle which will establish his position in society and determine the success or failure of his life. Accustomed to guidance and protection, and reliance upon others, his processes of thought have been laid in certain lines. He is to prove the correctness or falsity of his training and to make the supreme test of his capacity and traits. He learns, for the first, of other ideals and other characteristics than have been familiar, and a new and broadening horizon opens before his vision. He discovers different aims and purposes, and ambition is aroused by the prospect of unsuspected rewards. An overwhelming multitude of opportunities beckons, and he responds with confidence and assurance which are at once the fascination of
romance and the riddle of the epic of human endeavor. The possibilities of achievement appear boundless and the spirit to meet them is undaunted.

The physiological state of the brain at adolescence is essentially that of receptivity. It is still undeveloped, capable of registering and retaining new impressions, to remain permanently as memories. These acquisitions accumulate rapidly for future adjustment, and can only be assimilated by use and the added experience of later years. Physical conditions contribute to this evolution. Bodily growth and organic function are in excess, to meet the extraordinary demands upon vitality and to promote prompt recuperation. The age is one of spontaneous, vigorous and heedless action. Buoyancy, exuberance of feeling, extravagance of thought, impulsiveness and disregard of consequences are its mental attributes. There still lacks the culmination of the development of the mind, the faculty of discrimination, or calm and deliberate judgment, the exercise of reason, the presence of which marks maturity, or the complete evolution of the individual.

The cerebral mechanism which has to do with the operations of the mind may be expressed in terms of sensory impressions, motor impulses, and control and regulation of both. Normally a sensory stimulus acts promptly upon the centripetal structures, exciting the cerebrum, cerebellum or subcortical centres, wherein is a co-operating mechanism for control of the muscles. Such impressions at first enter the domain of consciousness, but, in time, frequent repetition of the same stimulus with its resultant effect upon the motor apparatus, establishes certain definite combinations, and automatic action follows without participation of consciousness, so that the fully developed nervous system comes to possess fixed sensory-motor mechanisms. When unaccustomed sensations are received, and movements attempted, consciousness is again invaded, and engages in the resultant activities, for adequate co-ordination and expression. When a voluntary movement is undertaken there must first be a mental stimulus, second, integrity of the sensory-motor structures, and, finally, co-ordination of both. Certain activities, mental in origin, and central, thus become subconscious or reflex, without arousing the volitional exercise of the brain, and others, in proportion as they are new and strange, become conscious and are subject to voluntary control. These highest levels of cerebra-
tion, to adopt a Jacksonian phrase, are, respectively, thought and the expression of thought; the former being inhibitory, the latter a combination of inhibitory with reflex function.

Cases of mental disease must be investigated in their relations with the normal foundation which is disordered. New capacity does not develop in disease, but existing capacity is modified or diminished. Diminution of mental function is revealed by disturbance of the cerebral mechanism which has to do with thought and its expression. Disturbance of the capacity for thought is revealed by inactivity; limitation of thought by concentration or limitation of the mental field so that one idea or series of ideas dominates. A common manifestation of this is delusions, in which is recognized a loss of discriminating power. The absence of delusions in adolescent cases is not inconsistent, for the faculty of discrimination is as yet undeveloped. In the occasional instances in which delusions appear, they are disconnected, incomplete or absurd, in these characteristics resembling the delusions which appear in states of mental degeneration, as general paralysis and terminal dementia. In pronounced contrast with the absence of delusion is the existence and exaggeration of the sense of fear, often expressed in most intense form. Fear is the natural consequence of distorted action of the partially developed mind, and is often associated with extravagance of the allied religious sentiment. It is an imperative concept, a projection of sensory-motor mechanisms into the domain of consciousness, which is overwhelmed and limited to them. In older patients, imperative ideas are the exception, because trains of thought take unnatural directions; in younger patients trains of thought have not been established, and the release of inhibitory control sets free subconscious activities. This general relation between consciousness and the sensory-motor mechanism is outwardly expressed through two channels, speech and muscular action. Loss of power to direct movements varies with the character and extent of the defect. If inhibitory force be entirely wanting, motor activities are in uncontrolled confusion. Irregularities of co-ordination permit a vast variety of manifestations. By combination of decreased inhibition and intense reflex action may be explained the common occurrence of the curious phenomenon of catalepsy. Here the inability to compel voluntary contraction of muscles is associated in extraordi-
nary disproportion with the subconscious fixation of muscles in any attitude in which they may be placed. Analogous with this is the effect of voluntary efforts in initiating movements which persist, as sentinel-like pacing to and fro in a limited area, or repetition, over and over again, of the same phrases or phrases of similar import or sound. Other voluntary efforts are followed by movements the opposite of those intended, the result of misdirected innervation.

