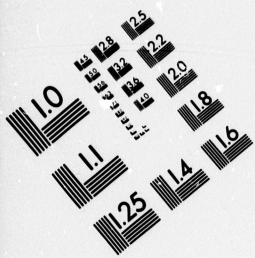

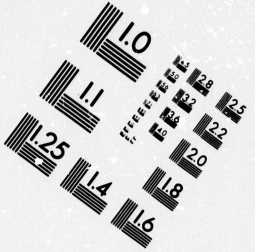

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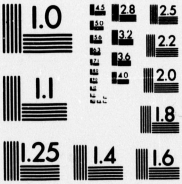

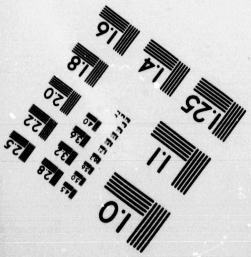

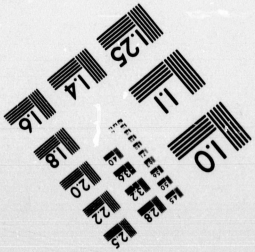

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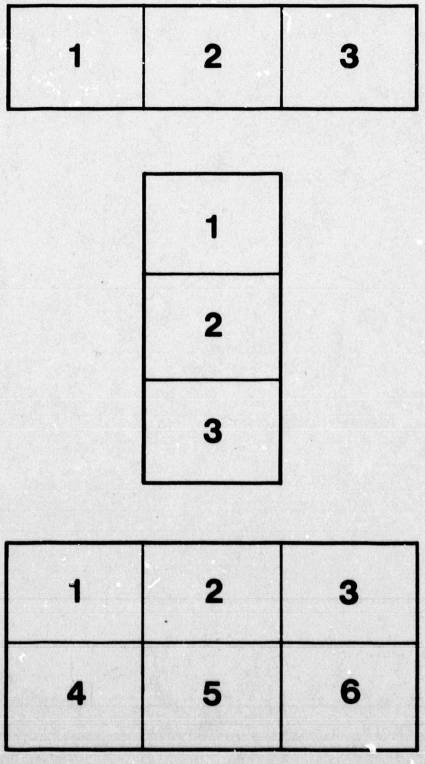

MENTAL DISEASES.

MENTAL DISEASES.

A SYNOPSIS OF TWELVE LECTURES

DELIVERED AT THE HOSPITAL FOR THE INSANE, TORONTO, TO THE GRADUATING MEDICAL CLASSES,

BY

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PREFACE.

THIS manual is simply an introduction to the study of Mental Diseases.

It is intended for the senior medical student and the busy physician, who may have neither time nor opportunity to study the higher and more intricate branches of psycho-physics.

The Author has attempted to be as practical as possible, and has left out matters of secondary importance to the profession. It is to be hoped this handbook will accomplish what the writer had in view in these respects.

Once for all, the Author acknowledges his indebtedness to such eminent men as Bucknill, Tuke, Gower, Hughlings Jackson, Gray, Bevan Lewis, Regis, Mercier, Savage, Maudsley, Clouston, etc., etc.

D. C.

1895.

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MENTAL DISEASES.

CHAPTER I.

THE BRAIN.

It is not my intention to describe in detail the anatomy of the brain. You, no doubt, are well versed in its structure, both gross and microscopic, yet there are many anomalies in the arrangement of its blood supply and cell clusterings, as well as in the relation of its nerve fibres, which are of surpassing interest. The organ of the mind is the capital of the body, and all executive action of the whole organism, however remote, is represented in it to a greater or less degree. A few points in this relation are worthy of a passing notice. The first is in respect to the *circulation*. You will remember the different provision made on each side of the body for the outflow of arterial blood from the aorta. On the right side, and near the outlet of the heart, the *arteria innominata* is inserted into the aorta. About an inch and a half from this point it ends in two arteries, viz., the subclavian and the common carotid. This arrangement provides for only

one aperture in the aorta for these two large blood vessels. On the left side the two corresponding arteries spring independently from the aorta, and are a considerable distance from the heart. Why this want of symmetry in both sides of the body? Nature never does anything at haphazard, but always with a purpose. It has no lumber-room for useless furnishings, neither has it changes, but from design. It seems to me that only one outlet is made so near the heart on the right side for the two arteries, so as not only to strengthen the aortic parietes at this point, but also not to diminish, but as little as possible, lateral pressure on the blood flow by having one opening instead of two so near the outlet of this muscular pump.

It is also worthy of remark, that while the *arteria innominata* springs at almost right angles from the aorta, the left common carotid leaves it at an obtuse angle, and to such an extent that the long axis of both vessels is almost in a straight line, or with only a slight divergence. This statement is also true as between the left internal carotid and the middle cerebral, so that emboli floating in the aorta more readily find their way into the left hemisphere than into the right. The cuts in many books on anatomy do not show this construction to the same extent as is seen in the cadaver.

The two internal carotids and the two vertebral arteries on entering the skull make curvatures almost like the letter S, which are possibly for the purpose

of breaking, to some extent, the force of the powerful intermittent impulses of the heart upon the current of blood sent into the delicate nerve structures of the brain. The goose-neck flexures may possibly be also to allow elongation of the arteries in the various and extensive movements of the head. This arrangement is also seen on the lower jaw, in which is much movement, as exemplified in the facial artery and in the internal maxillary and pterygoid portion of this artery.

The next observable arterial arrangement, as our search goes upwards, is the wonderful circle of Willis, whose main object is to enable the two vertebrals and the two internal carotids to anastomose with one another. This reservoir also checks to some degree the blood flow. It is a local supply deposit which may be necessary on a sudden demand, and as the carotids supply the front part of the encephalon and the vertebrals through the basilar, the posterior part, the communicating branches which compose the most part of the circle are lines of supply of blood from one part to another. This remarkable arrangement is the more necessary, seeing that in the further progress of the arteries to supply blood to the brain proper, they seldom intercommunicate with one another.

The next wonder upwards is the unusual distribution of blood on the *surface* of the brain, as from the outside the arteries dip into the centre of the organ. This is true of all the arterial blood in the skull going

to the brain, with the exception of a few nutrient vessels which go into the medullary substance from the basal vessels. We know this is not the arrangement in the other organs of the body, such as the kidneys, the lungs and the liver. In these, each large artery seeks the central portion and from this point sends out blood supply to the periphery. In the congestion of these organs there is room to expand on account of being surrounded by soft or yielding substances. Not so with the brain, as it is enclosed in a bony envelope which is unyielding, hence the least hurtful positions for the blood vessels are in the limited space between the brain and the skull, in the openings between the hemispheres and between them and the cerebellum, as well as in the ventricles, such as we see in the lateral ventricles, where a section of the *pia mater* is deposited under the name of the *choroid plexus*. Did the comparatively large arteries go into the centre of the brain and branch off from this to the cortical substance the result would be that in active or passive congestions the delicate nerve substance would be so impinged upon as to seriously, if not dangerously, impair its function. We are to remember that so functionally active is the brain that nearly one-fifth of the whole blood of the body is needed to do its work. When the blood is largely sent along the various spaces in the skull this untoward result is very much minimized. Room is made in dangerous congestions by driving the fluids of the brain for the time into and through the

hundreds of foramina in the skull and in the spinal column, and thus additional space is provided in such emergencies. In spite of this well-known fact, learned treatises have been written to show that brain congestions is an impossibility because of static impediments.

The *pia mater* is the great arterial reservoir of blood from which the brain is literally supplied. It is a close-fitting envelope on the surface of the brain, dipping into the sulci and sending into the brain substance vascular loops of unequal length. These anastomose very little with one another, nor with the central arteries, and each has its own returning vein going into one of the sinuses.

The veins which go into the longitudinal sinus have several peculiarities. In the first place they run from the arterioles away from the direction of the heart upwards, which is not the rule with the other veins of the body. The second strange arrangement is that the mouths of the veins enter the sinus towards the blood current and not in its direction. It is possible this construction has two objects in view—the one being to prevent the too rapid flow of blood from the brain, and the other being to check the current in the sinus, which might otherwise be too impetuous, especially into that whirlpool of venous blood, the torcular Herophii, where six large sinuses converge before taking the downward direction to the heart. A secondary result of impetuosity would be to draw too rapidly after the venous stream

arterial blood before it unloaded its vitalizing elements; not to speak of the venules not having time to have their contents loaded with the dead matter which is being constantly carried off in these ambulances of nature to the various excretories. The longitudinal sinus is connected with the outside parts of the body in two ways. We know congestive headache is often relieved by epistaxis, because there is a connection between this sinus at its anterior part and some veins of the nostrils. Then there is a connection by means of many small veins between the scalp, the diploë, the skull and the sinus. This is why erysipelas in the scalp is so dangerous, as it often spreads inwards along the veins and attacks the meninges, and even the brain substance. The layers of the grey matter are superimposed on one another like the coats of an onion. They are five in number, although some German authors say there are seven. With these your anatomy has made you familiar, although the different laminæ have many cells in common, yet each has characteristic cells, largely distinguished by their shape. The round, irregular, ovoid, pyramidal, caudated, fusiform, spindled-shaped, are names which indicate their form. The particular function of each class has so far not been yet definitely determined. Different authors give the number in an average and fairly-educated brain from five millions up to sixty millions. There is no doubt the number of these determine the brain capacity and not the size of

brain nor the quantity of grey matter merely. In the child, the idiot and the savage they are comparatively few in comparison with the number found in the active brain of a normal man.

To reason from analogy, it might be suggested that the layers of the surface, having comparatively small cells, may be centres of sensation, and the deeper layers, in which are giant cells, centres of motion.

In the spinal cord there are small cells in the posterior cornua in which is the seat of sensibility, and the large cells in the anterior cornua, the seat of impulses. So it is a fair inference to draw that the cortical layer of the grey matter in the brain is the centre of sensibility, and the deeper layers, in which is the larger class of cells, the centre for energizing and emitting motor stimuli. The apices of the triangular cells all point towards the cortex as if they were polarized. There is no doubt each cell has an autonomy, an individuality and an organic sensibility of its own, and that clusters of them act in consensus from sympathetic union to produce combined functional results. Such a community has a head centre from which directions emanate to bring about definite results, so we find in the order of complexity, the neural tissue made up of nerves, ganglia and centres. Malpighi discovered cells in A.D. 1687, and described them, yet little notice was taken of this important discovery for nearly 200 years afterwards.

The brain is the larges mass of nerve substance

contained in the body of any animal possessing a brain. The sum total in bulk of all the other parts of the nervous system cannot equal the brain. In its absolute weight the average human brain is heavier than that of any other animal, except those of the elephant and the whale, but these are of much lower organization. In relation to the weight of the body the brain exceeds that of all other animals. The relative size of the brain is no criterion of intelligence. Man's brain only averages the one-fiftieth of the weight of the body. A number of creatures have greater averages than this, and with little mind power.

The brain is very simple in its construction. This is necessary when we considered its many-sided work. Were it specialized as machines are it would of necessity be limited in its operations. It is virtually a loose structure composed of cells, nerve fibres, connective tissus and blood vessels, yet it is the seat of sensation, ideation, volition, consciousness and all the phenomena which are seen in the sensori-motor and ideo-motor operations. No wonder it is the centre of so much speculation and investigation.

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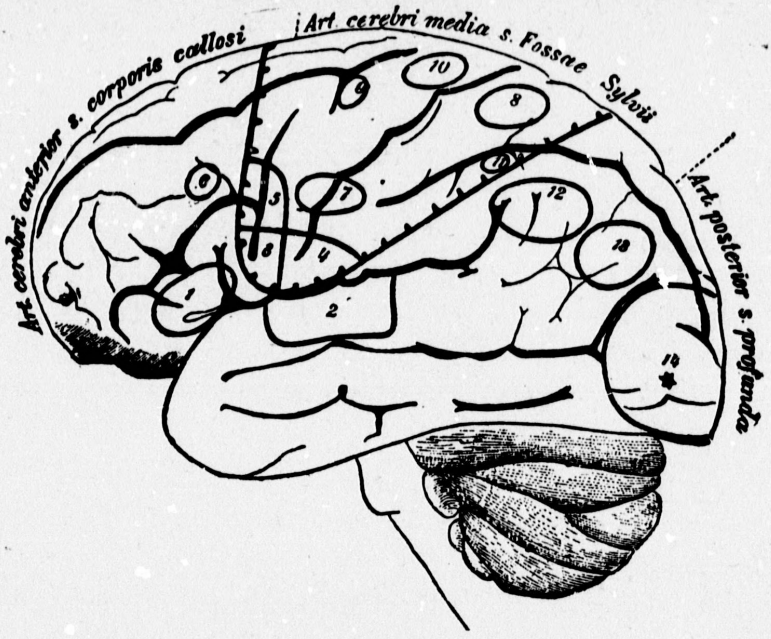
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Art. cerebri media s. Fossae Sylvii
Art. posterior s. profunda
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FIG. 1.

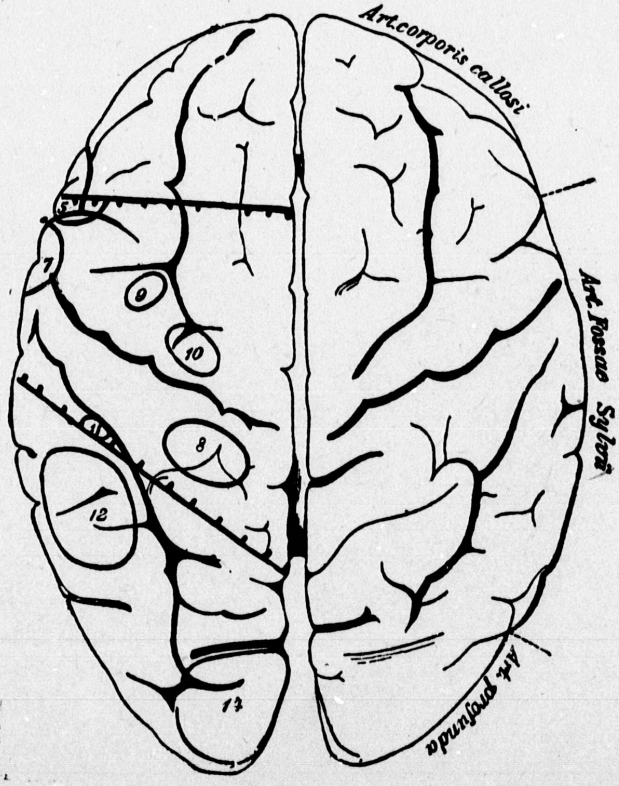
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FIG. 2.

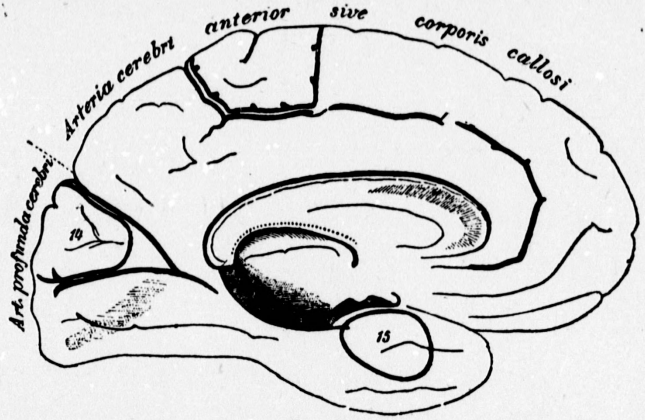


FIG. 3.

1. Centre for motor aphasia (Broca's region).
2. Centre for sensory aphasia, speech images, auditory centre, word dearness.
3. Hypoglossal field.
4. Facial field.
5. Motor trigeminus field.
6. Centre for agraphia.
7. Centre for coarse arm movements.
8. Centre for coarse leg movements.
9. Centre for coarse arm and leg movements.
10. Centre for complicated movements of hand, arm and legs.
11. Supposed centre for levator palpebræ superioris.
12. Centre for disturbances in all sensory tracts.
13. Centre for alexia.
14. Visual centre.
15. Doubtful centre for smell and taste.

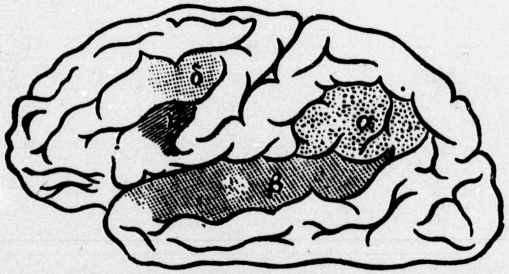


FIG. 4 (after Ballet).

(*a*) The region of print images. (*b*) The region of language images. (*c*) The region of speech images. (*d*) The region of writing images.—*From Kirchhoff.*

CHAPTER II.

MIND.

WITHOUT going into an unprofitable discussion as to what mind is, it may be well merely to epitomize certain general statements as to its manifestations. We are not to forget, however, that in medical practice we have to do with a unity called man. This integer is composed of two parts, viz.: Mind and body, in mutual relations and inter-dependent upon one another. When death severs these the physician and his remedies cease to be of any avail. Medical men have to do with life and not with death, hence metaphysical subtleties are of little practical benefit to them in fighting disease existing in the human organism.

Suffice it to say that the definitions of mind are usually classified as follows:—

1. The metaphysical. (*a*) The mind as a distinct entity from matter; (*b*) As proof of this, an appeal is made to the evidence of consciousness. Descartes' presumed axiom is accepted: "I think, therefore, I am" (*Cogito ergo sum*). He assumed the existence of the Ego as a self-evident fact based upon consciousness. An inference is also drawn from the varied manifestations observed in all mental phenomena, as

known in ourselves and seen in others by conduct. These proofs are two-fold, *subjective* and *objective*. I study my own mind in its varied moods, and I observe what is being done by others of my race under like conditions of existence.

2. The study of neurology presents additional proof. The study of our bodies and of all animated nature in relation to mental tone and scope through nerve instrumentality is doing much to enlighten us about this mysterious union of the *Ego* and the *Non-ego*. Embryology, physiology, in short, biology, in all its wide domain, and pathology are doing wonders in this direction. The close study of the growth of nerve substance and the corresponding expansive of the powers of the mind in juxtaposition and correlation to it, promise much in the future to solve the mysterious union.

Metaphysical writers hold that consciousness is the fundamental condition of all intelligence, and consists of Feeling, Volition and Thought. On the other hand, many physiologists of to-day do not thus circumscribe mind activity. They hold that mental powers do not solely reside in the brain. Mind means nerve action of all kinds, whether in the brain, the spinal cord, or the sympathetic system. It will be remembered the ancient Greeks and Romans held that soul (psuchè) resided in every living thing, vegetable as well as animal. The trend of opinion to-day is in that direction. This is, however, a matter of definition.

We do not know what mind is. We only know it

by its manifestations. Its essence is an unknown quantity. This is true of everything created. We are in the dark in respect to the atoms and molecules, and their groupings in chemical elements. We know nothing of the working of the ultimate elements of plant life in their selective power. Our bodies are in every different structure, various work-shops, which never make mistakes in building up cells, each according to its kind. Yet there is a world of atoms of which they are composed beyond our ken. Here our explorations end, even in the primordial and simple protoplasm. It is not to be wondered, then, that mind, in essence, has eluded our most searching explorations. As a mental exercise it is interesting to study the history of mental philosophy from the early ages downwards to the present day. Going no further back than Lucretius, in his wonderful book *De Rerum Naturâ*, which contains the well-known statement that "matter has in it the promise and potency of life," we find a materialism, or rather pantheism, which crops up in Shelley's Queen Mab :—

> "Infinity within, infinity without,
> Belie creation :
> The inexterminable it contains,
> Is nature's only God."

So intimately related are mind and body that in medicine they are treated as a unity. The one affects the other so sympathetically that they seem, in fact, as one organism. Sleep is physically demanded because of exhaustion ; yet it means total unconsciousness.

The strongest will cannot resist the soporific effect of a dose of opium, and the wisest philosopher will act silly from the effect of a stimulant such as alcohol. The poison of a fever will cause delirium, and a blow on the head may produce nonsensical utterances, a felon on the finger or a toothache affects concentration of thought, and would handicap a student passing his examination or a clergyman writing a sermon. On the other hand, a profound emotion may, and often does, produce insanity, and even death. The best appetite is immediately spoiled on the reception of bad news, and good tidings act as a powerful tonic on our bodies. It is evident to every physician that, in treating man, he does so as an individual. Metaphysical subtleties as to our being dual or tripartite do not enter into his practice. There has been a sort of development of opinion in respect to mind throughout the centuries. The trend has been evolutionary, yet every now and then a reaction would take place, because of the powerful writings of some able metaphysician, whose reasonings would hold sway for many years among the learned of a country.

As Bain succinctly puts it in "Body and Mind."

I. Mind is two substances. 1st. Both material; (*a*) The prevailing conception among the lower races; (*b*) The opinion of most of the ancient philosophers; (*c*) Held by the early Christian Fathers.

2nd. One immaterial and one material; (*a*) Commencing with Plato and with Aristotle; (*b*) The later Fathers from the age of Augustine; (*c*) The Schoolman; (*d*) Descartes; (*e*) The prevalent opinion.

II. 1st. Mind and matter the same; that is, identical; (*a*) The cruder forms and expressions of materialism; (*b*) The pantheistic idealism of Fichte.

2nd. Contrasts of mind and matter as effect and cause. A guarded or qualified materialism held by many physiologists and metaphysicians of to-day.

In addition to these views we have those of the theologians who hold that man is a tripartite being composed of body, soul and spirit. One of these psychic entities is held by such to mean a higher power and non-corporeal substance, having capacity to formulate abstract ideas, to grasp to some degree the conceptions of time and space, and in the ethical world, to reach beyond the brute creation, in forming and estimating moral judgments. Many of our ablest biologists hold that the minds of man and animals are similar in essence, but that of man by evolutional growth has much greater capacity, which is crowned by that faculty of man through which he can create moral judgments and appreciate their value in his daily conduct or in that of others.

Such modern thinkers as Lotze are believers in the existence of a soul-entity, and not a mere nerve secretion. They hold that no discoveries in mechanical and biological exploration can annihilate that entity in which is spiritual force, but which is a substance and not gross matter. He bases his opinions on the unity of self-consciousness. We cannot predicate of this Ego any quality or property which is indispensible to the existence of matter.

Wundt, on the other hand, scouts the argument based on conscious states, and holds the mind to be complex, and that consciousness is only an act of concentrated attention; that it is meaningless to speak of a spiritual substratum, that it is only material phenomena, or *attributes* inherent in matter. When great minds thus differ we can patiently wait for further developments.

Psycho-physics are at present commanding a good deal of attention, especially in child-growth. The gradual development of body and mind, and the order of sequence in ideation in the young, from the simple to the complex and from the concrete to the abstract, is an inviting field for research.

The dawn of the intellectual life and the gradual growth of the æsthetic and ethical elements in the juvenile mind under normal conditions must be subjects of surpassing interest, not only to the philosopher, but also to the alienist.

The literature of the day shows that many able minds are being directed to the study of the evolution of mind along these lines, with great promise of fruitage.

CHAPTER III

BRAIN PATHOLOGY.