Such are some of the active demonstrations originating with the patient. The passive effects of stimuli from without yield corroborating evidence of deficient control by the higher cortical centres, in response to afferent impulses. If we elevate the arm of a normal person who passively submits, the arm falls immediately to the side when released. In many cases of adolescent mental disease the resultant movement is entirely different from that of health. In some, the limb, when released, remains for an instant in the attitude in which it has been placed, the patient looks up inquiringly, and then the limb drops slowly; in others the limb remains for a variable time in a strained and unnatural position, and then falls very gradually. The appearance of hesitation or uncertainty indicates retardation of mental action which has communicated itself to the muscles. When the patient is asked to shake hands, if he responds at all, after a short delay he pushes the limb out stiffly, awkwardly and quickly. There is slow comprehension, with a final violent effort to overcome the inertia. Motor peculiarities of this class are best typified by the response to the request to protrude the tongue. After a pause, and perhaps after several repetitions of the request, the mouth is opened suddenly and widely, with an excessive grimacing contraction of the labial and facial muscles, but the tongue is not protruded; often it lies motionless, or, if repeated efforts are made, is withdrawn into the back of the mouth. In other cases it is thrust violently forward, sometimes to one side or the other, and the face may be turned away from the observer. In still other cases, no response is made, and the patient’s appearance is that of one who receives no impressions.

From these observations, it appears:

first, that there is a tendency on the part of the patient to remain in whatever attitude or position he happens to be;
second, that when an effort is made to respond to a request, there is first a delay, and then an awkward, sudden and unduly energetic response; or, the violent effort is misdirected, some muscles are innervated too strongly and others not at all, the effect being a contrary or opposite movement to that attempted; or,

finally, no response is made at all.

It is, perhaps, superfluous to direct attention to the simplicity of these tests and observations. The acts desired of the patient are usual and common, and inability to perform customary and simple acts reveals so profound disturbance of function that more complicated examinations are not needed, and would yield little further information.

In general, the symptoms are respectively those indicating the spontaneous activities of the brain, and those which are responsive to external stimuli. The dividing line is indefinite, for many exaggerated and inordinately intense demonstrations result from slight, inappreciable and misinterpreted impressions from without. Whatever the manifestations may be, they are to be ascribed to limitation of the mental field. They may be grouped as follows in the order of their usual appearance: impulse of self-preservation, undue agitation, opposition, passivity and catalepsy.

When the higher realm of inhibition is defective and an imperative idea dominates, the subconscious or sensory-motor memories, deprived of control, become active, and the resultant phase is that of excitement, with great motor unrest. Here the primitive sense of self-preservation is asserted; the patient sees hostility in every individual and every incident, occasionally corroborated by hallucinations or illusions of the special senses. The outward demonstration of this fear consists of acts of unreasoning violence, which gradually degenerate into or are replaced by automatic muscular movements, on the surface apparently purposeless. The agitation originating in this manner is shown in resistance to care, not infrequently associated with an idea of suspicion, bounding about from one place to another, sudden and explosive outbreaks of excitement and violence, impulsive, ineffective attitudes, destructiveness, repetition of the same acts, and rapid alterations in conception, as when there is a demand for food with ensuing refusal to take it.
This obstinacy or contrariness, to which the inappropriate terms “negativism” and “negation” have been applied, may be the most obtrusive symptom, particularly in passive cases. One young woman who lay quietly in bed, manifesting no concern in herself or her surroundings, stated repeatedly that she felt a severe pain in her side, and then laughed; or asserted she wished an operation and refused examination; many patients refuse to dress or undress, others walk away when requested to approach. The condition is well illustrated in erroneous innervation of muscles, when facial grimacing is substituted for protrusion of the tongue, and other awkward and ineffective movements are made. These reach their highest exposition in the various degrees of catalepsy.

Absence of volition, or inertia, amounting to entire incompetence of execution was shown in Case 1150-2344. The process of feeding was accomplished in this wise: she was told to open her mouth, the food was placed on the tongue, and she was then told to swallow. It was necessary to repeat the instruction for each successive spoonful of food. When placed upon her feet and told to walk, she would ask, “How?” When instructed to place one foot ahead upon the floor, after a demonstration of the act, she imitated, remaining in this attitude until directed to repeat the step with the other foot, when she repeated the request “How?” and each evolution followed only the instruction and the demonstration.

These abnormal manifestations may be regarded as pathognomonic of mental disease of this period of life. In Case 380 is a classic array of symptoms. Their presentation is distinct and orderly. Each period in its completeness compels recognition. In striking contrast is Case 2288, now related, two weeks’ time being sufficient to display in abbreviated form symptoms essentially the same.

Case 2288 was that of a farm hand, aged 19, and native of New York. Heredity and personal history good. In February, 1912, he said he had not felt well during the preceding summer, which was his first experience in work for another, that there was a weight on him, and that he was working under pressure. He manifested great mental activity, and discussed matters beyond his education, as the origin of the earth, theology, philosophy and the effect of great minds upon the thought of the world. He slept poorly. About February 20th he appeared nervous, exhausted and thin, and was argumentative and exalted. During the night
of February 28-29, he rushed out of the house partly dressed, slammed the door so that he broke it, shouted, danced and sang on the road. He was overtaken and returned, when he stood in numerous attitudes with limbs fixed in "peculiar positions." On March 1st, he appeared in partly automatic state, standing before an open window with his overshoes on; and later lying on the bed with bits of matches and a piece of wire in his mouth. On the following day he passed through several different phases. He lay for two hours, motionless, as if feigning sleep, and as he awoke from this, first made "queer motions" with his hands, and then he shouted, thrashed a sheet in the air, and crouched on the floor in a corner. He refused food until evening, and then complained that food had not been given him. During the following night he sat in bed with head covered, and ground his teeth together. During the next week there were short intervals of apparent reason, with sudden outbreaks of excitement, and periods of rigidity and silence, with automatic action of the upper limbs. At one time he sat in a corner wrapped in a sheet; at another held a tray of food in one hand, and ate with the other; at another lay nude on the springs of the bed, with his head between the bar of the head piece. He danced upon a table and stood on a radiator or window sill singing, and occasionally stood nude in a rigid attitude. He slept nine hours on the night of March 7-8, and there was no return of symptoms. From March 9th to March 17th, he gained ten pounds in weight, and during the following summer was fully restored.

In January, 1914, he is in the employ of a railroad and is in perfect health.

In the following case the symptoms were less characteristically developed, and were associated with fragmentary delusions. Recurrences later in life emphasized the inherent tendency of a defective nervous system.

Case 459 was that of a dental student, aged 24, and native of New York. His father died insane, and his mother, later, in advanced life, became insane. He had had an injury to the nose which interfered with breathing. He had always been well-behaved, and an affectionate and considerate son. When twenty years of age he became anxious over his health, and brooded over the death of his father. At twenty-two he took up the study of dentistry and applied himself excessively, though it was suspected he was not entirely pleased with his choice of a profession. When twenty-four years of age, in September, 1904, he became restless at times at night, excitable, and threatened, but never attempted, suicide. The excitability increased, and in September, 1904, he manifested active mental symptoms, so that on the twentieth of that month there was a sudden violent outbreak. He attributed his condition to self-abuse, which he said he had practiced actively in earlier years, and stated that he had horrible dreams in his sleep; that he could not concentrate his thoughts or control his mind, and that he felt as if in a dreamy state in which all realities seemed far off and vague. He talked constantly of his condition, saying that he "knew he was going out of his mind," that he was to suffer
greatly, and that medicine was given him to prevent his knowing his condition; he also said he "felt like doing something violent."