MUCH cannot be said here upon that extensive subject, *Brain Pathology*. A few pointers are all which can be recorded.

As a rule, the size of the head of the insane is below that of the sane. This is not always the case. There is in the majority of the insane a want of symmetry in the skull; the one side being flatter or smaller than the other. Sometimes the skull is high and dome-like; sometimes compressed laterally, and in others keel-shaped. These abnormalities are seen among the chronics, as it needs time to produce them.

The most common changes in the membranes are those of thickening and opacity. In the pia mater is found, in addition, condensation and a varicose condition of the vessels. In insanity, the exudations of the pia mater are not organizable. When adhesions are found between the pia mater and the grey matter, as seen in paresis, the connections are probable through the connective tissue of the grey matter. Congestion of the pia mater and serous effusion into its meshes are always found in atrophy of the brain. The vacancy made because of the shrinkage, is filled in this way. In vigor and health the apices of the convo-

lutions are on a plain. In old age there is an uneven atrophy apparent. This progressive shrinkage is also seen in premature dotage, especially if brought about by alcoholism. An uneven atrophy is always seen in cases of paralytic dementia, and in chronic dementia and melancholia.

When such a degenerative condition is found, the colour changes from a normal grey to a yellowish white, doubtless, because of the nerve cells decaying into a granulo-fatty substance.

Out of sixty-three brains examined by Tucke, there was an average atrophy of $5\frac{1}{4}$ oz. per brain among the chronic insane. In thirteen of these patients, who were over sixty-five years of age, the average amount of lost substance was $8\frac{1}{6}$ oz. A few were atrophied as much as 14 oz. Normal atrophy commences between fifty and fifty-five years of age, and in some at forty-five years of age. In such, shrinkage is not condensation and increase of specific gravity, but a loss of material. There are many exceptions to this rule. A very little added to or taken from the surface of a round or ovoid body, means a great deal in the sum total, as our knowledge of the measurements of such shaped solids indicates. It is a matter of cubic calculation, and not of a mere superficial area.

When measuring the cavity of the skull, about 15 per cent. is deducted for space not occupied by the brain. The average specific gravity in health is 1,040, ranging from 1,026 to 1,046 and upwards.

The specific gravity may diminish by effusion of

serum, or by the accumulation of fat globules. In softening, fatty matter predominates. In degeneration the organic elements are apt to change into the form of the hydro-carbonates.

Inflammation is seldom a primary cause of insanity. It may be in a secondary way. The organizable products in inflammation may, after it subsides, remain, and by contraction affect and partially impede blood flow in the meninges, and in cerebritis produce, as a result, atrophy of the brain tissues. We see this condition in atrophy of the liver, from inflammation of Glisson's capsule.

Because of any such impediments to vital action, stasis may take place by adherence of blood corpuscles to the arterial walls and thereby prevent plasmic exudation, or excessive nutritive exudation may cause hypertrophy, and thus impede functional action by pressure.

We have also hypertrophy largely made up of adventitious tissue, amyloid corpuscles, calcareous and fatty granules. All are evidences of retrograde metamorphosis. Connective tissue may take the place of nerve substance, or it may be an increase of other depreciated elements of a low order.

We may have substances formed in a normal way, but after being built up they deteriorate in structure, vitality and tone.

We may have in brain disease then as causes of insanity:

1st. Subacute inflammatory degeneration. In this

congested condition there are no fibrin exudates and no pus cells, as seen in cerebritis.

2nd. Chronic hyperæmia.

3rd. Fatty degeneration (*a*) as found in small blood vessels; (*b*) in nerve elements; (*c*) in new morbid products; (*d*) in retrograde changes of hypertrophied connective tissue.

4th. Amyloid degeneration, as seen in little starch-like bodies which give starch reaction.

5th. Pigmentary degeneration, which is mostly met with in the ganglionic centres.

6th. There is derangement of the connection between the nervous and vascular systems, causing disease of the minute cerebral vessels, in the form of fatty or calcareous decay in the coats.

7th. Albuminous matter may exist or serous fluid may be effused into the structure of the brain, and thereby separate vessels, tubules, fibres and cells.

8th. Molecular changes take place in same way by the means of blows, violent concussions, vitiated blood, emotional storms and such like. These changes may be very serious, yet beyond the search of the scalpel, the microscope and micro-photography.

9th. The blood supply is an important factor in insanity. Deficient quantity and quality act upon the nerve centres and these react upon the vessels, thus brain structure and function are affected. Heart troubles are very common among the insane, and the blood circulation is affected thereby. Fatty degeneration of the heart means loss of muscular tone, con-

sequently feeble contraction and blood flow, hence low brain vitality. Imperfection in the aortic valves means regurgitation and clot formation, and embolic results. Aortic aneurism is followed by a slow blood flow from the heart, feeble impulse and the existence of clot, hence embolism. In addition to these untoward conditions we often find hypertrophy of the left ventricle, which of necessity hinders systolic action.

10th. Many of the cells seen in senile atrophy look in the microscope like little blackish-brown spots, and might easily be mistaken for blood clots. The opthalmiscope often shows this condition in the retina.

11th. Calcification takes place in the cells as well as in the coats of the arteries. It is a return of a living cell to the primitive form of dead matter. The retrograde step to disintegration is "to the earth, earthy."

12th. Maudsley, in his "Pathology of Insanity," well describes the unknowable pathological conditions: "There are numerous facts available to prove that the serious modifications in the constitution of nerve element many take place without any knowledge of them otherwise than by the correlation of energy. After great and prolonged mental exertion, there inevitably comes exhaustion, which may be so great that the brain is utterly incapacitated for further function. A greater increase of phosphates in the urine testifies to the disintegration of nerve, yet neither microscopist nor morbid anatomist would succeed in discovering any difference between the

nerve substance of the brain of one who, after due rest and nutrition, was prepared for a day of vigorous activity."

The sudden shock of a powerful emotion may produce instantaneous death, just as a stroke of lightning may end life perhaps in the same way, but neither in the one case nor in the other may there be any detectable change. Electric fish are exhausted by constant irritation, but there is no apparent nerve change. Carbonic acid kills. So do such poisons as strychnine, aconite and such like, but beyond temporary blood congestion they leave no sign. Mechanical, chemical and life changes doubtless do take place, but there may be no physical evidence of them. The change is molecular and beyond human ken, just as is seen by the blow of a hammer on a magnet lying on an anvil when it is demagnetized at once, but no microscope nor chemical analysis can detect the atomic change. A colourless chemical solution of salts, which will change their affinities when brought in contact, do so in the common fluid without possibility of detection by eyesight, yet when evaporation takes place and chrystals are formed it is found that new compounds with new forms and new properties have been generated when the molecules were beyond human observation. It is not to be wondered then that great changes may take place in the ultimate elements of the brain producing mental dethronement and not discernible by our inspection.

We are not to forget what pathology has taught us

as existing in all diseased conditions of the physical system, and which has divided such into two classes.

1st. *Infiltration.* This is a passive process and means excessive *normal* deposit out of place.

The fatty, calcareous, the amyloid and pigmentary degenerations are in the nature of chemical rather than vital processes, and are often found in old age. The phosphates and carbonates of lime are normal constituents of the nutritive fluid, as well as are the albuminates. The former are chiefly found in the coats of arteries just as fats are found in liver cells, muscles and nerve substances to excess.

2nd. *Involution.*—This is a physiological process. The type of a structure is changed from its normal condition. It is a *metamorphosis* of tissue and not a deposit. It commences in a cell, and changes its nature. It is a living formation, and not merely an inert deposition. It can reproduce itself as a normal growth does, but mere deposits can do so only by infiltration.

There are four recognized forms of involution: (*a*) Fatty metamorphosis; (*b*) cloudy swelling; (*c*) mucoid softening; (*d*) colloid degeneration.

What has been at first abnormal may continue in this state, and after a time will put on a physiological habit. We see this law of repair as a legacy in zymotic diseases, and an irregular habit of functional activity may be seen in special organs, such as the stomach, the kidneys and the uterus. In all such it is in fact perverted nutrition assuming a normal law.

A scar reproduces a scar. A callous, where a fracture of bone existed, remains as such throughout a long life. The adhesions of pleurisy or peritonitis organize and reproduce themselves as readily as normal structure. Adventitious tissue reproduces itself in all parts of the body when it assumes a permanent form. so when insanity takes place, at first it produces pathological changes of a pronounced kind. Mental abnormality arises therefrom, when recovery takes place and the mind seems to assume its normal condition an abnormal habit has been formed which leaves in a comparatively healthy state mental abnormalities. Patients, of whose recovery we have no doubt, state candidly that they have not the mental robustness they formerly had, although to an outside observer no weakness in mental capacity is observed. It is possible that disease which attacks tissues never has all its foot-prints eradicated, but always leaves traces of its visit behind after its invasion has ceased to be aggressive.

In all forms of insanity there are two classes of lesions, as some one has well stated, viz.:

1st. *The constructive.* These include disorders of function and structure, such as are involved in inanition, indigestion, malnutrition, malassimilation and toxic effects.

To counterbalance these disturbing elements and agency, we need two classes of remedies: (*a*) The class which gives nutrition; (*b*) the depurating class. The

former furnishes building-up material, and the latter rids the system of effete and toxic accumulations.

2nd. The second-class of diseases may be called *the destructive.* They embrace the various cachexias, such as cancerous, syphilitic, tuberculous, the atheromatous and other forms of degeneration.

The treatment in this class must be tonic, stimulant or alterative. In the former class, nature is hampered for want of material. In the latter class, gross pathological changes have taken place. In treating insanity these facts require to be noted.

Clinical Conditions.

Insanity may develop because of clinical conditions, such as we find in:

1st. *Anæmic insanity,* which may be from malassimilation and consequent brain starvation, or chlorosis, or indigestion, with consequent blood impoverishment.

2nd. *Diabetic insanity from blood poisoning.*—*Post-mortems* show want of brain nutrition, consequently atrophy of the cortical substance. These two classes of patients are usually afflicted with melancholy.

3rd. *Insanity of Bright's disease.*—In this also there is blood contamination, weak heart action and as a resultant of these two conditions we have dropsy. Such cases are mostly maniacal, because of the toxic agents affecting the great nerve centre, and which have not been eliminated.

4th. *The metastatic insanity* is far from being seldom seen. The nerve centres are often attacked because of rheumatic conditions. When syphilitic psoriasis disappears, or old ulcers heal up, or erysipelas suddenly departs, or asthma is relieved, then in a substitutionary way some form of insanity supervenes.

In addition to these metastatic changes we see insanity occur in the inanition succeeding acute febrile diseases, such as typhoid, in puerperal conditions, in peritonitis, in persistent malarious fevers, after the exhaustion of surgical operations, and after an attack of la grippe, whether this is thoracic, abdominal or affecting the nerve centres alone.

These, and such diseases, may not be causes of insanity, but having established bodily weakness, the mental enfeeblement, heretofore latent, becomes manifest, and takes active possession of the brain to its hurt.

CHAPTER IV.

INSANITY—WHAT IT IS NOT.

It is not mere *eccentricity*. That is congenital. The oddity is natural to the individual, hence this warp is not a diseased condition.

It is not *crankism*. That means the turning of the crank of one idea to the partial exclusion of other modes of thought. This is seen in every genius, who has made his life-work turn in one direction, and who is usually good for little in every other mode of thought. The *crank* may be useful or useless, harmless or vicious, silly or scholastic, according to his bent of mind. He may be naturally a man controlled by a dominant idea, or this one-sidedness may be intensified by education or environment. He is, however, not insane.

The delirium or mania induced by fever, toxic agents, such as alcohol, opium and its salts, cocaine, hydrate chloral and such like, are not insane conditions. They are fugitive in cause and sequence.

The natural decay of old age, with its loss of memory, its childishness, and even its delusions, is a senility progressing along natural lines of decadence. Unmistakable insane conditions must exist, superadded to senile failure, in order to constitute mental disease.

Idiocy or imbecility are simply arrested brain development from nutritive or trophic defect, with the consequent mental limitation. This stunted condition is brought about along physiological, not pathological, lines, therefore is not insanity.

The delirium which precedes death, hysteria and simple hypochondriasis are too temporary, evanescent or intermittent to constitute psychic disease.

A number of these conditions are classed by some authors as insanities under the head of "Toxic Insanities," and are classified as saturnine insanity, alcoholic insanity, morphinic insanity, haschish insanity, etheric insanity, chloralic insanity, cocainic insanity, and oxy-carbonic insanity.

On a pathological basis these distinctions are fanciful and finical, unless a permanent mental disease follows the use of and abstinence from these drugs. Even then the toxic influence may not be the cause but only the occasion of insane manifestations. Unless we adhere to morbid conditions as a basis of our definition of insanity, then no definite formula can be given. Mere ephemeral states cannot be classified.

INSANITY.

Insanity is a fixed physical disease, which affects and controls abnormally the language, conduct and natural characteristics of the individual.

Any definition of insanity must, of necessity, be of a general character, as the signs and symptoms vary as does each individual from any other person in

physical and in mental elements. The definition given might be analyzed as follows:—

1st. *Fixed,* to distinguish it from the fugitive effects of toxic agents, from the deliriums of fever, and such like temporary mental unbalance.

2nd. It is always a *physical* disease. There is no reason to believe that the entity called mind is ever diseased. If the organ through which it makes itself manifest is in tune, then will the operator be able to healthily make known its normal condition. The medium is at fault, and not the agent.

The term *physical* is used instead of simply brain disease, because in a large class of insane the causes primarily are found in parts of the body outside the skull.

We observe this in puerperal insanity, insanity from heart disease, insanity from dyspepsia, or from kidney troubles. It is true, these disturbing centres may only be the *occasion* rather than the *cause* if hereditary conditions exist. Yet, the initiatory impulse is given from without.

The reflexes and their potency in disease are being better understood now-a-days, and in no realm of medicine is a knowledge of them of more importance than in nervous and mental abnormalities.

Until a comparatively recent period the locality of a disease, when discovered, was thought sufficient for our diagnosis; but now we find it necessary to take into consideration the trophic centres and the sympathetic relations of the parts affected.

3rd. The disease is *abnormal* to each individual. The natural traits and idiosyncrasies are changed, so we have in common use the phrase: "He is not himself." In studying an insane individual we must measure his present conditions by the healthy standard of himself. We have no common measurement of mankind as we have in cubic and lineal dimensions in the British Museum. As there are no two persons alike, except in a very general way, so no true estimate can be made of any man's mental condition by comparing him with anyone else.

4th. It will not do to judge by language alone, nor even by conduct alone. We must form an opinion based upon all the elements which are characteristic of the new departure from the life history of the individual placed in juxtaposition with previous habits, traits and experiences. On the one hand, we have natural, mental equilibrium; and, on the other, mental inco-ordination.

CLASSIFICATION.

To enumerate the classifications of authors would alone fill a good-sized volume. Each writer launches into emendations on the groupings of his cotemporaries or predecessors as he supposes his own productions to excel.

Associations have taken up the task, but with indifferent success. This is to be expected in attempting to classify phenomena which change in details almost as much as one person differs from another.

Any attempt in that direction must be of a very general nature. We see mania exhibited in mild forms of dementia, melancholia and excitement coinhabit in the same patient at the same time. The same is true of melancholia and semi-dementia. We have in progressive paresis, during its different stages, almost all external forms of mental abnormality.

At the same time, it is important to have some knowledge of the best known groupings. Skae's classification is held by many alienists to be the best. He follows the plan of Morel and Kolk, and looks upon mental disease from a clinical standpoint. In other words, he attempts to put in groups the phenomena of mind disease, and thus, as it were, give a natural history of it. It is too complicated to be practical in the study of the various kinds of insanity. It will be seen, however, it is not entirely ætiological, but is an attempt in that direction. It is as follows:

(1) General paralysis; (2) Paralytic insanity (organic dementia); (3) Traumatic insanity; (4) Epileptic insanity; (5) Syphilitic insanity; (6) Alcoholic and toxic insanity; (7) Rheumatic and Choreic insanity; (8) Gouty (Podagrous) insanity; (9) Phthisical insanity; (10) Uterine insanity; (11) Ovarian insanity; (12) Hysterical insanity; (13) Masturbatic insanity; (14) Puerperal insanity; (15) Lactational insanity; (16) Insanity of pregnancy; (17) Insanity of puberty; (18) Climacteric insanity; (19) Senile insanity; (20) Anæmic insanity; (21) Diabetic insanity; (22) Insanity from Bright's Disease; (23) The

insanity of oxaluria and phosphaturia; (24) Insanity of cyanosis from bronchitis, cardiac disease and asthma; (25) Metastatic; (26) Post-febrile insanity; (27) Insanity from deprivation of the senses; (28) The insanity of Myxœdema; (29) The insanity of Exophthalmic goitre; (30) The delirium of young children; (31) The insanity of lead poisoning; (32) Post-connubial insanity; (33) The pseudo-insanity of somnambulism.

It need scarcely be stated that these divisions are arbitrary, too minute, and put into prominence minor symptoms which are not *causes* nor *occasions* of insanity, but are only concomitants of deep-seated diseased conditions, whose latency has been made manifest by favourable conditions being produced. No man could go into any asylum and group patients into the infinitesimal assortment of Skae's classification.

There is a great deal of force in what Dr. Pritchard wrote, over seventy years ago, on this matter, viz.:

"I cannot conceive anything more preposterously absurd than to attempt to classify diseases with all the divisions and technology of a botanical or zoological system, and to force what is essentially disorder and confusion to assume the appearance of that order and symmetry which nature displays in the arrangement of the organized world."

Clouston endeavours to classify according to symptoms, and because of this method it is more practical,

although somewhat pedantic. The grouping is as follows:

Melancholia (Psychalgia), mania (psychlampsia), circular insanity (psychorhythm), dementia (psychoparesis), mental stupor (psychocoma), defective inhibition (psychokinesia), insane diathesis (psychoneurosis), fixed and limited delusions (monopsychosis).

The Medico-Pyschological Association of Great Britain has adopted the following classification:

1st, Congenital or infantile mental deficiency; 2nd, epilepsy with insanity; 3rd, general paralysis of the insane; 4th, mania; 5th, melancholia; 6th, dementia; 7th, delusional insanity; 8th, moral insanity.

This classification has been virtually accepted by the American Medico-Psychological Association, with the exception of the division under the heading of "Moral Insanity," which unjustly seems to have fallen into disrepute, simply because of a lax definition having been applied to it in some of the courts of the United States, and thereby criminals escaped unwhipt of justice.

German alienists are divided on this subject, the one class adopting tables based on mental manifestations solely, and the other on bodily conditions.

Bucknill, in his *Psychological Medicine*, makes an attempt to combine both the somatic and psychical symptoms in a study of the different forms of insanity.

As a historic fact, it is worthy of note that a commission appointed at a congress held in Antwerp in

1885, brought in a plan, and presented it to the Congress held at Paris in 1889. It was adopted, and is as follows:

(1) Mania, (2) melancholia, (3) periodical insanity, (4) progressive systematical insanity, (5) dementia (6) organic and senile dementia, (7) general paralysis, (8) insane neurosis, (9) toxic insanity, (10) moral and impulsive insanity, (11) idiocy.

Professor Krafft-Ebing, a distinguished German alienist, has a classification with seventeen divisions and forty-one sub-divisions.

These varied classes, arranged by different authors, show how difficult it is to go beyond general features in the groupings.

Hippocrates and Celsus recognized only three states of insanity, viz.: Mania, melancholia and dementia. Ancient Roman jurisprudence accepted only two classes; that is, mania (furiosi) and dementia (mente capti.)

The metaphysical divisions are: 1st, Insanity affecting the intellect; 2nd, the feelings and moral sentiments; 3rd, the propensities or instincts.

The forms of insanity usually adopted by us in this country, and incorporated in our jurisprudence, are: (1) Mania (acute, chronic or recurrent), (2) melancholia (acute or chronic), (3) dementia (primary or secondary), (4) amentia (idiocy or imbecility), (5) general paralysis of the insane.

Insanity can be studied from three distinct standpoints:

1st. An insane patient is diseased and needs medical treatment. He is the object of a physician's care.

2nd. He is irresponsible, hence not amenable to law and its punishment when violated. He can be deprived of his liberty without perpetrating any crime because of his helplessness, or because of danger to himself or others. He is the object of medico-legal enactment as children or idiots are of necessity, because of defective or undeveloped intellects.

3rd. There is a sum total view of insane conditions in which all the mental problems are considered. This may be called the medico-psychological aspect of such cases.

MEMORANDA.

It is well to put in a systematic way the notes which should be taken at every examination of a lunatic or a supposed lunatic. A case book should be kept for this purpose as it is often necessary to refer to these, long after the enquiry has been made. This caution is especially needed should litigation arise based on the insanity of such a patient. Memory is treacherous, but a record is not apt to be. It might be put in some such form as the following:

LIFE HISTORY.

Previous attacks, if any; number and character of each.

HEREDITARY HISTORY.

Age of parents; relationship of parents or grandparents; health of the same; family diseases and kind; peculiarities of character; consumption, hysteria, epilepsy, narcomania, or any of the numerous nervous disorders.

PREDISPOSING CAUSES.

Worry, over-work, dipsomania, habits, calling, infantile diseases, child-bearing, fever, traumatic injuries.

EXCITING CAUSES.

1st. The moral causes, such as those of the emotions, the passions and inordinate desires.

2nd. Physical causes, such as those acting directly on the brain, or sympathetically; anæmia, cachexia, or any diathesis. The two classes of necessity overlap, so they might be grouped into (*a*) local causes, (*b*) general causes, (*c*) physiological causes, (*d*) specific causes.

CHAPTER V.

A DELUSION.

A DELUSION is a false concept. It is an idea generated in the mind and not immediately suggested by the organs of perception.

If an insane man believes himself to be a monarch, or a demon, or a diety, or being composed of glass, or being any other absurd or impossible thing, he is the victim of any insane delusion. Strictly speaking, illusions and hallucinations are delusions as they also are false ideas in respect to the objective world. These definitions overlap each other, but all mean in the end false conceptions. A mere delusion is not in itself any evidence of mental dethronement. It is a common mistake to think that the false beliefs of the insane must of necessity differ from the delusions of the sane. The impression is that those of the former are controlling influences in conduct, are fixed and cannot be reasoned away, which is held not to be the case with the sane. This view is an error and against human experience. The delusions of the insane are often evanescent, have little or no effect on daily life and, if feeble, may be reasoned away. On the other hand, the sane may have false, fixed beliefs, to which they may cling with stubborn tena-

city. The superstitions of the hundreds of millions of heathendom, the mythologic delusions of classic and educated Greece and Rome, the absurd beliefs of many religions, from fetechism to the more subtle aspects of many creeds and dogmas, the accepted quackeries by even the educated, the incredible fads, more extravagant than any insane mind would accept as real beliefs, and the quasi-science and varied fanaticisms existing up to this hour, show that delusions are legion among the sane; and, stranger than all, in which they have implicit faith, even to the death of martyrdom.