On September 25th he wrote the following letter to one of his physicians:

"I will not say it is the worst, God only knowing, thing that can happen to a person but to think that you are on the point of going crazy, when your mind is clear to other things, and it is too late to believe that you will go into heaven should you die or being practically dead in losing your mind.

"To think you will writhe out your life—I being in good strong health, mentally excepted—Only thing being that I know I masturbated in youth too much.

"I write this as I feel it should go to the medical profession and an example to the world. I think I have had too good a time in life and not did enough for Jesus, knowing that to those who are given much much is expected in return. I feel I know something of what a crazy person must suffer by the last two or three nights' suffering—wringing my hands and suffering as it is hard to explain.

"I was put into the world to do good and put things off, keeping saying 'Oh! there is time enough.'

"Ask the doctors who talk with me if I didn't know things about my past life, most any subject, in a sane manner.

"When you can only think of the terrible, isn't it an exceptional case? God alone knows how I have suffered. First, last night, I felt as if I were in Hell. I such awful feelings then I was in Heaven and I never was happier in my life.

"I feel that this case is an example to the world and God's way to send it.

"Being 2 years in a dental college therefore knowing something about drugs and actions, I realized how I was kept so I could remember things such as politics or any common thing of present doings.

"I cannot say I have done as my conscience told me during my life. I feel if I can convert any one by writing this letter I am doing God's work.

"I told Miss C—— my feelings this P.M. I tried to show her I was given as an example of a sinner and hoped would be cause of repentance of some one or more than one, or words to that effect.

"I am satisfied God expected a great deal of me as he gave me opportunities such as sufficient means to educate myself and to give more toward furthering Christianity and relieving pain and give comfort to the afflicted than I did.

"If this makes a Christian of any one I know it is God's way.

"I feel that most all that read this will only laugh, and if not directed to some person might get thrown away and not even read or read with laughter. It would be different if I could not comprehend matters of most any subject. Ask Mr. V. of G—— if I am not rational on things in common. I got him to sharpen my pencil about 5 o'clock, that is in about middle of this letter, where you see it blurred & a made.

"P. S. I am not complaining. It is God's way and I hope for the best.

"I must address this to some one and I do to Dr. G. who I hope will make him, as well as anybody who reads this, to think more about doing God's work than I did, not putting things off as I did. I don't know anything as to Dr. G——'s relations God and helping make others comfortable and throwing sunshine into the words, but simply must address some one so I do him thinking no letters addressed outside this building would reach destination.

"P. S. I don't want the world to think that masturbation was entire cause of my present condition. I did this for 2 or 3 years when about age of 12 or 15 years of age, or thereabouts, then excesses at night began and I went to Dr. L—— who gave me medicine and advice and when at U. B.
excesses continued and I began worrying then went to Dr. H—- of U. B. faculty for advice and stopped worrying for a while, but later had I worried somewhat this summer—last part about getting married.  
“But what also helped to bring on present condition was I studied pretty hard for finals and had nothing to do in summer but worry and I went about feeling, etc.  
“You think strange of my writing but am sane, also had backache badly 10 years ago.  
“I have finished and sane.  

On the morning of September 26th, he lay upon his bed singing, jumped up suddenly, and knocked the panels out of the door with his fists, singing loudly all the while and shouting “I’m crazy.” During the afternoon of the same day, he lay motionless in bed—“hardly moving a muscle”—with his eyes closed. At nine o’clock in the evening he rushed from his room clapping his hands and shouting “Help! help! I murdered my sister! I murdered my brother! I am crazy! Oh! that letter!” He then made noises resembling the barking of a dog and meowing of a cat. At one time he declared an electric battery was being used to kill him.

During this period he needed the greatest personal attention. He had frequent attacks of abdominal pain, which at times were relieved by the catheter, and at other times, were not due to ascertainable cause. In these attacks he pulled his hands automatically toward his body. Food was taken irregularly, and enemata were required; frequently the discharges were involuntary.

The restlessness and excitement continued until about the fifth of October, when he became quiet. He then passively accepted food and medicine, though at times he did not swallow. On October 16th he began to talk occasionally, and the following day wrote the following letter:

“My Dear Mother,

“When I left C---- I thought I was going to be there only little while, as I told Dr. L---- when we were riding about C---- I was going crazy he tried to talk me out of it and I could not concentrate my mind off of it.

“When up at sanitarium they would only give me liquid food after first night and they tried to make me confess to a Miss C---- and I could not make that one confession. I was stubborn ever after and when you were here I heard you cry and I told W---- that I could not see you. I could hear you cry and could not reason as my mind was crossed over and I was crazy.

“They gave me ether I thought and I would have spells just opposite of what I meant.

“I had those religious spells trying to convert people and all I could talk was religion.

“I thought they were torturing me when we were crossed over and then they kept me crossing over and I crossed over with several people and I am innocent of all this awful talk because they kept me crossing over and that walk I took with B---- that p. m. before I left home I had awful pains in my head and I know I must suffer but could not talk too much as I never tried to kill anybody on purpose but knew the world would not believe it. I think and know they are turning me upside down but I know I must suffer as it is darkness when they turn out electric lights I am blind but did not know it. I see all too late. Good-bye, Mother.’’

On October 26th he sat out of bed for a short time, and grew stronger and more self-controlled day by day. A month later he was dressed and
about, and began reading. During the winter he was well-behaved, clean, cared for himself, and manifested no active resistance. He continued quiet and listless, not very observing, and on one or two occasions showed some restlessness, irritability, and dejection. He was almost invariably silent, and acted with hesitation as if he were in doubt or did not know what he should do.

In December he occasionally answered a simple question, but with an effort. There were periods of exhaustion, without evident exciting cause. In the late spring convalescence was fairly established and he eventually regained his health.

He abandoned his original intention of practicing dentistry and chose an out-of-door life in the far West. In September, 1912, he was affected by the death of his mother, and was "more or less to pieces," but continued at work. In the spring of 1913, he "seemed to lose ambition, also interest in things, and had severe pains in the head and gloomy feelings." He ceased work and improved. In August his only brother died and he was again "set back." He had pain, "sometimes dull, sometimes more severe, and others itching. Reading seemed to cause dull pain. "My pains are on top of head and back and on sides over ears." In October he "felt blue," and after a brief accession of symptoms in November reported himself as restored, and as having gained ten pounds in weight. He is married and has a healthy boy of five years.

The recapitulation of this case shows a young man of impaired family record, who was somewhat over-conscientious and affectionate during his early life. Whether this amounted to a morbid tendency or not may be questioned. Later events justify the inference that he lacked the buoyancy of youth, which was manifested by the depression following the death of his father. There was also a hint of impaired vitality in the obstruction to breathing. He planned a career which was distasteful to him, and over-exerted himself in study. In his twenty-fifth year, after a short premonitory period of abstraction, he developed suddenly an attack of excitement, which appeared superficially to be characterized by great mental activity. Analysis of the symptoms, however, shows that the mental operations were limited to the fear that he would become insane, and a religious sentiment in which the idea of sacrifice and punishment was predominant. Associated with the fear was a sense of indefiniteness or unreality; he complained that his perceptions were vague and objects far off, as if he were in a dream. When he attempted to adjust the facts, he had lost the power of concentration and of the exercise of definite purpose. In a state of desperation he yielded to what seemed inevitable, and in a paroxysm of purposeless fury, shouted, "I am crazy," this out-
break being succeeded by an equally inconsistent state of immobility, followed by vocal imitations of a dog and a cat. At this point he wrote a letter, which showed the capacity of his mind to be limited to the fear of punishment for moral obliquity, alternately expressing his dread of insanity and weakness of religious standards. He attempted, somewhat disconnectedly, to say that he did not do "enough for Jesus," that he should be an "example to the world," and closed with an appeal to others to follow a religious life.