The mere existence of a delusion is not *per se* an evidence of mental disease. Race, religion, education and environment must be taken into consideration, as well as mental calibre. All these must be considered, and from the stand-point of a person handicapped along such lines a delusion must be judged. Cetewayo, the Zulu king, was full of delusions, as were also his followers, but if even he had declared that he was a walking assegais, with head and feet attached, the most ignorant of his tribe would say he had lost his head.

Demosthenes would have been declared insane by the Greeks if, in his Phillipics against the Macedonian king, he had declared that he had fought at Thermopolæ, had led the Greeks at Marathon and Platœa, and had commanded at the naval battle of Salamis. At the same time, he and his countrymen believed in many gods, omens without number, and saw in every

convulsion of nature the mysterious working of some malign diety. Credulous as we are in many other directions, we know that all such were the delusions of brainy and intelligent men. Analogous examples might be produced from the history of Judæa, Egypt, or Rome, or from any of the great nations of ancient or modern times, not to speak of the ghosts, fairies and hohgoblins of our fathers. Enough has been said to show that insanity is a question of diagnosis which unreasonable delusions may and often do corroborate, but having due regard to all the factors specified in our estimate of mental obliquity or health.

There are many forms of insanity without delusions; and, on the other hand, the delusive idea in itself is not alone diagnostic of insanity, unless it has the element of impossibility in it under the circumstances.

Delusions are as various as are the manifestations of human thought. They have been classified by Ball and Ritti as follows, viz.: (1) Delusions of satisfactions, of grandeur, of riches; (2) delusions of humility, despair, ruin, culpability; (3) delusions of persecution; (4) hypochondriacal delusions; (5) religious delusions; (6) erotic delusions; (7) delusions of bodily transformation.

HALLUCINATIONS.

A hallucination is a false perception, as is an illusion, but it differs from it in being false in its entirety. It is a deception throughout.

The senses give to the mind, sights, sounds, smells

and various other sensations which have no real existence. It is more correct to say that the mind misinterprets the supposed evidences presented by the senses of the external world. The objective is not transformed subjectively into true ideation, as there is truly nothing objective. Those which exist from some perversion in the organs of sense, or in partial congestion of the brain, or from meningitis, or from toxic agents, must not be confounded with the hallucinations of the insane. We find illusions, hallucinations and delusions as phenomena associated also with sane and nervous disorders, such as mania-a-potu, epilepsy, hysteria, catalepsy, neurasthenia and such like.

In passing, it is worthy of note, that in the sane the hallucinations of sight are more frequent than those of hearing, but in the insane the converse is true.

Shakespeare has dramatically illustrated this fact when Macbeth sees the dagger. Also in "Hamlet" when the prince sees his father, the king.

Nicolai, the bookseller of Berlin, by holding his breath and thereby producing temporary brain congestion, could conjure up to himself vision as distinctly as in real life a goodly company of persons, and could describe the dress of each.

Napoleon saw his star of destiny, but he was epileptic. Castlereagh saw a child at his hearth, time and again.

Lincoln, at critical periods in his eventful life, saw a sailing ship.

Sir Walter Scott saw at times phantoms of the dead Byron.

Malebranche, the metaphysician, often heard the voice of God calling to him.

Descartes, also a great philosopher, states that after long confinement and study he felt he was followed by an invisible person urging him to search for truth.

Dr. Jonson (rare Ben) says he often heard his dead mother calling him.

Byron asserts he was sometimes visited by apparitions in various guises. He was an epileptic.

Goëthe declares he saw a counterpart of himself at various times coming towards him. He could conjure up at will ocular spectra.

History is full of such examples. Most of those cited were doubtless produced because of blood congestion in the brain, or nervous exhaustion through mental worry or overwork; in short, mind stress.

Each of us has false perceptions at times, such as seeing motes in the air, ringing in the ears, phosphorence; seeing objects apparently moving when we ourselves are travelling onward in a rail-car or in a boat, seeing a square tower as if round in the distance, or seeing a straight rod as if crooked when immersed in water; all are illusions of the sane.

If we imagine we see certain distant objects, especially if we expect to see them, our imagination often produces an impression almost as real as if they existed. The sane experience and judgment correct

these false impressions. A hallucination is, properly speaking, a sensation supposed to be received through the senses, but without an object.

It is well to state that there are three theories in respect to hallucinations and their primary cause.

1st. The mental theory, which centres this condition in the mind only as a false ideal.

2nd. The physical theory, which constitutes them merely organic phenomena, and produce false impressions upon the mind thereby.

3rd. A psycho-sensorial theory, in which there is supposed to exist derangement or want of co-ordination between mind and body.

The last of these views is the one most generally held to be correct, largely because of the fact that certain forms of insanity with illusions and hallucinations are found to exist with specific diseased conditions in the specialized sensory centres.

Illusions.

An illusion is an error of perception. It is the transformation in the mind of an unreal perception, and the imagining that a real object is partially or wholly something else. An illusion is partly true, as it has a substratum of reality to suggest the error and to build the ideal upon it. In short, it is a false appreciation of a real sensation.

It is not to be forgotten that both sane and insane may have illusions arising from disorder of the senses, and both classes may form errors of judgment upon

data directly derived from the evidence of the senses. Let me emphasize the fact by repeating that an illusion is a mental conversion of something really perceived, into something that is not perceived. For example, if one should suppose that the table before me is an elephant, or should imagine that the street cars which we now hear are making the noise of cannon, he mentally converts something real (the table or street car noise) into something unreal; that is, into the elephant or cannon's roar.

If these hallucinations or illusions are believed in then are they delusive; but if not believed in they are non-delusive, so we may have the two classes of defects.

Many forms of insanity have unchanging delusions, and become diagnostic. They are called by the German alienists *primordial delusions*. All such may yet be found to exist with definite pathological conditions peculiar to each.

The following points in the clinical history of the insane are worth noting and remembering in connection with delusions:

1st. To be sure that in insane cases there is no disease in the organs of special sense. If there is, then is it possible to give a wrong diagnosis in respect to the existence of illusions and hallucination.

2nd. When recovery takes place it is seen that delusions and hallucinations chronologically take there departure together.

3rd. False lines of thought or dominant delusions

give character and direction to the hallucinations when they exist.

4th. In the failure of mental activity such as is seen in semi-dementia, hallucinations and illusions do not usually exist, and if they do they are of a mild form and often of a fugitive nature.

5th. Fixed delusions of a pronounced kind are often seen in that unbalanced, mental activity which is named chronic mania, or in insane melancholia.

6th. Entirely deaf and blind persons have hallucinations of sight and hearing, when insane.

7th. Hallucinations of sight are prominent in the dark as well as in the light.

8th. In the acute stages of insanity, in any of the forms in which it presents itself, the mental changes are accompanied by corresponding variations in the illusions and hallucinations. This gives additional proof of their mental origin.

9th. As has been well said by some writer, the hallucinations of the insane are not simply vague sounds, or words, or lights, or ghostly shadows flitting about. They are complex and varied, and often consisting in seeing and talking with people in long conversations. They are often like a reverie intensified or personated.

10th. In all these delusional states there must of necessity be complexity in mental make-up and in physical manifestation, such as change of conduct, depreciated mental and moral vigor, morbid fancies, and it may be largely organic life, as is seen in semi-dementia.

IMPULSE.

This is a term that contains no correct idea of a phase of insanity, if taken alone. It is often taken and used to describe a sane act, such as *impulsive suicide*, or *impulsive homicide*.

To shield a culprit these terms are adroitly changed into the form of *suicidal impulse* or *homicidal impulse*. These are insane acts and the latter statements mean irresponsibility in the actor.

Impulse is an unfortunate word in this relation, and has been used with effect in legal courts. If insanity be a disease it cannot *begin* and *end* in an impulsive act any more than could hydrophobia or typhoid fever. It must have time for invasion, progress, and termination of longer or shorter duration as all other diseases exhibit.

Insanity may and often does begin with an impulse, but it will not end with that. In insane impulse, as in acute mania, there must exist more or less disorder of thought. We often see motiveless or purposeless homicide come on suddenly and then followed by delusional mania or dementia, or it may be, one may be a sequel of the other, if it assumes a chronic form.

Impulsions are divided into besetting impulses (obsessions) and reflex impulses (impulsions, so-called), according as they act with or without resistance on the part of the individual. They are also divided into intellectual, emotional or motor impulsions, according to the sphere affected. (Regis).

CHAPTER VI.

THE MANIAS.

YOU will notice in your text-books on the different forms of mental disease, how many, in the one designation or another, have the word *mania* attached to a term which is supposed to be distinctive of the various manifestations.

Take, for example, the word monomania, to which different authors attach different meanings. Esquirol states it to consist of mental disorder in which are expansive delusions of an egotistic nature. This is a very narrow definition.

Dr. Bucknill says, to the contrary, that monomania is secondary to some other form of insanity, and is usually a sequel to melancholia and means depression of spirits. This definition is diametrically opposite to that of Esquirol. Blandford holds that it is simply chronic insanity, free from extremes. Mania and monomania are virtually used synonymously. Clouston gives it the euphonious term of monopsychosis, which means not simply that there is one dominant idea in the mind controlling action. It is the neurosis springing out of hereditary predisposition, accompanied by lack of trophic power, and as a consequence brain anæmia. The records show that a large number of such die of latent phthisis.

Bucknill and Tuke truthfully say: "We heartily wish monomania had never been introduced into psychological nosology, for, if understood in a literal sense, its very existence is disputed, and if not, the various morbid mental conditions it is made to include by different writers lead to hopeless confusion. With one author it means only a *fixed morbid* idea; with another, only *partial exaltation*, while a third restricts it to a *single morbid impulse*." The list of authors with different definitions might be extended almost indefinitely. Some author says that it simply means a *fragmentary mania*, or insanity, on a single topic. There is now a tendency to give a new name to the condition of so-called monomania, when the dominant ideas are egotistic exaltation coupled with persecution. The term is *paranoia*, of which I will have more to say hereafter.

The term "partial insanity" or "temporary insanity" has no clinical conditions to correspond to one or the other. To give a distinct term to only one prominent feature of mental disorder is misleading, but to twist a word out of its world-wide interpretation is likely to lead to error in diagnosis. We might put the monomaniacal group in juxtaposition, thus:

MONOMANIA.

Klepto-	
Pyro-	
Eroto-	Mania.
Homicidal	
Suicidal	

The homicidal monomaniac has only a tendency to kill another, arising out of a substratal general disease based on delusions or merely springing out of impulse. Yet, he is usually quiet and orderly, except in the one lethal act. He cannot justly be called a *maniac*, as there is no general excitement of a continuous nature. The true maniac never plots injury to himself or others, except by misadventure. He is centred all in self.

The *pyromaniac* may coolly, deliberately and cunningly burn houses and barns, yet give no evidence of maniacal furor from beginning to end of his acts. His hankering to do this form of destruction never leads him to show excitement of any form.

The *kleptomaniac* steals useless things or one set of articles only, in which is no advantage to him; or useful things which are never utilized nor disposed of for gain or profit, without one moment of mental perturbation from first to last. The morbid desire to simply possess is given way to without let or hindrance; but there is no sign in language or conduct to indicate *mania*. So I might go on describing these so-called partial maniacs in which are no excitements, and to which the generic name of monomania is not applicable.

I read the other day a work on this subject in which the author had the usual craze for an infinitesimal nomenclature. He called the "insane desire to marry" by the classic term of "gamomania." This has been endemic since the days of Adam and Eve, and is

likely to continue until the final consummation of all things.

The other day a German designated "the mania to steal women's shoes," *Frauen Schulstehl.*

I might be permitted to add to such absurd distinctions, by calling erotic desire in a woman *mano*-mania. My newly coined term would at least be clinically correct in part if not in its entirety.

The word *mania* being attached to so many terms leads to serious error in jurisprudence, and teaches the public, from which are drawn our juries, to believe that an insane person must of necessity be a maniac.

When the quiet, delusional and homicidal lunatic is tried for murder or attempted killing, his manner is so orderly in prison or in the dock that no wonder ordinary men, to many of whom a lunatic is a curiosity, think that such a well-behaved man must be sane and responsible, and he is hanged accordingly.

They do not know that the typical maniac does not belong to this class, and that "raving madness" is not very prevalent, even in hospitals for the insane.

Some such term as "Impulsive Insanity" would be more appropriate in describing the so-called monomaniac. Those thus afflicted manifest the morbid mental bias through varied impulses—some of one kind, and some of another—yet, the diseased condition of the brain might be largely uniform in all. It is not to be supposed that each of the monomanias, or each of the general manias, or, in fact, any one of the myriad forms of insanity, with isolated signs

and symptoms, has recognizable pathological conditions peculiar to each as exciting causes. The least molecular disturbance, the lowering of organic life without disease, simple anæmia or hyperæmia, or the cell-world in our nerve centres in sluggish conditions may and does bring to the surface latent traits of character without supposing peculiar and distinctive brain changes to correspond to each mental condition. The same may be said in respect to diseased changes of a gross nature. We have being made manifest the trend of individual minds in the so-called monomanias without the discovery of any specific form of disintegration which could be labelled. Until such is found to be the case it is well not to divide and subdivide mere symptoms, and attach to each phenomenon a name which has no clinical significance.

Even the word *mania* must be taken in a circumscribed sense as it enters into other forms of insanity not thus designated. We find mania a prominent feature in intense melancholy. Excitement is often present in a dementia which is not profound. Paresis, in its early stages, shows pronounced mania. Epilepsy is scarcely without it of the severe kind. It is often an element in syphilitic insanity and the paranoiac with strong delusions of persecution may become insanely excited, goaded thereto by his false ideas.

It is evident, then, that the term mania in its widest sense cannot constitute a distinct class of the insane. There is, so to speak, a correlation of mental energy

in many of the forms of mental alienation. These translations are seen in the dominant and imperative impulses. This metamorphosis of one outbreak into another is often seen in so-called homicidal and suicidal mania, pyromania, kleptomania and narcomania. All these manias have common characteristics, but change according to the mental and physical idiosyncracies of each individual. The inhibitory power is weakened. In other words, the balance-wheel which regulates the motion of the volitional centre is out of gear, and the moral nature is blunted, which so often controls conduct. As Ribot, on "Diseases of the Will," puts it, "They are conscious, inco-ordinated and incapable of struggle."

Mania Proper.

It has been my custom heretofore to classify the general manias into two great groups, viz., *sthenic mania* and *asthenic mania*. In this respect I was following the plan of well-known authors.

In thinking the matter over I have felt that the word *sthenic* (or strong) was virtually a misnomer, as the manifested strength was a call upon the reserve force and was really an evidence of weakness. This fact is seen in other diseases. Clonic and tonic spasm is evidence of weakness, although there is exhibited great power for the time. The same might be said of the strength put forth in delirium tremens, in the delirium of fever, or in the temporary power given to men under the stimulus of various excitants, yet

we know that a proportionate equivalent of weakness must follow.

The maniac is generally credited with possessing an absolutely large amount of physical power, and although one is now and again astonished at some feat of unusual strength, yet it is at the expense of latent power. The singleness of purpose of the delusional maniac gives intensity and force to the acts; the same is seen, for example, in the prodigies of physical energy performed by soldiers or sailors in the excitement of a battle.

The maniac is not physically stronger than the sane, yet the power of endurance in many of this class is simply astonishing.

A weak woman, for example, will, day after day and night after night, talk, walk and gesticulate, and at the same time take little nourishment.

This state of excitement may with intervals continue for months together, yet during such a period there is little abatement of physical strength. No sane person could do this without dangerous exhaustion ensuing.

In a general way, insane mania may be said to be *a physical affection, characterized by unusual mental activity with partial or complete incoherence, accompanied by bodily excitement not normal to the individual, and for which there is no rational cause.*

In the acute stage we have usually presented (*a*) physical agitation, (*b*) mental perturbation of an exalted

kind, (*c*) inhibitory powers for the time inert or partially so. There is no mental lever to regulate the power. (*d*) Consciousness, memory and coherence of speech absent. Any one thus afflicted is a typical case.

This form of frenzy very often comes on suddenly and sometimes runs a rapid course to death. When we have in addition to the above symptoms an increase of temperature, muscular wasting, wiry pulse, refusal of food, sordes gathering about the teeth, a brown, dry tongue, clammy sweat, tympanitis, shortness of breath, perpetual motion, involuntary urination and fœcal discharge, twitching of the tendons and muscles and persistent insomnia, then we know that death, possibly sudden death, is imminent.

So like typhoid fever in its latter stages is this acute form of mania that many authors give it the name of *typhomania*.

I repeat, it is well to remember in this connection, as well as in other forms of insane mental exaltation, not to use the word *delirium* as being synonymous with *mania*. The former word properly belongs to and designates the temporary mental derangement which accompanies bodily diseases of an inflammatory or febrile type, and which is only symptomatic of such diseases in a subsidiary way. This is an important distinction which it may be well to keep in mind; at the same time, it is right to know that continental writers often hold the two terms to be synonymous. This is a serious error in nomenclature and in clinics,

as the two conditions are symptomatically quite distinct.

The following points are noticeable in acute mania:

1st. It usually begins with a period of depression of longer or shorter duration, and usually two or three weeks in duration.

2nd. Its time of invasion in a majority of cases is from three to five months, in some, however, it lasts for a year and more.

3rd. When recovery sets in it is often very rapid, from a few days to about two weeks.

4th. The more intense the attack, as a rule, the shorter it is. "The hotter the fire, the sooner it burns out."

5th. A sudden attack of mania of an intense type, bordering on what might be called frenzy, will often as suddenly disappear. Such cases are more apt to have relapses than are those who have invasions of a more gradual kind and whose convalescence is equally slow.

6th. As a general rule the mental disease which comes on slowly goes away slowly. There is less danger of a relapse in such cases unless it is only a phase in circular insanity.

7th. As a rule, asylum statistics show a preponderance of cases on the female side.

The fact that woman are more nervous than men and more emotional may be factors. It is not to be forgotten that the puerperal state is often a cause.

8th. A mania often terminates on the invasion

of some other disease, as if two such diseased conditions could not exist cotemporaneously. An attack of pneumonia, of inflammatory rheumatism, of diarrhœa and such like are examples of conditions which seem to modify if not extinguish a mania.

9th. The return of health is usually seen in mental oscillations, as it were, of the psychic pendulum, and not in a continuous and progressive improvement without drawbacks. It is like an incoming tide with its ebbs and flows, but with the trend upwards and inwards of each successive wave.

10th. Mania attacks the patient with abnormality in the mental mechanism. Sensation, ideation, perception, memory, volition and judgment are out of balance, and hence lack of mental co-ordination.

In chronic mania we have all degrees of intensity, from the most pronounced to the mildest type, many of these live to a good old age, as the excitement is not sufficent to drain to an appreciable extent the life forces. Many of the least excitable are useful in doing ordinary work about asylums.

It is difficult to give of this class an epitome of the symptoms in detail, except in a general way. There is more variety in the manifestations of a disease so pronounced as mania than in the negative symptoms of dementia, or in the quiet and often unobtrusive conduct of these afflicted with insane melancholia. The trend of a varied mentality is most plainly seen in mania, and as in all diseases the idiosyncrasies of

each individual come to the front and show native diversity.

In chronic mania the furious maniac is seldom seen; although, in past ages writers tell us they were very common. In fact, the word maniac was held to mean a raving madness or a frenzy.

The comparative quietness in our large hospitals for the insane is mostly due to little or no restraint, to personal kindness and the absence of brutalizing and degrading methods in their treatment. Madness under aggravation was not always a necessary product of the malady, but was a result of unnecessary restraint and mismanagement.

Chief officers of asylums have brought to them ever and anon patients who are violent and boisterous because they are in irons or tied with ropes and straps by friends and relations, based upon the mistaken idea that to be insane necessarily means to be dangerous. At the asylum door these are removed and, as a rule, the result is comparative mildness, quietness and tractability.

The animal instincts rebel against restraint. This is strikingly true should the mania be of the delusional type. The insane patient will naturally mingle the realities of the treatment to which he is subjected with his delusions and suspicions and fears. If a patient imagines himself to be in some place of torment, or is about to be murdered by his persecutors, who are standing around him, he is apt to have these morbid ideas intensified if he is treated badly. The

lowest natures, sane or insane, animal or man, appreciate kindness and almost intuitively know friends.

Many of these chronics are filthy in their habits, and some of them even beastly. Numbers of this class will not even obey the calls of nature. Some of them will, every night, besmear their bedrooms with their own filth as well as their persons, and will even drink their own urine. This general mania is not, as a rule, apt to lead to dangerous acts, and, in the chronic form, is often manifested in a childish disposition more than in any maliciousness. The rule is, that we find blunted sensibility, but occasionally there is, in the sensory sphere, hyperæsthesia. The senses of smell and taste are often deficient in sensitiveness, but sometimes very acute.

Unless this class is bordering on dementia there is a good deal of intelligence left, and, if the mania is of a mild type, such are very good workers. Our insane gardeners, farmers, tradesmen and mechanics are indispensable as helps in the varied occupations which are carried on in asylums.

Acute mania is a form of insanity often simulated by imposters. The sham is easily detected. No amateur lunatic can readily put on the wild, restless eye, the ceaseless movement, throw together the disjointed ideas and use the rapid utterance of acute mania as the insane do. In acute mania the skin is, as a rule, dry and harsh, or cool and clammy. The malingerer, who lashes himself into fury, on account of his exertion is hot and sweating. The maniac will

pass days without sleep, and even weeks with only a few hours at a time. No imposter can do that, nor can he keep up the excitement for a lengthened period. A pretender not well skilled in the different forms of insanity will mix them up. He is a poor actor; and if hints are given of his inconsistencies in his acting in his presence, it is astonishing how readily the bait is swallowed and the incidental hints acted upon. No insane man will care about hints or advice.

The deceiver succeeds better in simulating chronic mania. In this he overdoes the signs, and, in his eagerness to appear insane, he oversteps the bounds of insanity and overshoots the mark. He usually thinks a lunatic must constantly gesticulate, bellow, rant and rave, and therefore indulges in gross exaggeration. He pretends that he has no memory of anything, and puts on foolishness and stupidity. The really insane with chronic mania, if not an imbecile or an idiot, is not so deficient of mental power. Few will pretend to be insane unless to excite pity or to escape punishment for crime, or to avoid heavy labour in prison. A few such deceivers have come to us from the Central Prison to avoid work, or to have a better opportunity to escape, or to have, as one of them said, "a good time, with plenty to eat and nothing to do."

CHAPTER VII.

DEMENTIA.

DEMENTIA is the lowest form of insane intellectuality. In short, it is mental decay because of brain degeneration. It effects every mental faculty, and is stamped upon and is patent in the intellect, disposition, habits, manners, temper and general character of the individual. It is mental *deprivation*, and is contra-distinguished from the mental *exaltation* of mania.

Dementia is usually classified under five kinds:—

1st. Primary dementia is the result of deficient brain development. This is not insane dementia. We see it illustrated in idiocy, congenital imbecility and cretinism. It is not to be forgotten that in amentia we have simply want of growth of brain cells, hence circumscribed mind growth. This is not mental atrophy from a higher developed condition and pathological; it is mind deprivation from physiological failure in growth and activity. The instrument is circumscribed, so must be the agent's power which operates upon it.

2nd. Secondary dementia, as a sequent of other diseases, may be centric or eccentric.

3rd. Senile dementia. This is not only the natural decay of old age, but includes premature natural

decay, which often begins at the second trial epoch of life in many, because of a life of mind stress, or it may be handicapped by a bequeathment of malign tendency which precipitates mental degeneracy early in life, should the conditions be favourable.

4th. Organic dementia. Under this head is classed those who are thus afflicted as a result of gross organic or traumatic injury to the brain.

5th. Toxic dementia, following the undue use of alcohol, opium and its salts, and such like, including the long use, in large doses, of the iodides and bromides. In such, childishness often supervenes early in life.

Strictly stated, dementia is a term which should be used only in referring to physical disease which produces thereby *acquired mental enfeeblement*, while imbecility should be a term applied to mental weakness, based upon congenital, fœtal or infantile *arrest of development*,

The moral faculties being based upon, and springing out of intelligence, must of necessity be absent in this class of the insane.

The changes are often seen after attacks of apoplexy, of paralysis, or of continued alcoholism.

We see in typical cases of dementia a change of physiognomy. The countenance becomes expressionless. In extreme cases the eyes have a vacant stare. There is a silly smile on the countenance, or more often meaningless apathy. In short, the silliness, the stupidity, the relaxation of facial muscles, the list-

lessness, the hanging head and dangling arms, the lolling about in an aimless way, the altered expressions of countenance, the puffy hands and feet are appearances when once seen are not soon forgotten.

When such are addressed, they may raise their eyes and look out at the corners of them, but they will seldom raise the head. They would burn before a fire before they would move. In summer, flies will settle on the eyes of a dement or round his nose and mouth, but their tittillation will not disturb his stolidity and apathy. The saliva and secretions from mouth and nose are unheeded. The urine and fæces pass involuntary as in early childhood. In the lowest forms such would neither eat nor drink. The natural cravings of hunger and thirst are at a low ebb. The same may be said of endurance to pain. The face is often purple, and the skin and hair become harsh and dry. The perceptive faculty is faint. The emotional nature is blunted. The sexual instincts are weakened or destroyed. Memory, attention, logical sequence and knowledge gained from experience have little or no existence. The above description is that of a profound case of dementia. There are all gradations of this class up to those who are merely childish, but have sufficient intelligence to be usefully employed. To this class I apply the term *semi-dementia.*

Secondary dementia has some other form of insanity preceding it, such as mania, melancholia, paresis, and some of the fleeting forms of delusional insanity.

This form may be a direct sequel to other forms of

insanity and there may be periods of slight mental brightness interjected into its course which would look like partial recovery; this temporary waking-up from mental lethargy may be followed by a stage of confusional ideas, and then comes a lapse again into the chronic condition. It is usual with some writers of psychiatry to call this transition stage *tertiary-dementia*. In fact, it is not a different form, but is only a temporary waking-up of mentality under that rhythmic law of periodicity which is seen to a greater or less extent in all diseases.

In the profound forms of dementia there is more or less loss of common sensibility. Sometimes there is the loss of the use of one of the special senses. Sense-loss always means to some extent mind-loss, as the special senses are avenues of knowledge of the external world from whence our primary ideas are suggested and generated. This statement does not absolutely hold good in the deprivation of recollections or retrospects of the past. Loss of memory alone is not an infallible test of mental dethronement or even weakness of intellect. Many imbeciles have a wonderfully retentive memory, and, for example, show great capacity in arithmetical calculation. The imbecile, blind Tom, had a phenomenal recollection of musical notes never heard by him before in the new and unlooked for relations and combinations of harmony and melody. Some one faculty of the mind seems to not only tower above its fellows, but also to dwarf them in their development.

The human mind seems to be like a reservoir with many out-flowing rivulets. The complete or partial stoppage of a few of these gives more force and impetuosity to that which is unimpeded. We see this rule in so many sons of genius who are great in some art, but whose biographies show them to be very small, indeed, in every other direction.

As a rule, because of incapacity to be taught, added to want of judgment, the imbecile prodigies are useless as citizens, except to be exhibited at dime museums. Insane semi-dements often show great ingenuity and originality in some one direction, and are foolish withal. Those who have learned trades and thereby have acquired manual dexterity need little mentality to carry on the same occupation. Many of the movements become purely mechanical because of repetition, and the mind itself in the same direction becomes automatic. Our insane gardeners, tailors, shoemakers, carpenters and blacksmiths come largely from among our semi-dements.

These are very useful patients. Many of them are more or less intelligent. Some have harmless delusions which, when pleasant, beguile the hours away as they are facts to them, even if this mental panorama is a building of castles in the air.

Organic life is seemingly in a good state, hence excellent bodily health. They eat well, sleep well, work well, and are generally contented with their lot. They are usually gentle in manners and obedient in doing any work assigned to them. At times one

or another may, for a day or two, become intractable, because of some delusion becoming dominant, but this state passes away in time and all is well again.

They have, as it were, children's minds in adult bodies. The vegetative functions are apparently normal and the nerve centre of the mind has in its abnormality assumed a physiological habit, as it were; and if an Irish bull is permissible, becomes normal in its abnormality, just as we find in a scar, in the callus of a once broken bone, or in the life-time adhesions of pleurisy. The brain degeneracy has come to a standstill and as a result the mind has returned to a permanent state of childishness.

We find, however, that such easily succumb to diseases of an inflammatory nature. The healthful appearances are often deceptive and we see the want of tone and the low recuperative power when the system is put to the test from the drainage which any active and aggressive disease makes on its vitality. The reserves are few and easily exhausted and disintegrated in the sustained and continuous battle for life against these inroads.

We are also to be guarded not to confound natural failure of memory with diseased conditions such as the insane dements show.

Esquirol included idiocy in the term dementia. The distinction between the two classes is radical. The nascent state and the acquired; the want of development on the one hand and the loss of acquired mental faculties on the other make a line of demarcation so

plain as not to be misunderstood. Jurisprudence extends the meaning to all classes of persons afflicted with mental weakness, as its standard is simply that of mind-loss irrespective of causes and physical states. In law it is merely mental capacity which is considered. It is the citizen, not the patient, that law considers in its estimate of responsibility.

The child of immature age, the idiot, the imbecile and the dement are held to be incapable to discharge an obligation, and are, therefore, not accountable for their actions.

CHAPTER VIII.

GENERAL PROGRESSIVE PARESIS
(GENERAL PARALYSIS).

THIS is primarily a brain disease in the cortical areas. As it progresses, the diseased condition spreads until all the nervous system is involved, including the spinal cord and the sympathetic. Its invasion is not always uniform, although the mental symptoms are usually first noticed, especially in superabundant egotism and erratic conduct not natural to the patient. He has a recklessness in respects to plans and the spending of money in speculations generally disastrous because lacking in judgment. He becomes silly, impulsive and restless; and, although abstemious, may be thought to be under the influence of liquor. Then may follow a change in articulation. It is not such as we hear in hesitation or stammering. It is simply as if the tongue were too big for the mouth; in short, it is lack of co-ordination, and means partial loss of control over the vocal organs. At first the change is very slight, and might not be noticed by an ordinary observer. After a time, he may speak distinctly at first, but if the conversation should be prolonged his control becomes impaired. In the incubative stage, when such come under the notice

of the medical man, he may be deceived by the apparent physical health of the patient. His appetite is good, and it may be ravenous; he has splendid digestion; he complains of no pains, not even headache; he sleeps soundly; he feels well, and any enquiry in that direction is usually answered by such expressions as "I feel first rate"; or, "I never felt better in my life." The physical activity shows that mere organic or vegetative life is so far little impaired. The friends, however, will tell of the change of natural mental characteristics, notwithstanding these evidences of physical health. There crop up irregularity of temper, transitory defects of mind, especially of intellect; lack of judgment and discretion in following his usual occupation, and moral perversion in untruthfulness and in gross venereal excesses which may surprise his friends who may have known him through life as a model of propriety and religiosity. Intellect and morals are being dethroned. The general practitioner too often overlooks these premonitions, which are truly pathognomic, and often in certificates of insanity call this distinctive disease "mania," or "delusional insanity," or "dementia." Any of these may exist, but they are only symptoms of this underlying general condition.

It is not to be forgotten that we often have the prominent physical symptoms appearing first, and at the same time may not be able to detect any mental trouble. In my experience, as a rule, the mental deterioration antedates the physical, but often both

are coexistent in the initiatory stages of the disease. Being a disease of the higher nerve centres, it is evident that much must depend on the resisting power of those nerve masses in detail as well as combined, hence the variety of phenomena presented in respect to the invasion of the disease. The general depreciation of co-ordination is very marked as the disease advances. The lips are tremulous, such as we see in a child about to weep. There is often grinding of the teeth in the last stage; when the tongue is held out it trembles and is often drawn slightly to one side. It requires an effort to protrude it.

Irregularity in the size of one pupil compared with the other is well marked in most cases, others have simply enlarged pupils. The patient has a shuffling gait and a relaxation of the muscle of the legs, such as we see in persons walking on slippery places and who are not sure of their footing. He does not drag his feet nor bring them down with a clatter as is seen in locomotor ataxia. It is not so much want of muscular power, although that is somewhat deficient, as want of directing energy. The same is true of his prehensile power and feeble direction, as is seen in the attempt to pick up a grain or a needle.

In these respects it is distinct from true paralysis, in which sensation and motion are last. The last organized centres fail first. As a result the higher mental powers, as well as the more recently educated physical acquirements, are the first to show signs of

decay and to throw out signals of distress. Hence we have weak memory, feeble concentration of thought, flagging attention, lack of judgment, erratic conduct, wild imaginings, muscular enfeeblement and incoordination, primarily seen in the last acquired dexterity through handicrafts.

At the early stage of the disease the mental symptoms are usually well marked. Occasionally he may be melancholy, but ninety-nine out of every hundred are full of hope and cheerfulness. Self-pride and self-praise are prominent. Although poor, the paretic may, in his imagination, think himself to be a man of immense wealth. Millions of dollars are at his command. He owns kingdoms and can dethrone monarchs at will. He bestows favors lavishly, in his own mind. He has plans of all kinds, which show, to him, such gigantic wisdom and intellection which, when made known, will astonish the world. No man can compare with him in the vast grasp of his mind or the grandeur of his diverse schemes. The asylum may be his palace, and every person in it his slave or his most obedient servant. His grandiose ideas are many, and enter into the warp and woof of his daily life, giving colour to all his tangled strands of thinking. In short, his panoramic ideal world is most pleasing, in which, with wildest fancy, he is "biggin' castles in the air."

All such delusions may exist without paresis, so the diagnosis must include the evidence of the distinctive physical deterioration. As the disease

progresses these symptoms intensify until, last stage of all, he lapses into dementia; yet, as a rule, he eats well and sleeps well until near the end. On account of the partial throat paralysis, when in this condition, his food, if solid, has to be cut up very fine for him, else in his bolting of his food he would choke himself. He has to be closely watched while eating.

Towards the end he loses control of the sphincters, and becomes very filthy. Hemiplegia often sets in, and remains until death; but, if the attack comes on early, he may partially recover from it for a time.

Death may ensue from mere exhaustion in the great nerve centres, or from epileptoid or apoplectiform convulsions superadded, and which precipitate the end; or life may be shortened by the invasion of tubercular disease.

The disease seldom lasts longer than four years, and so far is incurable. Cures are said to have been made in pronounced cases, but the diagnosis is to be doubted. The extensive and profound pathological changes which take place in the nerve structures, in the interstitial substance and in the envelopes are too great to be restored to health by any therapeutic agent put into the human stomach. The same is true in respect to the attempts to relieve the brain of the superabundant fluid by trephining, which some ardent surgeons have attempted, and with not very satisfactory results. It is true, glowing accounts have been given of the results of these operations; but, however

brilliant the operations may have been, the end was death. Tapping the membranes will not affect favourably the diseased conditions of all the contents of the skull and spinal cord. Women are not as subject to this disease as men. In this asylum the proportion is one woman to twenty men. The statistics of a number of other institutions give a much larger proportion of women, even up to one in four of the men.

Our experience here is, that the better classes of the community are afflicted; those who have lived well and did not know what want was. Our private wards are never free from it, on the men's side of the house. As in all forms of insanity, the causes of paresis are varied. Taking the life-history of each patient to judge from, the principal causes seem to be principally four: (*a*) syphilis; (*b*) drunkenness; (*c*) sexual excesses; (*d*) worry or mental stress. These may be results in many instances rather than causes. The indications of the insidious invasion of the disease often show themselves anterior to the debauchery, licentiousness, and domestic or business troubles. Friends may not notice this change; so an outburst of strange language and conduct may seem to them to be the initiatory stage of the disease, although it may antedate this time.

It has sometimes remissions, and these are often so complete as to deceive physicians into the belief that they are recoveries. In fact, some authors declare them to be such, but a disease which never loses its grip of the

system, and which we know is sure to return sooner or later, and end fatally, cannot rightly be thus designated. I have seen such in the remissions go out and engage in their usual occupation from a few months to a year and a half, and act rationally during that halting period, but at last they return to die. In many cases, such periods of apparent convalescence may be often during the course of the disease, but they shorten in duration as the disease advances. Like an outgoing tide the waves may come back upon the sand, but each successive wave fails to reach the boundary line of its predecessor. The disease may be old, but a correct record of it was first given by Bayle in 1822. About twenty years ago I came across a volume of 225 pages written on this form of disease, by Dr. T. I. Austin, of Bethnal Asylum, England, in 1859. The diagnosis is well pictured, and on the whole correct, and the pathology shows painstaking research for that day. As to its cause, he says: "The wear and tear of modern society, the intense and therefore frequently unsuccessful struggle for position or livelihood, which is everywhere going on around us, and which is so characteristic of our age, and the more frequent occurrence of mental anguish; the consequence of domestic trials, may have actually augmented the number of its victims." In striking contrast to the treatment of the insane in this day, he graphically states that "From parish workhouses, and even from respectable wealthy homes, comes many a poor, demented victim of general paralysis,

with his head shaven, his nape blistered, with leech-bites on his temples, and cupping marks on his shoulders, his wrists and ankles abraded or ulcerated from restraint, his abdomen discolored from having been bound to his bed by a sheet, emaciated to the last degree, his trochanters nearly starting through the tense, livid skin, with bed-sores over the sacrum and on the nates, and with the inguinal clefts excoriated by ammoniacal urine. He has been neglected by his domestic attendants, who have probably thought such an existence was not worth continuing; or he has been hurried into dementia and extremity by the fervour of his doctor, who has evidently imagined he had to deal with an acute and curable disease." This dreadful recital was made only thirty-five years ago, and is in striking contrast to the treatment of the insane to-day in Christendom. The pathology of progressive paresis is very distinctive, and in a general way the life-history of a paretic could be outlined, based upon the footprints of the disease on the nerve masses.

There are adhesions of the membranes principally over the front part of the brain. The pia mater is found firmly attached to the brain substance, as if glued to it. If the membrane is torn away it leaves a rough depression, with serrated edges, very much as we find in a phagædenic ulcer. The cause of this is, that part of the brain substance comes away strongly attached to the membrane, and leaves these pits where it is torn away. These adhesions are very

characteristic, and differ from the usual inflammatory adhesions, in being attached in isolated parts. There is no evidence of pus or of there having existed active inflammatory processes. It is likely that the morbid condition proceeds from the brain to the membrane, and not *vice versa*. Puncta are very numerous, no doubt because of the passive congestion which existed *ante-mortem*.

In short, it may be said to be a chronic non-inflammatory process of deterioration, springing out of excessive functional activity, or from a diseased condition of the blood vessels specific or otherwise. There is no doubt a morbid change in the ultimate elements of the brain, and this molecular disturbance means defective metabolism. Granular and other morbid deposits are found in patches seemingly products of a low form of vitality. These adventitious substances give no evidence of being tubercular, and reagents show they are not of a fatty nature, nor merely inorganic as seen by the hydrochloric acid test. These granular deposits seem to be a kind of colloid degeneration.

Sometimes the adhesions of the dura mater to the inner table of the skull are so tenacious that it is torn away with difficulty, and sometimes in layers. The arachnoid is opaque in patches, and the sac made by the membranes is abnormally filled with a semi-gelatinous fluid, which is also found in the ventricles. There is usually brain atrophy and vascular loops in the capillaries. The vessels of the *pia mater* are en-

larged and as might be expected that condition is seen in the lateral ventricles where the *pia mater* takes the name of the *choroid plexus*. Very often the walls of the arterioles are incrusted with granulations, and the surface of the membranes in patches present scattered cell granules and extravasated blood globules. The brain shrinkage seems to be in the white substance, for the grey layers seem unchanged in quantity; in short, sometimes there is development, or rather hypertrophy in the interstitial structure, with vascular tree-like plexuses of arterial vessels.

One convolution is not adherent to another, nor does the *pia mater* adhere to the brain substance in the sulci. The reason may be physiological as it dip between them purely as a net-work of blood vessels, unaccompanied by fibres and lymphatics as is the case elsewhere. The ventricles are larger than normal, and occasionally the grey matter in places is thinner, but is more dense. The apices of the sulci are not all on a plain, but many of them show shrinkage. The white matter is often very much congested in patches.

The morbid processes in the nerve cells may be briefly summarized. The pyramidal cells in the lower strata of grey matter are always affected. The ganglion cells contain nuclei and, if in large numbers, they may swell the cells out of shape.

This is not the rule, for the multipolar cells are often shrunken, lose their angular appearance and the caudates disappear. There is often in the brain evi-

dence of the various forms of pathological change such as fatty, pigmentary and calcareous deterioration.

Vacuolæ are often seen under the microscope, doubtless from atrophy of tissue, as would be the case were the threads of a piece of woven cloth shrunken.

There is atrophy in the medullary nerve fibres. Lymphoid, spider and connective tissue cells are seen in large numbers both in the grey and white matter, but irregularly placed in the different brains of the paretics.

It will thus be seen that it is essentially a death of tissue and may vary very much like the slow natural process of senile decay, precipitated by the exhaustion of trophic energy or over stimulation, or the loss of nerve-cell power of restoration, or from tissue hypertrophy or abnormal blood supply from want of tone in the vaso-motor centres.

These radical changes are sufficient to account for the mental state and for the hopelessness of medication to affect a cure. Much, however, can be done to ameliorate the condition of this class during the progress of the disease.

CHAPTER IX.

PUERPERAL INSANITY.

PUERPERAL insanity is a very common form, and on an average one in every 450 child-bearing women is afflicted with it.

As a matter of fact, however, it cannot be classed as a distinct form of insanity in its manifestations. The difference lies in the cause rather than in the symptoms. The exciting cause or occasion is usually and primarily in the disturbance set up in the sympathetic system, and the brain trouble is a sequence to it. It may assume the form of mania or melancholia, and sometimes, though rarely, of dementia. One form may follow another in succession; that is, a case may show all in its progress towards recovery or chronicity. We are to guard against confounding puerperal *mania* with puerperal fever and its *delirium*. They are distinct diseases, and the delirium of fever is not the mania of insanity. The muttering inanities of fever have few features in common with the consciousness and partial intellectual endowment seen in the lesion of mania.

Puerperal insanity manifests itself at one of three periods in a pregnant woman's life, viz.:—

1st. The insanity at any time during the child-bearing period.

2nd. The insanity taking place at child-birth.

3rd. The post-parturient period, consisting of the time of lactation and weaning.

It is sometimes the case, that in the first-class the insanity may pass away at child-birth. The gravid uterus seeming to be the exciting cause. Such are usually melancholia and delusional. Some physicians have recommended in such cases the induction of premature labor, principally for two reasons: (*a*) To put an end to or at least shorten the attack; (*b*) To possibly prevent the production of idiocy in the child if it should live, or to destroy it for the same reason. Apart from the ethical feature of such a practice, I may say that there is no reason to believe that the mother would be benefited in any way by such a radical measure, as many miscarriages brought on by maniacal excitement have shown no improvement because of these mishaps.

In the period of labour, especially in the latter stage of severe and protracted parturition, there is often seen temporary delirium, and even a short period when delusions may exist, but which immediately pass away on the birth of the child. This is not insanity, properly speaking, as it is evanescent, and not fixed in duration. Hereditary predisposition is an important factor in its production. Physical causes are more frequently present than are moral causes or emotional excitation. At the same time anxiety,

worry, grief, fear and such like are often potent factors as excitants.

The insanity of lactation is usually brought on by the weakness engendered from nursing the child, added to the only partially-recovered condition from child-bearing and labour stress. In primiparous cases the danger is great, especially late in life.

Six weeks after confinement is the arbitrary limit given to this form; but, of course, it may occur several weeks after this time. I would say that three months would be nearer the mark, as so much depends on constitutional, local or predisposing causes, and disturbances beyond our knowledge, which may take a long period of incubation, or may not until the later period have produced conditions favourable to its appearance.

A great majority of those cases of the second-class become insane within two weeks after confinement, and the greater part of these within ten days.

It may be said there are two classes of those thus afflicted, that is to say:

1st. When the cause is apparently and simply *sympathetic*. In this class the uterus and appendages seem to be normal. The cause seems to be the shock to the nerve centres, which are in an unstable condition and ripe for an outbreak.

2nd. The *septic*. In this class is not only weakness from loss of blood, physical exhaustion, mental excitement, but also septic material from even normal decomposition finds its way into the open blood-

vessels of the uterus, thence into the sanguineous system, poisoning the brain in its flow.

3rd. Some authors have a class which they name *phrenic*. They state that inflammation of the brain supervenes on the invasion of a child-bed mania. In short, it is encephalitis, with sub-acute inflammation of the meninges. In such an attack we find not mania, but simply delirium. I have never seen such a case, although it is possible such may exist through the septic invasion into the skull cavity. If in puerperal patients we find great restlessness, insomnia and violence, with white-furred tongue, rigors, tympanitis, swollen legs, suppression of discharges or fœtid discharges, sallowness of complexion, excessive, clammy sweating, and feeble and rapid pulse, with temperature very changeable, ranging from 100° to 104°, then has puerperal mania assumed a dangerous type.

In addition to what has already been written, the following points should be remembered:—

1st. In a great many women there is a direct transmission of a tendency to break-down at the reproductive times, just as we see at the trial epochs of life in women and men.

2nd. Bodily conditions are to a greater extent exciting causes than is moral or emotional distress.

3rd. Child-bearing is more dangerous if not within ordinary physiological limits; for example, first pregnancies after, say, thirty years of age and upwards.

4th. Women who have had children, but, after

many years of a non-bearing period, have a child at the menopause, are susceptible to be attacked.