Ten days after writing this letter his excitement subsided, and he wrote again, in retrospect, revealing the sense of indefiniteness in the following phrases: "I thought they were torturing me when we were crossed over, and I crossed over with several people and I am innocent of all this awful talk because they kept me crossing over . . . I think and know they are turning me upside down . . . ."

The excitement was followed by a period of listlessness, inactivity and silence, in which he was passively obedient, accepting food and medicine, though at times he did not swallow. This continued, in gradually decreasing intensity, for several months, until health was restored.

These symptoms may be summarized as an initial dominating feeling of fear, with defect of judgment, shown by inconsistent, impulsive actions; followed by general suspension of mental activity, and passive obedience. The religious idea of punishment suggests delusion, which was, however, incomplete, only partially systematized, and was subordinated to the dominating panic of apprehension. As in Case 380 the period of excitement was relatively brief, the greater part of the attack being characterized by apathy. Incompleteness of cerebral function was revealed by the dreamy state, the unreality, the "crossing over," and being "turned upside down."

The neuropathic tendency was definite, and is shown in the return of symptoms in after years, on causes relatively slight. This inherent taint explains the recurrence and may explain the modified symptoms of the first attack, which were, however, characteristic of adolescence.

The unstable conditions of youth are the essential cause of disease, and permit recurrences during that period. In the following case the tendency is shown in two distinct and severe attacks, followed by permanent recovery.
Case J. R. The patient was a boy of eighteen, native of New York. He was said to have had cerebro-spinal meningitis when four years of age, from which he apparently had made a perfect recovery. He was a bright and studious boy of excellent habits. During the autumn of 1888 he became interested in the political parades, and was "out marching almost every night." During the Christmas holidays he manifested extraordinary religious zeal. He attended different Catholic churches and prayed for hours at a time. He told his father that the neighbors were extremely wicked and he must pray for their salvation. He did not sleep, had little appetite, and late in December became suddenly violent, saying some one was coming to take him away. He saw a cross in the heavens, and also a harp; once he saw two angels standing by the cross. He talked of freeing Ireland, and became incoherent in speech. He shouted and screamed and could not be controlled. In this condition, on January 3, 1889, he was admitted to the Utica State Hospital. He then said the physicians and priests at home had tried to make him crazy, but he had held on; that he had been bothered by the Devil during the summer, but had not seen him lately. On the following day he was quarrelsome and violent, and talked continually on religious matters. He fought fiercely against going out into the yard, and seemed to think that if he went there he would be shot. On January 7th he pounded himself in the face and chest, causing swelling and ecchymosis. He explained that he did this to save others. On January 10th he was rather dazed and was placed in bed. Two days later he was up again and eating well. From that time on he was alternately noisy, profane and actively disturbed, and dull, stupid and untidy. At times he was cataleptic and was tube-fed. He continued in a catatonic state until the last day of August, when he suddenly aroused, ran about the dormitory, jumped upon the beds, laughed and threw a cup of water on an attendant. He did not speak, but wrote answers on a slip of paper. He conversed entirely by signs and by writing, explaining that he did not speak because he did not feel like it. On October 10th he attended a dance and was told by the nurse that she would not dance with him again unless he spoke to her. The following week he was told that he could not attend the dance unless he spoke; whereupon he protested very audibly, and continued to talk thereafter. He then convalesced rapidly, and on December 11, 1889, returned home, recovered.