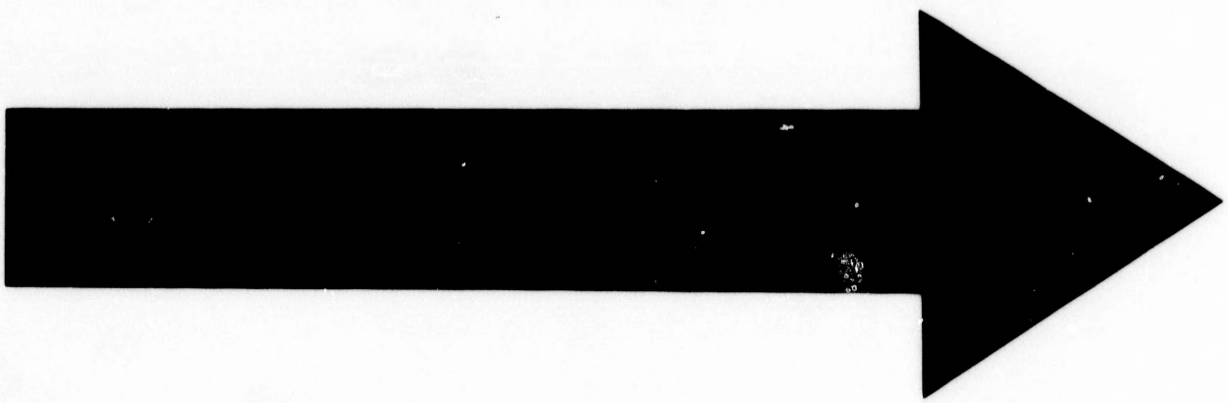
5th. During pregnancy there is a peculiar immunity from any severe sickness. This is not absolute, but the absence of various troubles at this time has attracted my attention.

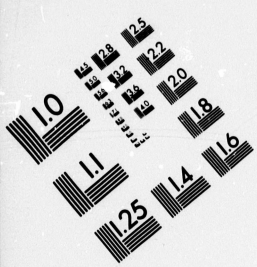
6th. A woman who has one attack is specially liable to other attacks, if the pregnancy follows quickly on a previous invasion. It is possible that the dread of another attack has an untoward psychical effect.

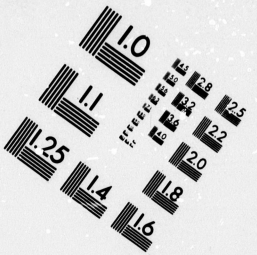
7th. Some women suffer more when pregnant with boys than with girls, and it may happen that insanity accompanies the one or the other, but not often both.

8th. Puerperal insanity is more prevalent among the rich or well-to-do than among the poor. The artificial living, the less vigorous organism, the neurotic diathesis so prevalent in the higher stratum of society, the flabby organization for want of proper exercise, the overfeeding, late hours and the unnatural life of fashionable society and such like, all tend to physically and mentally unfit such to face the trials of maternity. The introduction of healthy mothers from the humbler classes saves the race from extinction, as the well-known laws of heredity show.

9th. Illegitimate pregnancies seem to be more dangerous to mental integrity than child-birth among the married. Grief, compunction of conscience, reproaches of relatives and social ostracism must seriously affect the bodily and mental health of such, especially seeing many are young and not hardened







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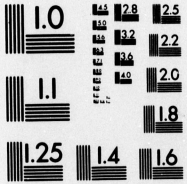
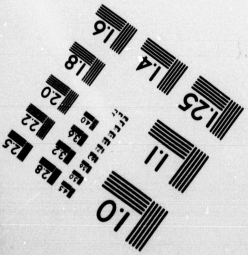
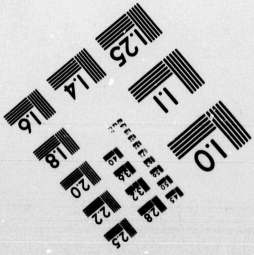






in vice. The majority of these are not prostitutes; therefore, susceptible to the loss of the social status.

10th. Among the poor the birth of twins is a serious cause of mental depression; hence its influence on the mother to her hurt.

11th. Sudden frights, emotional excitation, blows received, which may cause the child-bearing mother to apprehend, as a result, deformity or injury to the unborn child. This may prey on the mind constantly and become a predisposing cause.

12th. It is my opinion that the injudicious and too frequent use of anæsthetics, and the use of instruments in many cases, which some mothers have a terror of, may excite the malign influence in hereditary tendency.

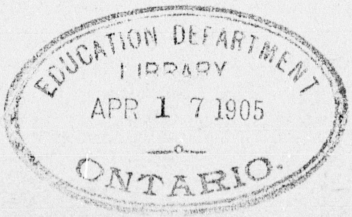
13th. A dislike of friends and relatives and a tendency to kill her offspring are often present. In such, there is usually an element of melancholy, accompanied by emotional disturbance.

14th. My former teacher, Sir James Y. Simpson, of Edinburgh, used to say that albuminuria was common in such cases. Dr. Campbell Clark, of London, asserts the same thing. These statements are no doubt true; and, as renal complications are so often found in insanity, they commonly cause that form of disorder at such a time.

15th. Secondary troubles often set up, such as pneumonia, abscesses and such like. The medical attendant must be on the watch for these, as such a development will complicate matters very much.

16th. The forms which puerperal insanity may assume are almost as manifold as are all the other varieties of insanity.

17th. The free use of instruments in labour may do untold injury to the child. The pressure upon the brain by them is very great through a powerful leverage, and no doubt produces molecular change in a susceptible organ, which may doom the unborn child to idiocy or imbecility. The necessary use of instruments always gave me chills from fear of untoward consequences, not only to the infant, but also to the mother. The mental anxiety of the mother when their use is proposed, and when they are applied, in addition to the usual distress, may be sufficient to precipitate a mania where inherited instability exists.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CHAPTER X.

CIRCULAR INSANITY.

THE most remarkable series of mental and physical phenomena are those which constitute what is called *Circular Insanity.* (French, Folie Circulaire.)

As far as we know, the pathological condition remains the same from year to year; yet, in spite of this uniformity, we find alternations of melancholia and mania, with intermissions, remissions or apparent recovery between.

This round of varied manifestations is invariable in sequence and variable in kind.

In this morbid cycle the order usually is:

1st. Mania, then remission; then melancholia, followed by remission, and back again to mania. This order of sequence is always carried out in the insane life of each individual.

2nd. The initiatory attack may come in the form of melancholia, then remission, followed by mania. This relation will then continue.

3rd. Another class may have these two forms of insanity in the same order, but in the intervals, as far as language and conduct are concerned, the patient appears quite sane for weeks at a time, and were it

not that we know the form of the insanity, might be discharged as recovered.

A few years ago, a political superintendent of a hospital for the insane, whose experience was somewhat limited, but whose boastfulness was ample, entered in his annual statistics all such intermittent cases as "cured." He prided himself on his superior methods of treatment by his recoveries. His professional brethren, whom he was maligning by implication, showed the fallacy of such a record. Eight persons had in twelve months been discharged thirty-two times as "cured," making thirty-two recoveries, not of *persons*, but of cases, as the persons were only *eight*.

When the two stages are definitely bounded the period of mental relief must of necessity be equally well marked. In many the change takes place from one form to another in a day, and in some in a few hours. As a rule, the shorter the duration of each form, the more intense is each. One of the distinctions in our diagnosis of these phases, from ordinary mania and melancholia, is in these sudden transitions from one to the other, which is not a usual feature in the distinct and separate forms. They usually change gradually, and remain unchanged for a considerable length of time.

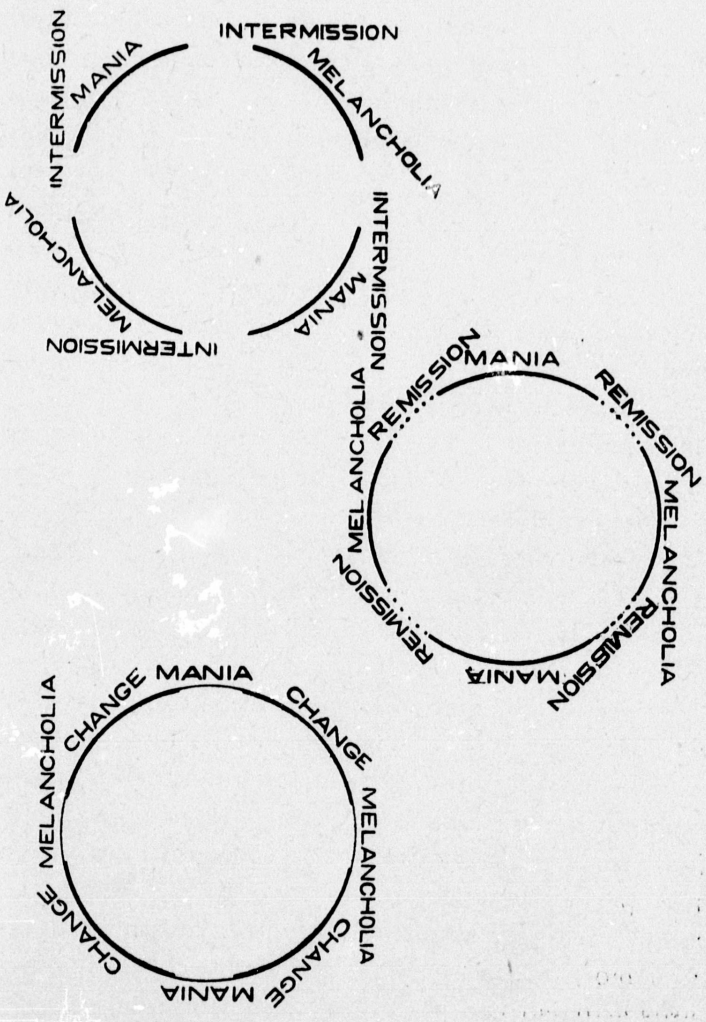
It seems to me that the exciting cause of these remarkable and regular changes must be in the coming and going, in waves as it were, of the vitalizing energy, which is seen at ebb and flow tide, in all

physical structures in health and disease. In the maniacal period of the cycle we have an over-activity, which carries with it into the mental and physical worlds low inhibitory power and great exhaustion.

From such depletion of the powers of life we have the quietude of prostration, to be followed by melancholia, from enervation. Should the primary attack be melancholy, then have we a step towards mania in the recuperation and rest among easily-disturbed elements, which gather up an energizing power, which is misdirected and over-active. The balance wheel to the engine is out of gear, hence the irregular movements. In other words, the pendulum swings from one extreme to the other by oscillations, according to a general law of motion, seen everywhere in operation in nature. Take another example: An electric battery may, by undue or continuous conduction, exhaust the fluid in store; or, on the other hand, the chemical energy by being generated too rapidly soon becomes inert, as its manifested power is lost. Allow rest, and this subtle agent will reaccumulate, the necessary conditions being present to generate it.

The application is evident by analogy in this form of insanity.

Circular insanity might be illustrated as follows: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These are among the cases which friends tease us to discharge. The patients seem so well to relatives, either in the remissions or intermissions that no reasoning to delay avails much. The heart of a near friend gets the better of the head, and a clinic to such against haste is often a "Wasting of our sweetness on the desert air." Many such are brought back in a few weeks or months with profuse apologies because of the precipitancy. The friends are not aware that the lowest point reached on the mental thermometer must be permanently raised to the normal before recovery can be said to have taken place.

The conditions in this form vary much in duration. As a rule, in each cyclical invasion the melancholy exists longer than the mania. The intervals of cessation may be very short, in some cases only lasting for a few days at a time. In others there are apparently no intervals, as the one condition is immediately followed by the other. There is no doubt the interval exists before such a diverse change could possibly take place, but it is not perceptible, so evanescent is it. The sudden plunging from the quietude and prostration of melancholia into the excitement of mania is often striking. Sometimes the two conditions have a short period between them of apparent dementia, or, more properly speaking, lethargy, yet this stupidity is more apparent than real, for such will afterwards astonish you by telling what they remembered while in this condition.

We must be guarded against drawing conclusions

too rapidly from seeing one or two alternations in this form of periodical insanity, as these may exist for one or two changes, and yet not be a typical case of the double form.

These may be only ephemeral coincidents, such as are seen in puerperal mania followed by melancholia.

Sometimes in periodic ovarian irritation we may have alternations, not from inherent, but outside influences; that is, from eccentric, not centric causes.

A large number of this class belong to those with hereditary tendencies, hence so seldom any of such recover, as the disease assumes a fixity of morbid condition when a few cycles have made their malign impressions on the organism.

It usually comes on early in life at the pubescent and adolescent ages. There are exceptions, but they are few. At the "trial epoch" of life the insane diathesis, in this alternating form, makes itself manifest in this persistent and enduring form. When great physical changes are taking place the hereditary neurotic weakness begins to make itself manifest.

The two forms may vary in intensity. The one may be mild and the other severe; both may be very pronounced, or both may be mild. There is no uniformity in these respects, even in the same individual.

I came across, the other day, in some publication a statement made by Dr. Thomas Willis, a celebrated physician, who lived from A.D. 1622 until 1670, which describes in quaint language this periodic form of insanity, accompanied with alternations. He says:

"After melancholia we have to treat of mania, which has so many relations to the former that the two disorders often follow each other, the former changing into the latter and inversely. The melancholy diathesis, indeed, carried to its highest degree causes frenzy, and frenzy subsiding, changes frequently into melancholia or atrabiliar diathesis. These two disorders, like fire and smoke, often mask and replace one another, and if we may say that in melancholia the brain and the animal spirits are obscured by smoke and black darkness, mania may be compared to a great fire destined to disperse and to illuminate it,"

That is a free translation of the Latin of this great physician living nearly three centuries ago. It is a good description of alternating insanity, and shows keen observation by this quaint old doctor.

The pathology of circular insanity is what might be expected from its etiology.

There will be found atrophy of the convolutions to some extent. The membranes are thickened, as is also the calvarium, and very often the arterioles are found to be aneurismal. Large quantities of fluid, more or less opaque, are found in the ventricles and in the subarachnoid spaces. The whole condition is that usually found in the chronic insane, and shows the hopelessness of medication.

The sanguine French alienists, however, think they can modify or prevent attacks by the free use of quinine, or haschish, or the bromides, or digitalis, or

morphia, and such like. When many drugs are recommended to cure a disease, it is evident there is no panacea for it.

Hysterial Mania.

Hysteria, in its myriad forms, is not insanity. It has no fixity as to duration. There is no evidence of pathological change anywhere, nor is there reason to believe that such exists unless nerve instability merely can be looked upon as such. The temporary aberrations are so evanescent and the consciousness of the existence of such a state do not point to mental disease of such a nature as to constitute it insanity any more than we see in the mere hypochondriac, who is ever at his dying hour, or the neurasthenic, who has delusions which come to him with painful persistency, but which he sees in their absurdity, and which he reasons away for the time.

At the same time, this unstable condition is on the border-land, and is so deceptive in its appearance that we are to be guarded in diagnosing such a case, lest we confounded it with epilepsy on the one hand and insanity on the other.

In hysteria we have a mind looking out for sympathy. The mental symptoms principally consist of emotional disturbance, followed by weak will power.

There may be temporarily illusions, hallucinations and delusions. The mental activity may appear in any form. The shedding of tears, depression of spirits, alternating with unusual laughter without cause or

tears, and for a time apparent lethargy, are well-know symptoms. Sometimes such persons are emotionless and simulate melancholy. The senses convey in their imaginations all kind of erroneous impressions. It would take a volume to catalogue all their aches and pains, real or unreal. The organs of the special senses are sensibly exalted in a large number, and sometimes accompanied with pain. It is said that tenderness over the region of the ovaries is a pathognomic sign, but the mind may conjure up pain when it does not exist, as we know it does in so-called "spine disease" or joint disease, or hysterical paralysis; the sudden departure of which has been a rich field to cultivate by Fetichism, Voodooism, "Faith-cure" and such like. The emotional or the devotional intensity puts an end to the hysteria in those forms. The clonic and tonic spasm, the hysterical aphonia, the tonic spasm of the pharynx (globus hystericus), spasm of the stomach, intestines, bladder and limbs are physical signs in which there can be little deception.

Hysteria bears, in many of its aspects, a striking simulation to some forms of mania, but any shrewd practitioner, with his wits about him, needs never be deceived.

It is a noticeable fact that simple hysteria exists to a limited extent among the insane, although it is of nervous origin. At the same time, it often has an existence because of hereditary tendencies to insanity, and may be the first degenerative step towards pro-

nounced and subsequent insanity. When we have a case of hysteria, epilepsy and insanity in conjunction, then have we a trio which indicate permanency. Hystero-epileptic insanity is usually very intractable and difficult to manage.

Concealed Insanity.

Many persons know by their feelings that insanity is coming upon them. The mental depreciation is recognized, and they heroically fight against its invasion as far as their conduct is concerned. With strong will the errant, mental stream is stemmed for a time; but, as a rule, the flood comes with greater impetuosity because of a temporary check to its headway. This effort is made by many before they are sent to an asylum, and if the brain lesion is not extensive the mere force of will keeps language and conduct within reasonable bounds, although, in the end, the barrier is thrown down.

In circular insanity it is distressing to see the patients struggling against the inevitable, which repeated experience tells them cannot be checked. In the interval of mental quietness and rationality they are cognizant of the coming invasion of one form or another of melancholia or mania, and dread the assault. These forebodings often precipitate the outbreak, for "coming events cast their shadows before." Those who have delusions and are otherwise sane, may and do successfully conceal such for a time, until some emotional shock or general personal disturbance

brings to the surface the latent but potent factor in the well-covered alienation.

When a physician is called to certify to the insanity of such a person it needs all his adroitness and tact to bring the patient to unmask himself. In fact, the patient often puts the questioner on the defensive, especially the delusional paranoiac or the cunning melancholic. These classes often show so much shrewdness, and at the same time so much suspicion, that the questioner is supposed to be hostile to such, or is forwarding his own plans or interests thereby, so it may require many visits in order to procure undoubted evidence of insanity based upon observation. If friends injudiciously attempt to remove delusions by repeated arguments with the patient, he soons learns that it is best for him not to touch upon them, hence his reticence about the morbid ideas upon which an opinion must be based. It is patients of this class which make the public believe they are sane and wrongfully detained in an asylum, and eager newsmongers fill the newspapers with the presumed outrage. On the other hand, we sometimes find even the insane simulating insanity. The dement, nor the melancholy, nor the maniacal will pretend this, because of the mental incapacity of the first, the profound feeling of misery in the second, and the intense self-exaltation of the last; so these do not act the deceivers. The cunning delusional lunatic is usually the one, or he with "antic disposition." His object usually is to excite extra sympathy, to have a good

excuse to avoid some kinds of distasteful work, or a mere freak to imitate others whom he sees about him, or to obtain some toothsome medical comfort as an insane invalid; thus tracing cause and effect. It is not hard to detect such cunning in the actor, and it is amusing to see such drop the mask when they have failed in their purpose and resume unknowingly their insane state; yet these peculiarities they cannot observe in themselves. They can act insane as copyists, but deny "the soft impeachment" when charged against themselves.

I have often heard insane medical men diagnose correctly the various classes of the insane around them, yet fail to discern their own morbid condition. This want of self-knowledge is not, however, confined to the insane.

CHAPTER XI.

MELANCHOLIA.

THE radical symptom of insane melancholia is indicated by the expression of a feeling of misery in which no sufficient justification exists in the circumstances of the individual.

Associated with this cardinal symptom are usually:

1st. Defect of nutrition and of other bodily processes.

2nd. Defect or abnormality of conduct.

3rd. Commonly the existence of delusions.

The feeling of misery is expressed by (*a*) the face, (*b*) by attitude, (*c*) by gesture, (*d*) by verbal expression.

The lines of the face are changed into a woe-begone expression.

The attitude is one of general flexion. An erect figure is seldom seen in this malady. The head is usually bowed; the back is bent; and, in severe cases, the legs are flexed at the knees. The tendency of the thumb is to lie, not opposed to the fingers, but parallel with and alongside of them.

Among the gestures expressing misery, the most prominent and characteristic is that of wringing the

hands. Sometimes the eyes are dry, but often full of tears. Very loud, obtrusive weeping does not appear to be associated with deep melancholia. Wringing of the hands may be either *constant, frequent* or *occasional*. Sighing and groaning, striking the head with the fists, sitting with the face buried in the hands, standing for a considerable time in one attitude, sitting and rocking the body backwards and forwards are usual. The pulling of the hair is not by handfuls, but possibly a hair at a time, not in a maniacal way, but rather from a spirit of unrest.

The verbal expressions are not numerous, and, as might be expected, are of an emotional character. The utterance of misery is not always proportionate to, nor a measure of, the degree of mental pain which is felt. It may exceed it because of automatic repetition, and thus the expression is in excess of the feeling, or the expression may be suppressed while the face and gestures may tell a story of mental distress.

In this day we are largely trained to suppress our emotions, and this inhibitory power often extends to insane conditions.

The bodily functions are unsatisfactory, as a rule, in true melancholy.

1st. Defect of nutrition throughout the whole body, as is evident in non-assimilation or mal-assimilation of food.

2nd. The skin is dry and is often of an unwholesome tint.

3rd. The hair is dry, harsh, and often lacks natural smoothness.

4th. The mouth is dry; the tongue is furred; the bowels are constipated; the urine is loaded; the pulse is slow; the body temperature is lowered; in short, the sum total of the bodily processes are below par or wanting in vigour.

This description is intended for a typical and profound case of insane melancholia. When the feeling of misery is not very great, these pronounced symptoms may be very much modified.

Many have delusions of a positive nature; but we have many cases, especially in the initiatory stages, in which nothing is prominent but a sense of ill-being, in which is abject misery. Melancholy comes on in its *invasion* as such, and does not spring out of any other form of insanity, as a rule. Other forms may be planted on it, such as mania and dementia; but not it on them.

Usually the onset of melancholia is gradual. In this it differs from many other forms. The dulness, the inertia, the uneasiness and the lessened interest in life may not be noticed by friends at first.

In a retrospect of a pronounced case, these changed conditions are remembered as the first departures from the normal standard, and also how insidiously they come on.

A large proportion of young patients recover, and often rapidly and completely. In elderly people I have seen the disease progress rapidly towards re-

covery and then come to a stand-still, and so remain on the margin of mental recovery, yet such may never reach the former land-mark of health.

Melancholia is very liable to relapse, and it may take place at any period of life. On the other hand, this disease may terminate rapidly in death. The patient is a poor eater and sleeper. He becomes thinner, weaker, more dejected, with little energy, and finally dies of exhaustion.

Death may occur in a few weeks after positive invasion, or life may terminate after months of illness.

If recovery or death do not ensue in, say, about a year, then is it usual for this disease to change its form into some other phase of insanity, or other forms alternate with it in circular insanity. It then takes its place in the continuous round of remittent but fixed alternations of different phases of insanity.

The varieties of melancholia are many, no fewer than thirty kinds have been classified by authors.

For all practical purposes it may be said that we have, viz.:

1st. *Simple melancholia.* This form consists only of sufficient mental depression to affect the usual conduct of the patient.

2nd. *Melancholia*, with delusions.

3rd. *Stuporous melancholia.* This form is accompanied with mental listlessness, bordering on dementia.

All these forms are *active* or *passive*, depending

upon outward manifestations or the want of them. This, however, is an artificial classification, as the same patient may alternately be in all these conditions.

Some make a class to which they give the name of "suicidal melancholia." This only means that the impulse takes the form of suicide. Many of the *homicidal* belong to this class also, as the delusions are, so may be the mental bent; and many names would be needed if a particular bias requires a distinct term.