On January 19, 1892, when twenty-one, he was received at the St. Lawrence State Hospital. He was said to have been affected for five months, but no history was given of his actual condition during that time. He was in a cataleptoid condition and was well nourished and fairly strong. There was no decided change in his condition for about six weeks, and then he ceased eating. He was kept in bed and fed with tube. He made no voluntary exertion, was cataleptic at times, and at other times held his limbs rigidly when any one attempted to move them. His eyes were closed, he apparently took no notice, and did not talk. His circulation was extremely sluggish and his hands were usually cyanosed. He began to take liquid food early in June, and in July accepted solid...
food, but did not talk or open the eyes. He was dressed each day after
the early part of September, resisted care by holding himself rigid, and
did not walk voluntarily or assist himself in any way. In December he
occasionally opened his eyes and walked, but still resisted care. In Janu­
ary, 1893, he began to talk to one attendant, but to no one else. He also
read occasionally, but did not improve physically, and soon became worse
again, until it became necessary in May to feed him by tube. At that
time he reached his lowest weight, ninety-four pounds. He improved
slowly during the summer and autumn. In January, 1894, he weighed
one hundred and twenty-six pounds, kept his eyes open much of the time,
but did not talk, and resisted attendants, who pushed him about, so that
he would take steps to keep his balance. On February 17th he was taken
to a patient's dance, and it was necessary to push him along to get him
there, but at the dance he suddenly began to talk and finally danced. He
then convalesced rapidly, and left the hospital on March 30th, weighing
one hundred and fifty pounds. After his recovery he said he remembered
all that happened, and gave many facts showing this to be true.

On January 17, 1914, this patient writes as follows:

“My feelings at that time were that my friends were my enemies, and
of course my imagination and my intellect could not work together, but
all that time my memory was perfect. My general health is perfect, and
has been ever since I left Ogdensburg. I have a baby boy seven months
old, but I had two other children, but they died; a boy two and a half
years died with cerebro-spinal meningitis, and a girl seven years old died
with diphtheria. I have been married ten years. The baby is very strong
and healthy at present. * * * I have been successful in my business
in a small way. I do not use alcohol in any form, but I smoke good
cigars and it doesn't seem to hurt me.”

The general features of this case do not differ from those
already cited. Intense religious feeling, accentuated by its asso­
ciated idea of fear, and emphasized by transient correlated
hallucinations, impulsive actions, profound stupor and catalepsy,
with perfect receptivity and memory, are characteristic. There
was, however, an intermission of nearly two years, in which the
patient was in normal condition. The cause of the first attack
was relatively trivial. He was permitted to become interested
in a political campaign and his superabundant boyish enthusiasm
was not checked. The over-exertion proved his undoing. No
cause was given for the second attack.

The four cases cited at length may be regarded as represent­
ing four groups: (1) a long and complete type; (2) a short
and complete type; (3) an incomplete type, and (4) a recurrent
type.

Distinction between the predisposing and exciting causes of
disease will be an unsettled problem as long as the factors of the
former are enveloped in theory. Heredity and diathesis are
invoked, often for want of better explanation. The absence of hereditary taint, so far as ascertainable with the means at hand, is a striking feature of many of this series of cases. In direct contrast is the abundant evidence of susceptibility of youth to disease. Activity of growth demands rapid assimilation and adaptation of nutrition to a highly complex organism. The lower orders of tissue are most rapidly formed, the higher more slowly. Susceptibility to infection is greatest in early years and is ascribed to the slight resistance offered by the blood and the nervous system, as shown by the prevalence of chlorosis, chorea, hysteria, and convulsions. Stimuli are impressed upon an excitable, partly developed, actively functioning, delicate and complicated nervous structure, whose only protection lies in rapidity of restoration. Conditions are favorable to disturbance of the wavering balance between health and disease, and the state of adolescence itself implies a predisposition beyond which it is not necessary to seek a cause. In this may be found the explanation of the recurring cases, in some of whom a period of two or three years of health intervenes between severe attacks. The alleged exciting causes, overwork and overstudy, are insignificant. The real exciting cause may be sought in the failure of parent, guardian or preceptor, to comprehend the danger of excesses in mental and physical expenditure; and to guide the adolescent safely through the most critical period of life. That the error lies here may be assumed from the permanent restoration of many patients. Deductions from these conclusions justify faith that the mental attacks of adolescence may be grouped among preventable diseases.

The statistical result of this inquiry is surprising and encouraging. There were three hundred and twenty-two patients between the ages of fifteen and twenty-five years, including J. R., a patient of twenty years ago.

One hundred and ninety-three patients affected with other diseases or conditions are omitted from consideration. These cases are classified as follows:

- Epilepsy, fifteen;
- Hyste ria and hypochondria, twelve;
- Feeble-mindedness, fifty-one;
- Drug addictions, alcoholism and dissolute habits, forty-six;
- Delirium accompanying general and surgical diseases, seventeen;
- General paralysis, one;
Organic brain disease, two;
Atypical mental cases, classified as eccentricity or degeneracy, seventeen;
Casual observation with incomplete records, thirty-two.
There remain one hundred and twenty-nine patients, of whom eighty-two were restored to health, nine died and thirty-eight are now under care. Of these thirty-eight patients, twenty-three give evidence of deterioration and are regarded as hopelessly demented; the remaining fifteen are under treatment with reasonable prospect of recovery. Of these fifteen patients, five are in a second attack, having each apparently recovered once. Of the patients restored four have had two attacks, and one died in childbirth two years after recovery. Present information has been obtained of fifty-three of these patients.* Of these fifty-three patients, who are in sound health at this time (except one who died, above mentioned) one has been well for twenty years, one for twelve years, two for eleven years, three for ten years, thirteen between five and ten years, two for four years, eight for three years, nine for two years, and thirteen recovered during the last year. Disregarding the fifteen patients whose cases are not closed, the percentage of recoveries is seventy-two.

From the foregoing the following conclusions are warranted:
The highest function of the mind is that of calm and deliberate judgment, expressed by purposeful speech and action. The cerebral mechanism for the expression of thought provides intimate association of the process of mentation with the voluntary direction of muscular movements.
Cerebral exhaustion is represented by imperfect action of this mechanism. Exhaustion of the higher mental sphere is revealed in limitation of thought, loss of voluntary control and extravagance of muscular action. Complete exhaustion of the co-ordinated mechanism results in suspension of mental and motor function.

*The task of ascertaining the present condition of these patients involved extensive correspondence, and to the patients themselves, members of their families, and physicians, I am placed in a heavy debt of gratitude. For assistance of this kind and other advice and comment I am laid under special obligation to Dr. Charles W. Pilgrim, who generously completed the arduous task of transcribing some eighty case records; to Dr. Harold L. Palmer, for a similar service; and also to Drs. William A. White, Charles J. Patterson, Maurice C. Ashley, John A. Houston, H. C. Evarts, Edward Joslin, Henry B. Gillen, Jesse Crounse, R. S. Moscrip, Robert G. Cook, Robert B. Lamb, Henry Hun and John B. Chapin.
In adolescence the mental faculty of judgment is imperfect because of limited development. Excessive use of the nervous mechanism at this time of life in those not strong results in a pathological state indicated by limitation of thought to fear, with faulty control of the motor mechanism, inducing sudden, meaningless or misdirected movements; and this, combined with defect of the motor mechanism itself, appears as catalepsy and allied conditions. Complete exhaustion of motor centers is shown in loss of muscular tone, which may become paralysis.

The pathological condition is essentially functional, and restoration may be expected.

The predisposing cause of adolescent mental disease lies in the vacillating and unstable nervous system of the period of life; the exciting causes are relatively insignificant.

The symptoms of adolescent mental disease are fear, imperative concepts of religious or sexual origin, senseless laughing, crying or anger, impulsive acts, automatic and rhythmical movements, incompetency of execution. These symptoms indicate suspension of function and are consistent with the existence of a state of cerebral exhaustion.

In a large proportion of cases the faculties of receptivity and memory are unaffected.

The critical period is between the fifteenth and twenty-fifth years. Intelligent guidance and training during this time may prevent attacks. Recurrence is not to be expected after the period of adolescence has passed.