Many of the less melancholy are the most determined on self-destruction.

It is a curious fact, which I have noticed, that if a particular *method* of suicide is determined upon no other plan is usually concerted, hence the advantage to us in supervising such, to study the form the impulse takes.

When once a person has determined to kill himself it is well nigh impossible to prevent him from carrying out his intention, if this state continues for some length of time.

A book might be written on the cunning and strategy manifested by such. The capacity to keep the mode secret and the tenacity of purpose, regardless of personal comfort or pain, are objects of wonder to the sane.

The tendency to commit suicide having once exhibited itself in any case, it renders that patient forever after a source of anxiety to those who have the care

of him. In consequence of the want of proportion between the tendency to suicide and the manifestations of melancholy it becomes impossible to infer, with any safety, how strong the impulse may be. Many cases are on record in which such patients, who have apparently recovered from this condition, have committed suicide on being freed from restraint. The ingenuity with which such a patient will construct deadly weapons out of the most harmless instruments, such as the material of clothing; the secrecy with which he will carry out his preparations, and the suddenness and determination with which he will carry them into effect are such as, if persisted in over a long period, to render futile the most stringent watchfulness and precaution, especially if under home supervision.

The sharpening of bits of barrel hoops, of nails and pieces of wire, of bone and of small pieces of glass—gathered, it may be, in the grounds while walking—are matters of almost daily occurrence when suicide, by the use of them, is intended.

Female patients will pull threads out of their sheets or clothing until they have enough to twist into a cord wherewith to strangle themselves. They will even utilize hairpins, or combs, or crochet-needles for the same purpose. One man will hang himself from a bedstead post three feet high; another will drown himself in a basin of water; a third will stuff a lump of meat into his throat and suffocate himself.

I have known one case of a woman, who committed

suicide by chocking herself to death by pulling a slip noose on a handkerchief tight around her throat with her hands, while she sat on the floor of her bedroom.

The notion of suicide varies with the education and surroundings of the individual. Suicide is more common in some forms of insanity than in others. There is, however, hardly a distinct group of cases deserving the term of suicidal mania.

Suicide may be *accidental* or *intentional.*

In acute mania and paresis, if suicide occur, it is generally as the result of accident.

"In some cases of emotional disorder there may be an intention to pretend to commit suicide, which may, by accident, become effective.

"In maniacal states suicide is rarely the result of deliberate purpose. It may result from impulse; or, in mania of the frenzied delirious type, it may follow or depend upon hallucinations of the senses, which may lead to dread of something or someone; or it may be obeying some Divine command given by voices, or by some inward monitor prompting to the deed. The patient who thinks he can fly may jump from a three-storey window, or he who thinks he can walk upon the water may try and drown.

"In some neurotic persons, whether the neurosis result from heredity, alcoholism, previous attacks, injury to the head, or in connection with some other bodily ailment, slight moral causes may lead to suicide. Such cases may be called *neurotic* suicides, and in these we frequently meet with a history of

suicide in other members of the family. A slight strain of mind leads to melancholy and self-destruction. It may even occur in the automatic stage of epilepsy or as the result of uncontrollable impulse."—*Mercier.*

The suicides of the insane form are usually divided into two classes, viz.:

I. The impulsive kind. These are subdivided into: (*a*) Neurotic; (*b*) Hysterical; (*c*) Maniacal; (*d*) Alcoholic; (*e*) Epileptic.

II. Deliberate suicide may depend on:

1st. Egotistical feelings, such as pain, worry, sleeplessness, ruin, shame, to avoid persecution, etc.

2nd. Altruistic feelings, such as to save others from suffering or to benefit others.

3rd. Indifference to these existing causes, but as the result of "voices," of fixed delusions, or of weak mind.

In diagnosis the nearest ally to melancholia, and the maladies for which it is most likely to be mistaken, are *dementia*, *hypochondriasis* and *hysteria.*

To dementia it is allied not merely in appearance, but in nature, for the melancholy feeling never reaches a morbid degree without some general weakening of the mental powers, which constitutes a slight degree of dementia; and, in well-marked cases, it is melancholia plus a veritable dementia. They blend together, as, in fact, do all the forms of insanity in some one or other of their stages.

Melancholia differs chiefly from dementia in the superaddition to the symptoms of the latter of evi-

dence of depression of mind. This evidence overshadows all other conditions, and is paramount in the patient's mind. The sadness stands in the front of the mental photograph and is most conspicuous, and this is the differentiating symptom in the diagnosis.

Hypochondriasis is distinguished from melancholia, to which it is very nearly allied, by the persistence with which the patient assigns his fancies to bodily disease, and by the degree in which his thoughts are enthralled and engrossed by his bodily condition. Between hypochondriasis and melancholia there is every possible gradation.

The hypochondriac is distinguished by his enthusiastic acceptance of remedy after remedy, and his eager pursuit after all nostrums which promise relief. He is the bane of the medical practitioner, and his whims are endless. Throughout all the dread and wretchedness of his career he clings fast to the faith that he will at length discover the man who shall administer the drug that will cure him.

The melancholy man has no such hope. No ray of comfort brightens the gloom of his life. So far from entertaining hopes of recovery or confidence in treatment, he rejects with something like contempt, the advice that is tendered for his welfare.

There is not much danger in mistaking *hysteria* for melancholy.

In hysteria the whole aim and end of display of symptoms by the patient will be found to have

regard to the *attraction of notice*, of interest, and of sympathy from others.

On the other hand, in melancholia the patient is quite indifferent to the way in which his actions and symptoms may impress other people. Such are too much absorbed in the misery that they suffer to bestow a single thought upon the way in which their conduct is regarded. At the same time it is not to be forgotten that misery, such as theirs, may have a reasonable cause, and is not a diseased condition at all.

If a patient appears afflicted with melancholy, and declares that he is on the brink of ruin of character, that his wife has deserted him or is unfaithful to him, that he is a wicked and dishonest man, that he is liable to arrest, that financial ruin is staring him in the face, it is necessary to be cautious in regarding his statements as unfounded. It may be they are true, and that his feelings of misery are only the natural outcome which such circumstances ought to excite in a normal mind.

We have to do with the non-existent fancies as primary causes or secondary results. All these troubles *may* induce pathological conditions, but caution is needed not to confound natural sorrow with unnatural grief; sane depression of spirits with insane melancholia. When analyzed, the transgressions of these insane melancholics are of a very venial kind.

To patients they are of vast importance, and, in

their estimation, on them hang the issues of life and death. Such may have sinned grievously in putting on a wrong dress when preparing to go to church, or in wearing a necktie of a particular color, or perhaps in eating a particular kind of food. The most childish notions are looked upon as being mortal sin; and, because of cherishing them, they are doomed to eternal torment.

Molehills of neglect are magnified into mountains of guilt. To many such melancholy persons these trifles are, in the sum total, "the sin against the Holy Ghost," and, according to the Holy Scriptures, can never be forgiven in this world nor in the world to come.

Such expect no *post-mortem* salvation, and as a result of these sad forbodings they are so miserable that they wish to die; and, as a consequence, this psychic pain makes them intensely suicidal. Strange to say, although such fear that their souls are to be forever lost and that there is to be a terrible reckoning for them in the future, they piteously beg to be allowed to plunge into this supposed state of misery and to receive this looked-for judgment of condemnation. There cry is virtually, "Anyway to get out of this present world." Anything, anywhere, to escape from the horrible present and to avoid the hideous spectre of an ever-present sense of apparent guilt.

To the insane all delusions are facts, and the most cogent reasoning cannot drive them away. The mind is constantly "racked with *one* idea." The one sunny

glint in the cloud is the fact, that, in spite of the tears, the wringing of hands, the sad introspection, the moaning, and self-accusation, many of them eat and sleep fairly well, if in the chronic stage, and should they remain insane, many live to a good old age.

Those who recover look back to those days of morbid and sad fancies as they would to some dismal night-mare, which leaves nothing but a sad memory in the morning.

Outside of the possession of these ogres of imagination the intellect is comparatively unaffected, hence is their condition the more deplorable as they know well everything connected with their position and surroundings. Their appeals to be put out of this mental pain by premature death are pitiable, and would wring sympathy from the most obdurate and callous nature.

Those who believe they have committed *the* unpardonable sin are the most wretched of this class. Women are more subject to this form of insanity than are the men. The press very often gives us sad accounts of mothers who are naturally possessed of the maternal instinct, but who have put to death their children and then have committed suicide. They usually belong to this melancholic class, and on account of their intelligence outside of the profound sadness, are not considered dangerous to themselves or others until some terrible tragedy has taken place. They often reason to themselves thus: "This is a wicked, heartless and miserable world, so I will

send my children, whom I love, to blissful regions in the world beyond, and I will immediately follow them. It is my duty so to do." The mothers see no harm in the killing, as in such the moral judgments are perverted.

Did the delusions of these sad unfortunates lead them to believe there was no hereafter, and that suicide meant annihilation and consequent freedom in death from these sufferings, the intense desire to kill themselves might have some consistency. Such is not their belief, however; but, on the contrary, they are believers in an immortality, although their moral natures are perverted and supersensitive to an abnormal degree. All the judgments and denunciations they can find in the Bible are, in their estimation and morbid imagination, hurled at them, and are meant personally for them. They reason that the present is insufferable and the future in the world to come can be no worse.

It is a common impression that the melancholy are so taken up with themselves and their ever-present sadness as to obliterate the past. Poets are very much to blame for giving these impressions, purely from ignorance of the facts.

Penrose (an old poet) sang falsely in saying:

> "Forgotten quite, all former scenes of dear delight:
> Connubial love—parental joy—
> No sympathies like these his soul employ;
> But all is dark within."

As a matter of fact, it is the past which troubles them with its memory of sins.

It is satisfactory to know that, sooner or later, a goodly number of this class recover, especially if no taint of an insane tendency is present in the constitution. Even then recovery is not hopeless, for nature is ever struggling towards health.

Were it not for this grand principle or law of health, mental vigor would soon be the exception to the rule, and no one could be found to be mentally competent to keep the keys of the doors of an asylum.

As I have said, the cunning of such to enable them to bring about self-destruction is wonderful, and the utmost vigilance of nurses and attendants is needed to prevent it. A book might be written on the ways and means they can and do adopt to accomplish their ends.

Burton, in his "Anatomy of Melancholy," has written a fascinating book on this subject, although this was done many years ago, as did also the English Chartist, Thomas Cooper, over half a century ago, in his "Purgatory of Suicides."

Shakespeare has drawn, with the brain and pen of poetic inspiration, a faithful portraiture of this class in such a sublime creation as "Hamlet."

Burton exaggerated a good deal, as those possessed with the versifying frenzy are apt to do, yet, on the whole, his dismal picture is true when applied to the delusionally insane. See, for example, such stanzas as:

"Methinks I hear, methinks I see
Ghosts, goblins, fiends; my phantasy

Presents a thousand ugly shapes:
Headless bears, black men and apes,
Doleful outcries and fearful sights;
All my griefs to these are jolly,
None so damned as melancholy.

I'll change my state with any wretch
Thou canst from gaol or dunghill fetch;
My pains past cure, another hell,
I may not in this torment dwell.
Now desperate, I hate my life,
Send me a halter or a knife:
All my griefs to these are jolly,
Naught so damned as melancholy."

The misanthropic but gifted Byron gave a mental photograph of himself when he sang:

"Melancholy is a fearful gift;
What is it but the telescope of truth?
Which strips the distance of its phantasies,
And brings life near in utter darkness,
Making the cold reality too real."

This is the agonizing cry of a sane soul, ever in unrest, like the troubled sea.

Crabbe, the melancholy poet, could write from sad experience such words as these:

"Oh, how the passions, insolent and strong,
Bear our weak minds their rapid course along;
Make us the madness of their will obey,
They die, and leave us to our griefs a prey."

Shakespeare, the greatest of the students of nature, penned truthfully of those who are afflicted as Hamlet was said to be:

" His brain is wrecked—
For ever in the pauses of his speech
His lips doth work with inward mutterings,
And his fixed eye is riveted fearfully
On something that no other eye can spy."

" Canst thou minister to a mind diseased ?
Pluck from the memory a rooted sorrow,
Raze out the written troubles of the brain,
And with some sweet, oblivious antidote,
Cleanse the foul bosom of that perilous stuff
Which weighs upon the heart."

It may be said in passing that many of those who are afflicted with insane despondency are silent, and give no expression of their grief in words. Their manner and mute appeals tell the story of their woes. Others are very talkative, and, with great volubility, pour out their plaint and plead for succour from imaginary troubles to anyone who will listen to their *misereré*.

Some, who are only afflicted with the milder form of melancholy, seem to take a sort of pleasure in reciting their miseries, and this is done with tiresome repetition from day to day, even were it to the same person.

It is a constant focalization of the mind upon itself and its painful workings, yet these do not produce in the chronic melancholic that profound physical and mental prostration which such forbodings would do were they possessed by the sane.

CHAPTER XII.

MORAL INSANITY.

THE INSANITY OF MORALITY OR AFFECTIVE INSANITY.

It has been denied that there is a disease of the moral powers apart from simple and responsible wickedness. This denial has largely arisen because of abuses in courts of law, where a plea has been made to shield sane culprits on the ground of the possession of such a form of insanity. If there exist emotional insanity and intellectual insanity, it seems somewhat illogical to expurgate a form of mental disease the principal feature of which is dethronement of the moral feelings and of the capacity to formulate moral judgments.

There is no doubt in my own mind such a disease exists altogether distinct from responsible depravity. It is not a steady advance from one degree of wickedness to another; but is a change, often suddenly, of a man's moral being, which makes the man altogether different in character and conduct when compared with his previous life history. It may be a blow on the head, a sunstroke, an attack of fever, a nervous shock, or any such physical injury or disease which is the precursor and cause of the great moral changes.

From the stage of convalescence the moral change in the man is seen. His views of his relations and duties to his family, his friends, his neighbours and to society have undergone a transformation for the worse. He is unnaturally short-tempered and stubborn in errant ways; he becomes a great liar; he is prompted by dishonourable conduct, full of suspicions, profane and abusive in language, and addicted to profligacy of various kinds. In short, he is no longer himself, and his change astonishes all who come in conduct with him. The dividing line of the two diverse characters in one person is at the termination of the disease. Here the moral *malaise* begins. All these deviations, so diametrically opposed to his former self and to his own best interests, show intellectual as well as moral lesion. Both co-exist and are manifested together in some degree. He cannot see the inconsistencies in his conduct and life. He cannot discern the sudden and total change in himself, but readily accuses others of all kinds of evil-doing. He has sufficient cunning to torture, tease and annoy the members of his family in all imaginable ways, and yet at times, especially before strangers, is the model of propriety.

In some cases the disease, which has dulled the moral faculty, has sharpened the intellectual; and, because of this want of balance and one-sided capacity, there are a sharpness and a shrewdness, combined with maliciousness, which renders the lunatic the very incarnation of hate and mischief. At the same time he may be able to cover under a plausible

exterior, with great skill, his own defects, and paint, with considerable eloquence, the real or imaginary shortcomings of others. If such have delusions, they may hide them for a time from the keenest investigation, yet extravagant ideas may exist which no sane man would harbour, but which lie in covert behind the well-constructed curtain of a man's outward conduct.

Such cases are not far removed, in brain and mind action, from the congenital criminal, and the acquired and vicious class of the sane.

The fulcrum diagnostic symptom between this class of affective insanity and natural depravity is the *mode of causation.* Is it a natural development and purely physiological, or a disease, and therefore pathological? On the answer hinges the correct solution of each case. Were it a natural development, then would it come on gradually, and the man's previous life history would show him to be a sinner revelling in his depravity. If it is a disease, we can trace its invasion and progress by the patient's language and conduct. It is not the outcome of a habit of viciousness formed by repetition or congenital, but a change of nature superinduced and controlled by brain disease.

At the same time, if a man had, previous to the attack of the causative disease, naturally vicious or criminal propensities, or had acquired them from habitual wrong-doing or because of precept or example until they had become a second nature to him, then is it evident that such an ill-conditioned brain

and mind are more likely to drop into the groove of affective insanity than would those more favourably constituted.

There is *moral insanity* without *illusions*, *hallucinations* or *delusions*. There is a perverted state of the active and moral power included under *feeling*, *volition*, *affections*, *propensities*, *temper*, *habits* and *conduct*.

At the same time we are not to ignore, in our diagnosis, the existence of *wilful vice*, a *wicked disposition*, the influence of *bad associates*, *evil example* and *reckless depravity*, either congenital or acquired.

In *moral insanity* reasoning must be tainted, and the intellectual faculties are more or less involved.

The very reason why a patient is so eccentric and perverse in conduct, so destitute of natural affection, so changed in sentiment, is that he no longer realizes his duties and his relations to his family and society. His ideas in regard to himself are false and mischievous, but, as his natural feelings are restored, the intellectual powers once more gain the ascendancy.

When recovery takes place, the comparison of the two distinct lives is most striking, and shows from what a depth he has risen. This change is evident to the patient himself. It is well in courts of law to distinctly state that, in the insanity of morality, there is always an intellectual lesion, and that the moral obliquity is an outcome of this mental dethronement. If not thus distinguished, you will be asked how you can diagnose sane anger, revenge, malice or a

wicked heart from insanity with these manifestations, and you will fail to do so to the satisfaction of a judge and jury.

In fact, you will be accused of attempting to shield a bad man from just punishment, under what they may and delight to call "the groundless plea of insanity."

It is often difficult to lay down rules by which to differentiate *moral insanity* from *moral depravity.*

Each case must be decided in relation to the individual himself: his antecedents, education, surroundings, social status, the nature of certain acts, the mode in which they were performed, the diseases and injuries (if any), the estimate of conduct from definite periods, and any other circumstances which would fairly raise the suspicion that these devious ways are not under his control.

Do not mistake *moral imbecility* with the *insanity of morality.*

The former means want of mind development, while the latter means morbid perversion or a want of proper direction and balance in the moral nature because of mental disease.

The former class of persons may have great acuteness and mental scope in certain directions, such as music, arithmetic or mechanics, yet may lie, steal, be cruel beyond conception, and be beastly in their instincts and destructive in their habits.

In the latter class we have the normal man in feeling, intellect and morals up to a certain stage,

then moral collapse. A number of cases might be presented to illustrate this class of persons. Three must suffice, as they are typical of all.

A man of about fifty years of age lived near where I once practised. His occupation was that of a farmer, and he lived in one location nearly the whole of his life. He was honest, quiet, industrious—a good man—his word was as reliable as his bond, and he was of a retiring disposition. One day, while he was working in the hay field, he had a sunstroke, and was semi-unconscious for about half an hour. This was followed by slight delirium for about twenty-four hours. He then recovered his usual health, but in those few hours of illness the man's moral nature had entirely changed. He became peevish, erratic, profane, untruthful and thoroughly unreliable. With low cunning he would tease the members of his family, for whom he formerly had a strong affection during a long lifetime, in all conceivable ways. No one would believe he was the same man, yet the total change of character took place in a day. This could not be merely moral depravity of a sane person. We trace the perversion from brain injury caused by sunstroke. He remained in that condition until death, two years afterwards.

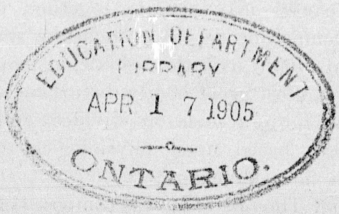
Another case was that of a young man twenty-five years of age. He was an exemplary son of aged parents, and well spoken of by all the neighbours, as he deserved to be. One day, in the winter-time, he was felling a tree in the woods for fire-wood,

when a small dry branch became detached from the tree near its top. It came down and struck him on the head, knocking him insensible. He lay in this condition for some time, and was found by friends where he fell. For about a week he lay in a stupor, with intervals of restlessness and muttering incoherency. He finally recovered his reason as far as could be detected, but his character was changed in many ways. He would neglect his work, swear viciously when reprimanded, use obscene language in the presence of his parents and of his neighbours. At the same time he was shrewd, and beyond these inconsistencies showed no lesion of intellect. We have here a dividing line of conduct and character at the time of the accident. No one would dream of saying that badness lay at the bottom of such moral obliquity. The organ of the mind was, for the time, out of order. In about a year he recovered, and "came to himself" once more.

The third case was that of a young woman, the oldest of a respectable mechanic's daughters. She was a steady, quiet, well-behaved and intelligent member of the family. Having an invalid mother, and being the eldest, she was as a mother to the other children. She was taken with an attack of typhoid fever of a severe type, and was delirious for nearly two weeks. On her recovery she manifested a change of character, altogether unnatural to her. She was talkative, nervous, irritable, erratic and untruthful to a degree which astonished everyone

who knew her. Some good people thought this was caused by satanic influence, others that it was inherent total depravity cropping up; but in about six months she returned to her former self. Diabolus and sin seemed to have permitted the former excellency to resume its sway. She married afterwards, and was an exemplary wife and a fond mother. These three cases might be multiplied indefinitely from medical literature, to show that such causes and such effects are very common. Now, in many brains, lesion may come on from causes not so pronounced or even unknown to us, but the ethical results would be the same and based on diseased conditions, producing utter irresponsibility.

Changes may take place in the molecular structure of the brain, and may come on gradually, which might so change the direction and function of that organic centre as to produce this form of affective insanity, yet no initiatory stage could be pointed out.



CHAPTER XIII.

EPILEPSY OF THE INSANE.

In studying epilepsy it is well to remember the various causes which may operate to produce this distressing and paroxysmal condition. These may be such as brain abscesses, exostosis inpinging upon or into the brain, tumours of various kinds, hæmorrhages, or some direct traumatic injury, such as bullet wounds in the head of old soldiers, or blows affecting the inner table of the skull. On the other hand, there may be only molecular disturbance, which results in epileptic attacks by explosive energy, or in a discharging lesion from accumulated vital activity. The nervous system has an instability in its ultimate elements which takes on violent action irregularly as would electricity if pent up and no outlet permitted while being generated. The two classes or causes may operate together, or may be only co-temporaneous. A system in a state of mutability needs little irritation—toxic, anæmic or traumatic—to manifest great bodily disturbance.

Hughling's Jackson divides epilepsy into three classes, based upon physiological lines rather than anatomical divisions:

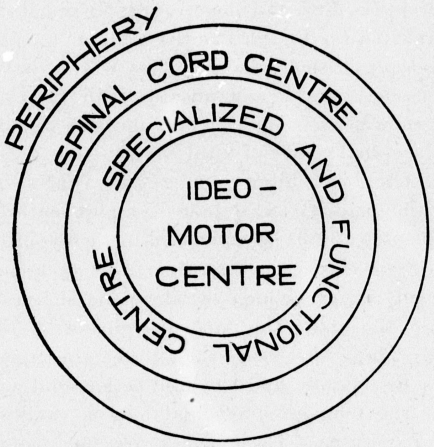
1st. The *lowest level* is composed of the grey matter

of the spinal cord, and its upward prolongation into the brain as far forward as the oculo-motor nucleus. This is a sensori-motor level. This is the first point of resistance, and communicates with the external world, as well as being the first nervous depository. It is the spinal centre of vital energy.

2nd. The next higher or *middle centre* is also sensori-motor, but of a more complex nature, and consequently a later organization in the evolutionary building up of nerve structure. This area includes the brain sections which lie alongside the fissure of Rolando, and along the upper margins of the hemispheres. These are now said to be the functional centres for specific and localized action, and possibly include the temporo-sphenoidal lobe as well as the gyrus fornicatus. These areas are one more step removed from the periphery of the body.

3rd. *The highest centre* or *third level* finds its nerve activity in the frontal and occipital lobes, being the highest and latest evolutional development. In each successive section we find representation of the lower in the order of building up. As Jackson puts it: "All parts of the body are represented in the lowest centres, are re-represented in the middle, and are re-re-represented in the highest centre."

Epilepsy attacks the three levels in succession, from above downwards; that is: (*a*) The ideo-motor centre in the *grande mal* form; (*b*) then the specialized functional centre; (*c*) then the spinal cord centre. They might be illustrated thus:



In Jacksonian epilepsy this order is reversed, and the lower resisting and accumulating centres may be affected without the higher feeling the morbid impulse. In the ordinary gross forms of epilepsy, when the patient is seized he suddenly falls down absolutely unconscious, and is universally convulsed; first becoming rigid in tonic spasm, then jerked in clonic spasm. "The organ of the mind" is for the time thrown completely out of function by the discharge which has taken place in it, and which has extended downwards through middle and lower centres. At this period the patient seems to be and is on the very verge of death, for dissolution has reached the very lowest level compatible with life.

Only those centres concerned with respiration and circulation are intact, and even these, in most cases, are gravely disordered, and in some rare cases death ensues.

The spasms soon cease, to be followed by temporary paralysis, with a comatose condition. Exhaustion has taken place in the three levels, and remains so until vital energy has had time to again draw upon its resources. This it does from the sensori-reflex centre upwards. When cerebration is established there may be slight stupidity for a time, to be followed by normal mentality, or there may be a maniacal condition, in which there is little or no control of conduct. Should this continue after the immediate effect of a fit has passed away, then have we in such, insanity. The epileptic insane may be possessed with any of the forms of mental disease, as no distinct class is associated with it. It will be seen that epilepsy may exist in a person without insanity. In fact, a majority of the epileptics are sane; many business men are thus afflicted, and many sons of genius have been its victims.

One of the peculiarities of the mild form is that some patients suddenly lose their memory and as suddenly recover it; or, rather, they live in a state of double consciousness without any recollection of this dual existence. Such will wander away from home without cause, and with apparently ordinary intelligence seek and obtain shelter and food from strangers; and in this way will journey many miles from home,

and suddenly come to themselves in bewilderment as to their whereabouts. Incendiarism, manslaughter and attempted suicide are often perpetrated in this condition, of which the author has no recollection. We see something analogous to it in somnambulism; or, more striking still, in the frenzy of a drunken bout. The drunkard will destroy his own property, and assault his well-liked neighbours and wife and children with devilish cunning and ferocity. Worn out with his furious onslaughts, he falls into a deep sleep, and when he wakes remembers nothing of his actions, and is amazed at the wreck and ruin about him, and will scarcely believe that he was the perpetrator. The victim of masked or larvated epilepsy kills his family, or attempts to do so, and often tries to commit suicide, or may succeed in taking his own life afterwards. The acts are *purposeless* and *without malice*, usually against those who are loved best. Such as fail in taking their own lives, will wander away with apparent intelligence, and suddenly come to themselves without a solitary recollection of some terrible tragedy in which they have been the chief actors. Many of such will straggle about in a harmless and aimless way for days at a time. I recollect two instances of partially recovered memory in such, but the parties were not sure how much was fact and how much was fancy, as the mental photographs seemed like a horrid dream or a no less terrible nightmare.

This temporary amnesia which follows the mild

forms of epilepsy shows no evidence of ataxia, and the more mild the attack the more likely are we to have following it this *mental automatism*. The same is true when mental dethronement follows the fits. The severe form comes on less frequently and the brain has time to recover its tone between the attacks, but in the *petit mal* there are in the majority of cases such frequent assaults that the recuperative powers are weakened and the fortified centres are more easily overcome. "The constant drop wears the stone."

The amnesic conditions thus engendered have many methods of manifestation. For example, a man pays money to liquidate a debt immediately before an attack, but afterwards forgets all about it, and this loss of memory of this act continues. An educated and intelligent man feels ill and confused for a moment or two. He remembers afterward that he ordered his dinner at a restaurant, but forgets that he ate and paid for it in a perfectly rational way. A man goes into a house, and while there he has a momentary unconsciousness and goes out without his hat; but finding he has lost it commences to enquire for it in strange houses, having forgotten for a time not only that he lost it, but also the house he had visited.

I know a man in a northern town who suddenly, on many occasions, lost consciousness while working or talking. Immediately he wandered away from home for days at a time a veritable tramp. He asked

for food and night-shelter in a rational manner. When he recovered his normal consciousness he found himself on several occasions more than thirty miles from home, travel-tired and travel-stained, but he had no recollection of his various journeys. After treatment for epilepsy he ceased his wanderings and has remained well for over ten years.

A man in this city some four years ago took a hearty supper. While sitting in his chair afterwards a fit of unconsciousness came over him. It passed away. He then went to a drug store and procured some medicine, but did not remember anything about it. His memory otherwise was good, and mental impairment was not noticed by me. He continued his employment for a year afterwards as valuator of property for a large loan company. A number of times during the year following, these fits came on him, followed by the usual *hiatus* of memory. At last amnesic-aphasia set in, and was followed in a few months by cerebral apoplexy and death.

A clergyman who became afflicted by loss of memory because of larvated epilepsy, left his boarding house in a western town some years ago. He started to visit his native place about 500 miles distant. He procured a ticket at the railway station and paid for it in a rational way. He travelled partly by rail and partly by boat and reached his home in safety. He preached two sermons of great eloquence to the congregation of his youthful attachment. There was no evidence of mental estrangement in his words or

conduct during the journey nor in his conducting public worship. He stated to me that he remembered nothing after getting up in the morning on the day he began his journey until one day, about a week afterwards, he suddenly came to himself as if he had awoke from a sleep of the most profound kind. Within a year afterwards he had a number of these lapses, which were followed by insane melancholy, and now the brilliant intellect is buried in that tomb of the mind, chronic dementia.

Here was mental activity without any psychic record in the pigeon-holes of retrospective activity. It was as if it had never been, and yet it was intelligent mind operation. It was not simply unconscious cerebration automatically repeating its former actions and experience, because in this, and other such cases as those cited, the mind provided for unforeseen contingencies in an intelligent manner and along lines of thought not previously travelled. Here are two mental states into which consciousness must enter, one of which is forgotten. The remembrance of mental conditions and acts which consciousness presents to us needs two conditions, viz., *intensity* and *repetition*. It is possible these are wanting; hence no cerebral registration of a permanent kind because of cortical ennervation, consequent upon the fit in the ideo-motor centres. The brain receptivity was feeble, so would be the registration of impressions. I have not been able to ascertain whether memory in one of these states is able to recall the events of a previous

similar condition. It would be interesting to know if the mental register can be read, and that only at these times and under these analogous circumstances.

I had the impression that roads formerly travelled, or houses visited, or people interviewed might be remembered in this secondary consciousness when the brain had returned to this abnormality of function.

Some authors state this to be the case in some instances, but my research has not verified this assertion. Frequent repetitions of these conditions in the end lead to mental dethronement of a permanent kind.

Trousseau records a case of a prominent citizen in Paris, who attended a meeting of a learned society, went out bare-headed, walked a considerable distance in the city, returned and took an intelligent part in the discussions, but knew nothing about his walk.

Such patients may be speaking or reading, and, although unconsciousness may come on during the mental exercise, they may go on and finish intelligently what they were speaking or reading about, but have no recollection of the matter after a certain time. It can easily be seen, then, how suicide, homicide, rape, incendiarism and other overt acts might be and are committed in such a condition without any recollection of them by any of the actors.

Law never allows for this state, and gives little credence to witnesses who may testify as to its existence. They are looked upon as merely theorizing to

allow a culprit to escape punishment for violation of law.

Another form of temporary loss of memory because of masked epilepsy is that in which there is no recollection of the past of which a person was possessed anterior to an attack. I remember a case of a sane patient who, after a state of mental stupor, found that she had forgotten a month of her life previous to this confusional condition. The last she remembered doing was the opening of a gate in going to visit a neighbour. This lapse also extended for two weeks after the attack. She told me, ten years afterwards, that these six weeks of her life were still a blank. This condition, in a milder degree, had visited her several times afterwards. In such cases, sometimes memory returns suddenly, sometimes slowly, showing that impressions, both objective and subjective, had been normally made, but a dislocation had, for the time being, taken place between the ideational centre and the reproductive power. The slides were in the machine, but they did not focalize for a time.

By some Continental writers these conditions are named *epilepsy of the mind*. This term is a misnomer, principally for two reasons: (*a*) Such a state, when applied to mind, is unknowable and unthinkable; (*b*) There is no doubt, if analogy proves anything, that it is merely brain disturbance in its energizing and directing functions, from which follows mental paralysis or mental inco-ordination.

In many cases cures are effected by the administration of appropriate remedies, such as the bromides, the phosphides and the arsenites. These can only produce physical results, showing the seat of the disease; and what is serviceable in severe forms of epilepsy is also indicated in this strange form of mental oblivion or double consciousness, in which is intelligence, but which carries with it no capacity of retrospection or recollection.

The following points are worthy of notice:

1st. In epileptic insanity we have to study the mental effects rather than the fits.

2nd. Eccentric acts may precede the fits, but the more positive symptoms are the frenzy, the irascibility, uncontrollable passion and violence, followed by stupidity in many.

3rd. Although such are often homicidal, profane and obscene, yet many of them have the exaltation of religious ideas, and are very devotional.

4th. The mania is more intense after a few convulsions until it reaches a fixed standard of severity.

5th. The actions and manners which are noticed in the first outburst of excitement will almost invariably be found to characterize all the subsequent attacks in the same order, although not always in the same degree. This sequence of order is seen in the premonitory symptoms. By carefully watching these, and using precautionary medical means, the violence of the attack may be very much mitigated.

6th. In true epilepsy, Dr. Strong, of Cleveland,

pointed out several years ago that there is an oscillation of each iris causing an abnormal dilatation and contraction of the pupils. My observation confirms this statement. Many mendicants seeking sympathy simulate epilepsy with clever deception. With such, this sign is of diagnostic value as no malingerer could produce this result.

7th. The existence of *aura*, or what is called the warning of a fit, is in reality the beginning of the fit itself.

8th. It is not to be forgotten that what we see in the disease is only the secondary result of a morbid influence working behind it.

9th Assuming the seat of the disease to be in the cortical substance of the brain and in the grey matter of the spinal cord, yet we must take into account what is evident, namely, an abnormal change in the sympathetic nerve centres which supply tone and stimulation to the arterial coats in these disturbed localities. The hallucinations of all or any of the senses vary in persons so that no two are alike. This shows that the arterial spasm depends on the ganglionic centre from which it may receive its energy in various degrees of intensity.

10th. In bleeding an animal to death we have analogous results in convulsions and loss of consciousness. The same is true in a watery condition of the blood, in albuminuria, diabetes or in parturient women. Excess of urea, uric acid and poisons introduced into the blood will produce con-

vulsions, which are counterparts of epilepsy. All such affect the calibre of the blood vessels. The same is true in the convulsive state of children as seen in the disturbance of the digestive organs, severe burns, teething, irritation of worms, and such like.

11th. Strictly speaking, epilepsy is not a single disease, because it has so many diverse phenomena. It is a series of psycho-physical disturbances. It is not merely a succession of stages of *rise*, *progress* and *culmination* as in other diseases. The impairment comes from different causes. The physical commotion, the mental excitement, the unconsciousness, the violence, the enfeeblement, the fixed ideas, the irresistible impulse and want of volitional control must mean a congery of excitants, acting singly or conjointly.

12th. It is a matter of surprise that such shocks, so violent and so sudden, do not in every instance produce insanity, yet a majority of the epileptics never lose their minds, except during the invasion of each fit, and many of them are useful citizens all their lives.

13th. The influence of heredity is very great in its production. More females are affected than males among the insane. Statistics show that about 35 per cent. may be traced to neurotic inheritance. About 76 per cent. of all cases occur before the age of thirty; about 30 per cent. occur before the age of ten, and nearly 50 per cent. between the ages of ten and twenty.

14th. When epilepsy comes on in early life it makes the child either an idiot with undeveloped mental faculties, as the organic precedes the psychical, or leaves such at best imbecile or feeble-minded.

Such usually are short-lived; but if they grow up to adult life they are either irritable, morose, malicious and sometimes dangerous, or they become hopeless, helpless and harmless, with not even the instincts or intelligence of the lowest of the brute creation.

It will be seen that, in a medico-legal aspect, it is important to keep these distinctions in mind, as on a clear understanding of these may depend our intelligent evidence as to responsibility and mental capacity. Those who are afflicted by fits in early life may possess a considerable amount of cunning and animal shrewdness, but are deficient of moral attributes, and usually gravitate into the criminal classes of a low grade.

It is very important to bear in mind certain diagnostic distinctions when called upon to distinguish between epileptic and hysterical fits.

In epilepsy the attack, as a rule, comes on suddenly; in hysteria it attacks often gradually and with consciousness. In epilepsy the patient utters a scream—if at all—at the outset, and only then; in hysteria screaming is indulged in during the course of the attack. In epilepsy the convulsion is characterized by rigidity, followed by regular jerking movements or clonic spasm; in hysteria there are irregular rigid movements, and a general throwing about of the head

and limbs. In epilepsy there is usually a biting of the tongue from a spasmodic coming together of the teeth; in hysteria there may be a gentle biting of the lips and hands, but more often an attempt is made to bite other people. In epilepsy micturation is often present during an attack; in hysteria it very rarely, if ever, occurs. In epilepsy the patient never talks; in hysteria talking is frequent. In epilepsy the duration of the attack is commonly but a few minutes; in hysteria the duration of the fit may extend to hours. In epilepsy of the severe type unconsciousness is patent; in hysteria intelligence is often very keen, cunningly seeking for sympathy. Of course, it is not to be forgotten that epilepsy and hysteria may coexist in the same individual. The one may not be the result of the other, as they may be only cotemporaneous, or may, as it were, simply co-habit. Then, again, they may antedate one another, or be synchronous, and yet maintain independently their distinctive features. The epilepsy may be the prominent and pronounced disease, and it may, at each attack, be followed by hysteriform symptoms. On the other hand, the hysteria may be chiefly manifested, followed by a mild form of larvated epilepsy. Often, however, the two commingle in their symptoms, so that it is difficult to distinguish which was the primary and which the secondary attack. When the two persistently commingle, then have we hystero-epilepsy, often accompanied by mental alienation. Few asylums are without such cases.

CHAPTER XIV.

SYPHILITIC INSANITY.

THERE is no doubt syphilis is a great excitant to produce insanity. It is often difficult to procure all the data necessary to a correct diagnosis, but they often crop out months and years after insanity has commenced.

The clinical features of this class of the insane may be thus summarized. The mental effect is an impairment or enfeeblement, at first trending towards semi-dementia, and ending in total mental deprivation. There often are intermittent attacks of mania of longer or shorter duration.

There is seen early in the disease a childishness or emotional weakness. At one time fears and tears over groundless apprehensions, and at another time merriment over silly matters. The moral nature is overthrown, and at last even the animal instincts are lost.

Many cases are in one aspect very much like those afflicted with paresis, and that is by manifesting delusions of grandeur and having muscular inco-ordination. There is great irritability of temper, and capricious notions are common.

There are often aphasic conditions, and sometimes combined with amnesia.

Syphilis may not be the cause of an invasion of insanity even if present. It may only be co-temporaneous with the mental trouble.

Two factors may be present to cause insanity, when the effect of one of these might not. Syphilis alone might not do it did there not exist an inherited tendency in addition.

Syphilis is often an excitant to produce disease in the nerve elements of the posterior columns of the spinal cord. We then may have insanity following locomotor ataxy. The disease spreads upwards. The bodily features are so mutifarious that it is difficult to even classify them.

The most prominent are: (*a*) Convulsive and paralytic motor symptoms; (*b*) these usually take the form of hemiplegia, palsy of the cranial nerves, impairment of inhibitory power of a wide-spread nature; in short, a general paresis, not paralysis. (*c*) Epileptiform seizures, clonic and tonic spasms, tremors which imitate chronic paralysis agitans. (*d*) Local numbness at one time, and at another intense nocturnal hemicranial pain. (*e*) The special senses are frequently more or less affected, and optic neuritis is very common as well as unilateral deafness. These defects lead to hallucinations and delusions from which often spring unfounded suspicions of friends and a fear of conspiracies.

Many of these symptoms are not pathognomonic of

syphilis, as they are common to other forms of insanity; but if persistent nocturnal hemicrania, giddiness, epileptoid fits, unilateral spasms and pains and local paresis exist, our diagnosis as to the syphilitic origin of these will usually be correct.

At the same time, we are not to neglect to look for characteristic glandular disease, ulcers of the skin, nodes, and disease of mucous membranes.

Those persons in an anæmic condition are more apt to become excited and maniacal. This condition is usually of short duration, and may be followed by melancholia, as an intermediate step to dementia. The premonitory symptoms may be an attack of apoplexy or epilepsy. A general depreciation of brain tissues takes place. It may be atheromatous, gummata, or sub-acute meningitis. As a rule, however, the atheroma, which consists of hypertrophy of the brain arteries and which goes on to fatty degeneration and calcification, is not present.

The anterior cerebral arteries are chiefly affected.

The syphilitic condition is seldom found in nerve tissue proper, except in the form of softening from deficient blood supply, consequent on the reduced calibre of the blood vessels.

Fibrous tissue, lymphatics, arteries, membranes and the skull bones are primarily the seat of diseased changes.

The retrogressive change in the arteries is quite distinctive. The adventitious membranes formed inside the arteries are firm and tenacious. So much so,

that in the larger vessels they can be removed entire, as if from a mould. This means reduced size, and in many of the smaller arteries occlusion. It is no matter of surprise, then, that serious physical and mental deterioration follows these extensive lesions. Brain syphilis is interesting, like paresis, because we find characteristic physical changes, about which there can be little or no doubt as to their cause.

Insanity does present itself in the first stage of syphilis before much pathological change can take place in the great nerve centres. It is possible that in many such cases the shame, contrition and moral sensitiveness in many natures may, at this early stage, be more causative than any such toxic agent.

In the period of secondary syphilis a large number of this insane class are attacked. It then produces a sub-acute condition, and the mental state is usually that of insane melancholia or a mild form of mental exaltation or excitement.

In the tertiary period we have the pronounced signs and symptoms which have been already enumerated.

The neural changes account for the varied delusions, the characteristic hebetude and the general depreciation so pathognomonic of this disease. These cases are very difficult to treat, often because of uncertainty in diagnosis in the early stages, but they are often greatly benefited by the use of anti-syphilitic remedies.

CHAPTER XV.

ONANIC INSANITY.

THIS vice of masturbation may begin with both sexes at an early age. At the age of puberty great physical and mental changes take place. The development of sexual vigour and desire is accompanied by corresponding mental activity, not only along the old lines of thought, but also in the wakening up and growth of appetites and ambitions, which, when rounded up in normal outgrowth, constitute an important element in the make-up of the womanly woman and the manly man. There is here a connecting link between the animal instincts and the higher faculties of the mind. The weak-minded, the idiotic and human monsters often show genital defects or want of development, although such may exhibit erotism. The brain sometimes excites to sexual attempts which are incapable of realisation, just as we see in some stages of senile decay, when the old man cannot realize that he is fatally attempting to blow into flame the dying embers of passion, forgetting that in old age "desire shall fail."

We know what a great change morally and mentally takes place, as a rule, in the eunuchs. Castra-

tion seriously affects animals, so veterinary surgeons testify.

Such being the case, it is not difficult to understand that onanism and inordinate venery will produce mischief on the genital organs and through them on the whole system because of the undue excitement, great demand on secretion, and as a resultant, lower vitality even to impotency and mental failure.

It has been said by some writers that no harm can come from the use of organs along natural lines; but, on the contrary, benefit as against continence and restraint. It is forgotten that any excesses are not natural, but are abuses of normal function. Self-abuse is unnatural, hence unhealthy and disastrous to mental integrity. Not only so, but it can and is indulged in by over-stimulation at least five times oftener than natural capacity could permit. This means a great strain on the nerve centres, which are roused to undue activity by artificial means. The moral effect is shown in these victims, and it is disastrous to their offspring. The mother may be strong and healthy, but if the father is not capable of producing a vigorous spermatozoa the result means a degenerate progeny. The soil may be good, but bad seed means a poor crop. The horrible orgies in Pagan and Christian countries arising out of sexual perversion show how its influence controls all mental attributes. This is strikingly true of the insane with erotic tendencies. There is no specific type of insanity among masturbators, but they usually gravitate into

dementia in the end. After the insanity in the form of stupor takes place desire becomes in many largely extinct, and although there may exist spontaneous emissions, the habit is seldom indulged in, but at this stage the mischief has been done. It is not to be forgotten, however, that this vice may be only a result of insanity, arising from a cause foreign to the habit. Erotic insanity, the prurient-paretic, the delusional patient, and the shameless, beastly insane may become onanists after brain disease has set in. The moral barrier is broken down and the animal instincts have the ascendency. A great many epileptics become so from this cause or from venereal excesses, and continue the habit after the fits have been established. The epileptics are usually very religious in their own estimation, vice or no vice. In fact, many of this class lay great claim to piety, and would look with horror on fornication, but compromise with conscience by indulging in this "enshrouded moral pestilence."

The beginning of this vice is usually by example, especially among companions at school. Often it is accidental and arising from the awakening feeling at the pubescent age. When many realize how hateful it is and what direful results so often follow the practice, they have sufficient will-power to refrain from it, and if not long indulged in, no evil results of a permanent nature may follow. It is needful to say this plainly, not to minimize the evils of the vice, but because the after lives of such youths are often made miserable through their falling into the hands of the

lying "specialist," so-called, and "nerve doctor," whose advertisements defile our walls and newspapers, and whose foul pamphlets find their way into respectable homes. All masturbators do not become insane, and no cure can be affected by merely taking medicine if the habit continues. A great majority of beginners will recover from the primary malign condition by simply refraining from the habit, without taking the nostrums which are so persistently urged upon their notice by quack pretendors.

If there should exist in the constitution a tendency to any nervous disease or to insanity, then such a vicious habit will precipitate a manifestation of the latent untoward heredity. It rouses into action diseased states which otherwise might have remained innocuous and latent. It is simply a spark put in the magazine of powder, which, otherwise, is as harmless as a pile of sand. Such victims, before they reach asylums, often go to medical men for advice in a neurasthenic condition. They are usually anxious to know if they have not heart disease, dyspepsia or some form of nervous trouble. They complain of sleeplessness, nocturnal emissions, pain in the back and legs, dull headache, confusion of thought, partial loss of memory, desire to weep from low-spiritedness, anxiety to be alone, little care for any society, poor appetite, sallow countenance, often hectic cheeks, horrid and lascivious dreams, and a general lack of mental and physical energy. Such may be typical

cases of sane victims, but on the borderland of insanity.

The next step in the downward direction is seen in a pronounced case. For example: He is very shy; he has an evasive and cast-down look and a dull and irresolute character, inconsistency of demeanour; he is subject to all kinds of suspicions and imaginings. Self-accusation and even fanatical notions prevail of a childish nature.

We find in such, very often, irregular circulation, the hands cool and clammy, the head hot, more especially the neck and back of the head, biting of the nails, scratching of the fingers, restlessness of the body, carelessness to appearances and surroundings, loss of natural affection, want of concentration of thought, delusions, and, last stage of all, melancholia to be followed by semi-dementia and permanent insanity. Friends bring such patients to hospitals for the insane, and, if questioned as to what they know of the existence of such habits, grow quite indignant at the insinuation and burst out into eulogy on the good morals of the patient. "He is so shy, so retiring, so modest, so pious, so obedient, and so fond of solitude." The father and mother think he is a model of propriety and goodness. Do not take such a catalogue of all the virtues at par, if such symptoms as have been enumerated are present. The fond relatives expect he will soon be well and get home; but, as a rule, it is a vain hope, for, even if the habit should be stopped, the mischief has been done. The

constant and unnatural drain upon the nervous system has produced such brain changes as to assume a chronic form before we see the patient.

Here we have a demoralized and deteriorated character. He may have been manly, truthful, vigorous and trusty; but now his moral nature is wrecked. Occasionally there are outbreaks of mania, based on delusions; sometimes a stubborn melancholia is present; sometimes a stuporous condition sets in, or, rather, it might be called psychic inertia—all, however, mean mental unbalance and lethargy.

Many examples of such have been presented from session to session to the classes called out of our wards; and the majority of them had been intelligent and bright young men, but they have made shipwreck of their lives, for "their pleasant vices have scourged them."

It has been my experience of such cases that the most of them come from those classes who have little outdoor or physical exercise; in other words, from among those of sedentary habits. Hence, in rural districts, and among the more robust and healthy farmers and mechanics, this disgusting and filthy habit is not practised to the same extent as among the weaklings and prurient classes of our towns and cities. Many physicians recommend marriage as a remedy. This is a grievous mistake, and involves mischief and unhappiness to two persons. The man who, because of this vice, dislikes women, will not make an affectionate husband to any woman until

his manhood is restored; and he will be an object of disgust, in his impotency, to any virtuous and healthy woman. Not only so, but he bequeaths a heritage of degeneracy to his children in one form or another, and adds his quota to the already great army of defectives. The innocent descendants suffer for sins which they did not commit, and often curse the authors of their being when, in adult life, the truth becomes known to them.

In treatment, many are the rules set down for guidance. It is useless to stuff such with medicine, give moral precepts, or scold them like a fish-wife, if the victims have not honestly set about reformation by their own efforts. This co-operation is essential to recovery. If they do not really wish to conquer and forsake this vice, help and encouragement are alike vain. They choose and seal their own fate in the face of the knowledge of the consequences.

I think it is Whittier who truthfully sings:

> "The tissues of the life to be
> We weave in colours all our own,
> And in the field of destiny
> We reap as we have sown."

At the same time, these victims can be assisted. Tonics may be given in such cases, if anæmic or neurasthenic, but not such as strychnine or any spinal excitant. The physical treatment is given elsewhere in this manual. These unfortunates are not to be discouraged, but urged to abstinence by

holding out every good motive to stimulate them to make efforts for their own deliverance.

The Insane Ear.

Hæmatoma Auris (*Orthæmatoma*).—It is an effusion of blood under the perichondrium, between it and the cartilage of the ear. It may come on in a few hours, or gradually, and at first swells the external ear to a great size. After a time the swelling subsides, and leaves a mis-shapen ear, being shrivelled and withered, and often, but not always, of a bluish appearance. It is then only condensed tissue, but at first it consists of a bloody, gelatinous substance. So tense is the skin that it shines, and is very smooth in the acute stage. It is hard and painful on slight pressure, but when more firmly pressed a fluctuation is felt. Sometimes it breaks, and a sero-sanguineous fluid is discharged. The swelling is confined to the concave surface of the penna.

These and such-like facts indicate that in the great majority of cases it is spontaneous, and indicates arterial degeneration of the terminal branches of the posterior auricular artery. There is also present a deterioration of the vaso-motor fibres of the cervical sympathetic. This passive condition is not to be mistaken for acute perichondritis, nor for cysts and tumours, which often grow in the substance of the external ear.

Did we not allow for these diseased conditions as existing, rather than traumatism as the sole cause,

then would it be impossible reasonably to account for its absence in such a large number of sane and insane who have injury of the ear inflicted without producing such results.

The usual treatment is by the application of contractile collodion three times a day. A combination of collodion, oxide of zinc, and a few grains of carbolic acid made into a paste have been highly recommended.

The lesion is only present in the cartilaginous portion of the auricle.

It may be that injury from falls or self-infliction from tugging at the ear, or a slap from the hand of a rude attendant may be the *occasion*, but not the *cause*, of hæmatoma auris, the cause being in the pathological state of the parts which violence may sometimes make manifest. Some reasons for so believing are as follows, viz.: In the first place, it is seldom or ever seen in acute mania, when injury to the body, including the ear, so often takes place. In the second place, it is seen most frequently in the left ear, but if traumatism were the principle cause, there is little reason to believe that this selection of the left ear would so frequently take place. In the third place, men are more subject to be afflicted in this way than women, yet the latter are more restless and excited than men, and more likely to be bruised, and are more trying to the temper and patience of women nurses than are the men to the men nurses. In the fourth place, it is very prevalent

only in certain forms of insanity. It is very common among epileptics, chronic maniacs and paretics, but is not often seen in dementia or in the paranoiacs.

KATATONIA.

Katatonia is said to be a brain disease which has alternations somewhat similar to circular insanity, with more variety. It ranges through the different phases of simple melancholia, mania and a stuporous condition merging on dementia. In addition to these there is found a convulsive and cataleptoid state. Kahlbaum, in 1874, claimed that, clinically, these symptoms indicated a distinct form of insanity. Many thus afflicted have also a stage of exaltation with logical and fixed delusions, such as are seen in primäre verrücktheit. Alienists have differed as to its being a newly-discovered disease, but the preponderance of opinions lead to the belief that it can fairly be classified under other forms of mental disease which are similar in etiology, with catalepsy and convulsions superadded.

CHAPTER XVI.

PARANOIA.

PARANOIA is called by many authors a monomania, so it is well to speak of it here. It has been given a distinct place in the more recent literature of insanity, so it is necessary to give a few details in respect to it. The name is old and is a Greek word, which denoted insanity of all kinds in classic times. It was so used by Œschylus, Plato, Aristotle and Plutarch (*παραvοια*). Esquirol used the word over sixty years ago to mean monomania with delusions of grandeur, to which the term megalomania is sometimes applied by the French. Griesinger used it in 1845, but added to the grandiose delusions those of successive delusions of persecution. In 1852 Morel saw in it a systemized form of delusions in which were logical sequents admitting the premises.

At first it was supposed to be a secondary disease following mania and melancholia. This contention is now given up by many, hence the German name Primäre Verrücktheit, although a number believe in both a primary and secondary variety.

Some thought, and some authors now think, that it is always a hereditary disease, at least it only appears

in those predisposed to insanity; or, in other words, have the insane neurosis.

I could quote at least half a dozen well-known authors of Continental Europe who class under this term all sorts of delusional insanity.

Here is a partial list taken from a few of these writers. Such as puerperal insanity, post-febrile insanity, alcoholic, morphinic insanity, semi-insane neurosis, such as insanity of doubt, fear of certain localities (agoraphobia clautrophobia, topophobia), dipsomania, pyromania, kleptomania, homicidal and suicidal impulses and other forms of insanity, with distinctive outcroppings, are classed under the one name, called paranoia.

Some authors describe this mental disease as being characterized by logical or systemized delusions of persecution and self-exaltation without excitement, emotion or impairment of memory.

This disease may be hereditary or non-hereditary, chronic or acute, primary or secondary.

As Dr. Carter Gray puts it, the clinical history shows, when it is fully developed, the patient full of suspicion. He misinterprets everything to have some covert meaning against himself. "Trifles light as air become as proof of Holy Writ."

Othello's jealousy is an excellent picture of what is often seen. People are watching him, he thinks, on the street and in public conveyances; somebody coughs as he passes by and immediately he believes the cough has some secret meaning; a match lies before

his feet as he goes along the street and he checks himself and goes around it, convinced that there is some design about it; his wife fastens a handkerchief in the window to dry, and he at once rushes to the conclusion that this is a signal set for some paramour or a headline in the paper, a bill-poster in the street, a sign over the store, a casual glance from a passer-by, an advertisement—each may have a fantastic meaning lurking in it to his distorted perceptions.

As time passes, these delusions become more and more fixed. The patient, perhaps, reasons about them calmly; and they differ from the delusions of melancholia and mania in the fact that any agitation in the patient is produced as the *consequence* of these delusions, and the excitement does not *precede* the delusions, as in the other forms of insanity.

As the delusions become more and more fixed, there gradually arises a question in the morbidly logical mind of the patient as to why he should be thus persecuted, and out of this, in a natural enough way, gradually grows the delusion of self-exaltation, or the delusion of grandeur, as the French say. The patient then becomes, in his own estimation, a person of importance either because of his station in the world or because of his personal attributes; hence these persecutions through jealousy. One patient will tell you that he is persecuted because he has a valuable secret, like the Keely-motor scheme, which he refuses to divulge.

Another is watched, and even his food is poisoned

to get him out of the way, because he is the custodian of financial secrets which would control the stocks and markets, or possesses state secrets which would shake dynasties to their centres, were he to speak out.

Another has mental power to read all human thought, and thus he knows his enemies from his friends by intuition.

Another may be deprived of his rights by his enemies of some estates or prerogatives, which he will minutely describe, with a good deal of logical sequence and with great earnestness.

Infinite in working as is the human mind, so myriad are the phases of exaltation and self-importance.

The judgment, the reasoning power, and the memory of these paranoiacs are remarkable; indeed, often startling. So that they are almost certain to impress the lay observer, and many physicians also, as being perfectly sane, except upon unimportant points.

I have had educated men and women of this class discuss abstruse subjects in a connected and even lucid way, yet in the line of their delusions.

In fact, their delusions approach the nearest of all the insane delusions to the fixed and erroneous beliefs of the sane, for they will reason about them logically, but will not be persuaded as to their unreasonableness.

Between their delusions and the fixed beliefs of the sane, however, there lies this great difference, namely, that the sane do not have the predominant

and unfounded delusion of persecution, mingled, sooner or later, with that of absurd self-conceit.

In a scientific sense or in a clinical sense, these patients are not responsible.

They may, parrot-like, state that they know the *nature* and *quality* of their acts as jurisprudence requires, and what the punishment may be for violation of law, yet it is evident to the most superficial observer that they do not really appreciate what they are doing because of their lack of moral sense, and because of the manner in which the mind, as a whole, is warped by the fixed and dominant delusions of persecution and insane self-exaltation. They are dangerous lunatics, and should not be at large.

There is a class of them who glory in the notoriety which litigation brings, and, if such can find lawyers to take up their cases, they will prosecute and persecute at the same time. Win or lose, they will press on to the bitter end. Of course, the morbid idea of being ill-used lies at the bottom of this mania for law-suiting.

This disease is often accompanied with hallucinations, and often illusions, and from the clear descriptions which are given of them they must be very vivid and distinct.

Paranoia may arise in four ways, as Clouston puts them in respect to *monomania*, which he holds is the equivalent:

1st. It is a gradual evolution out of a natural disposition: a proud man becoming insanely proud, or a

suspicious man passing the borderline of insanity with his suspicions.

2nd. It may remain as a permanent brain result after mania and melancholia.

3rd. It may follow alcoholic and syphilitic poisoning, injuries to the brain, sunstroke, and such like.

4th. From perverted organic sensations and local diseases misinterpreted by a weakened brain.

There are three principal varieties:

1st. With delusions of unseen agency, suspicion or persecution.

2nd. With delusions of personal exaltation.

3rd. With delusions of perverted sensations.

When a single morbid impulse or delusive suspicion exists, then it becomes an imperative conception, and dominates the whole being.

Diagnosis from *mania* in the consistency of the delusions and their logical sequence. The emotional nature is kept in good control, and there is little motor restlessness as is seen in mania. From *melancholia*, in the absence of a sense of *ill-being*, in the absence of insomnia, in the absence of the characteristic face-lines of the insane melancholy, in having no suicidal impulse, and little, if any, confusion of mind to which we would give the term nonsensical.

Distinguished from *paresis* in the absence of those motor and psychic signs and symptoms found in paresis, especially in respect to the reflexes and tremors so abnormal in a paretic and yet so characteristic.

TREATMENT.

All kinds of drugs have been recommended, but you must be guided largely by the condition of the patient as to the use of sedatives and tonics, such as opium, hyoscyamine and hyoscine, including the bromides. These may be helps, but trust largely to food and fresh air. The prognosis is bad in all.

Out of the delusions of persecution necessarily grows the necessity of action to protect themselves from the persecutors, hence assault and homicide.

In this respect they differ radically from the melancholic, who passively suffers the injury that is being done him, and which he attributes to some sin, fault, or shortcoming of his own, and not to others.

The egotism and delusion of the paranoiac are entirely different from the delusions of those maniacal who are simply terrified, and proceed to no logical or connected acts, but only occasionally to impulsive ones, which is not the case in Primäre Verrücktheit.

I might observe, in passing, that the German term of Primäre Verrücktheit corresponds in meaning very well with our English word "cracked," or the American word "crank," or the Scotch word "a little daft." It means, literally, "shifted out of place." In other words, it is an abnormal condition in a definite line of conduct, but is a shifting from fundamental sane mentality. These constitute the most dangerous class of the insane.

The deeds which they commit are the dangerous

deeds of deluded patients, who are yet possessed of all the intelligence which can concoct dangerous plans and stratagems. The history of the world is full of brutal murders that have been committed by this class without fear and without remorse. Their delusions are so fixed, and their intellects otherwise so keen, that there is no safety but in asylum or prison custody and supervision. As a matter of fact, it is not a distinct phase of insanity. Neither its clinical history nor its ætiology points to its being any more than a form of delusional insanity, having two features prominent, viz., that of egotism and that of delusions of persecution. These abnormal features are seen in various forms of mental disease.

A medical witness who would attempt to prove the existence of such a disease, is usually held up to sarcasm and scorn as a hair-splitting theorist.

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CHAPTER XVII.

PHTHISICAL INSANITY.

LUNG disease is very prevalent among the insane, especially the tubercular form of it. It assumes the form of *latent phthisis*. In one member of a family may be seen dementia, and in another mania or melancholia, to end in death by lung disease. During this disease, when intermittent mania supervenes, all the most prominent symptoms of the disease disappear, only to return again when the maniacal attack has passed over. Sometimes mania and consumption are cotemporaneous; but, as a rule, the latter succeeds the former. Very often the intellect improves before death; but a majority go into dementia, if the disease should happen to be lingering. As a rule, however, a majority die within three years, and most of them within six years after the invasion; about one-fourth die within twelve months. In *latent phthisis* there is seldom cough or expectoration. The hectic fever, the symptomatic diarrhœa and glittering eye may be present, with dyspnœa and night-sweats. The lungs are filled with miliary tubercles.

Savage says: "Whatever in the future may be shown to be the relationship between bacilli and phthisis I

am sure there will be proved to be a very distinct connection between some low forms of lung inflammation with destruction of tissue, and death, and disorder of the nervous system."

In the sane the hopeful side is usually seen, and such are expecting to recover if only they could get rid of some little cough.

The consumption in the insane is usually found to be associated with melancholy As a rule this is associated with morbid suspicions of one kind or another. Very often there is a refusal to take food. Sometimes this is not from want of appetite, but from a dread or apprehension that there is filth or poison in it.

There are often near the end diarrhœa and hæmoptysis, hallucinations of taste, smell and hearing, with delusions of persecution.

In short, to sum up, it may be said:

1st. Phthisis kills a large number of insane patients.

2nd. It is associated with neurotic taint, which produces highly unstable nervous systems.

3rd. In the insane it is associated with certain groups of symptoms characterized by suspicion and refusal of food on the one hand, and with masking of the physical symptoms on the other.

4th. Degenerative lung disease is common in melancholia and general paralysis.

5th. Sanity not uncommonly returns before death in phthisical lunatics, and some recover sanity to die in a year or two afterwards of phthisis.

6th. Glandular disease from trophic deficiency is a generic term which may include such morbidity as is found in the insane, the consumptive, the victim of kidney disease, heart trouble and such like. We are never to forget the reflexes.

The frequency of phthisis in chronic insanity is the strongest proof that mental disease has masked trophic causes.

The frequent association of the depraved nutrition known as scrofula with idiocy and congenital imbecility has long been known. Perhaps two-thirds or even more are of the scrofulous constitution.

This class of defectives is very often of the strumous diathesis, having weak circulation, a low temperature, a pale complexion, bad and badly set teeth; the glandular and mucous structures being especially liable to disease.

The likeness of idiocy and secondary dementia to each other trophically is in many ways marked; and, therefore, it is not a matter of surprise that so many patients suffering from both states fall into consumption and die. Fully two-thirds of all idiots die of phthisis.

The question arises: is not idiocy itself another though a rarer, manifestation of this diathesis?

"It is remarkable," says Kolk, "when in the very same family some of the children suffer from mania or melancholia, and the brothers and sisters, who have remained free from these diseases, die of phthisis. I

have noticed that a great many epileptics die of consumption, especially if the epilepsy end in dementia."

In all it is trophic failure. This leads to the formation of the right *nidus*, without which the tubercle bacillus would be perfectly harmless.

The soil is ready for the colonization.

Pathology finds no distinctive evidences in the brain beyond general anæmia of the brain, with more or less atrophy of the grey matter; we find very rarely any tubercular deposit in the brain. Now and then there is local softening in the white substance. In short, the brain is shown to be throughout an ill-nourished organ.

Homicidal Insanity.

This is the most deplorable of all the forms of mental alienation. Some have been sent to us by courts, having been held to be irresponsible because of insanity; others have been sent to us as insane without a formal trial.

The insane with homicidal impulses are usually divided into six classes, each indicating a difference in mental condition:

1st. Those who take life in a paroxysm of insane passion or fury.

2nd. Those who commit homicide from delusion, or who are deceived by their hallucinations, illusions or disordered imaginations.

3rd. Those who kill indiscriminately, and apparently from a mere love of taking life; that is, from a

diseased propensity and intense desire to destroy others, against which act neither reason nor conscience remonstrates.

4th. Those who kill without any apparent motive, but from a sudden impulse, of which they are not conscious, and who retain no recollection of anything which prompted them to the act nor of the act itself. These are usually epileptics.

5th. Those disposed to commit the same crime and without motive, from an irresistible impulse, of which, however, they are conscious, and against which reason often remonstrates.

6th. Those who kill from imitation, or from an insane love of notoriety. As a rule, this class is composed of imbeciles or paranoiacs.

In this connection it may be well to state what is meant by *imperative conceptions* or *dominant ideas* without delusions. Poe, the poet, knew full well what they meant, and called them in an essay of his, "The imps of the perverse." We all know, in a rudimentary way, what they mean. An old song or its music, or both, spring into memory in spite of ourselves, and no mental effort of ours will drive them away.

By the law of association, some long-forgotten face or deed, or idea, suddenly jumps into the consciousness, and flicker in and out among our reminiscences, like an *ignis fatuus*, without our bidding, and go from our recollection, for the time, as suddenly as they appeared. No force of will can drive them away.

Let this condition, so evanescent in the sane, become fixed in the insane as a permanent state of morbid mental phenomena, and we have *imperative conceptions*, which control action and determine conduct.

You will remember that the celebrated Dr. Johnson tells us that he had an impulse to touch each post as he walked along the street. This dominent idea was so strong in his mind that if, perchance, he accidentally passed one by without the usual tribute of a touch, he felt irresistibly compelled to return and repair the omission.

The overwhelming impulse to laugh on occasions of peculiar solemnity is one which even the most serious persons have experienced.

A still more marked instance is that which sometimes urges pious people to indulge in blasphemous or profane language. Such tormented a great English divine, Bishop Butler, who only mastered it by strong and sustained efforts of the will. The imperative conception sometimes assumes a suicidal form, from which there is often no relief.

Dr. Ball, a French alienist, writes in *L'Encephale* that he was consulted by a young man who was engaged to be married, but who found it impossible to visit his intended bride because it would involve a journey of some length in a railway carriage, and he could never enter one without feeling a desire to jump out as soon as the train was in motion. He was advised to accustom himself gradually to this mode of travelling by taking short journeys on the

suburban train, but he could not get beyond the first station. There he had to leave the coach for fear of accident.

It is not difficult to comprehend that were these intruders to control our conduct to any great extent we would be insane, or on the borderland of insanity. In these we have a faint idea of how overpowering such imperative conceptions must be with insane constancy and reiteration.

Homicidal imperative conceptions are likewise met with.

Thouviot tells us he was tortured with a burning desire to kill some woman, but never felt the slightest wish to take the life of a man. He battled with the impulse for years; but, at length, it overcame him. One day he murdered a young girl, a perfect stranger, whom chance threw in his way, in the kitchen of a coffee-house.

Dr. Bell cites the case of an artist, who was a victim of a murderous imperative conception. He married early in life, his family was large, his cares and anxieties many in proportion. When thirty-eight years old, without any physical ailment apparent or any specially unfavourable turn to his affairs, he began to be thus affected mentally. If he saw a mirror he desired to smash it; near a window he felt an impulse to jump out; he never got a banknote in his hands that he did not feel inclined to tear it to pieces. These imperative conceptions presently assumed a more formidable shape: he began to be

assailed with an impulse to strangle his children. His little daughter was dying of croup, and he spent night after night by her bedside nursing her with the utmost tenderness: "Yet," said he to his physicians, "at the moment when I was praying, with tears in my eyes, that the child's life might be spared, I was tormented with the horrible desire to take her out of the cradle and throw her into the fire. Even now," he added, "as I speak to you, I feel a most intense desire to strangle you, but *I check myself.*" He was a man of powerful build. He would have been dangerous had his sanguinary impulses proved to be beyond his control.

No bad results followed his impulses, as they were successfully checked. His nearest friends did not suspect that he was subject to them, as he fulfilled all the duties of life in an exemplary manner.

I have often thought of the horrible doings of "Jack-the-Ripper" in relation to depraved women only, and the uniformity of his dissections upon this class of people.

It is to be remembered, that when an imperative conception forces to action it has passed into an "imperative impulse," and is uncontrollable.

An imperative conception, like hypochondriacal fancies, reminds one of what poor Lamb sings:—

> "Crowding my privacy,
> They come unbidden,
> Like foes at a wedding,
> Thrusting their faces
> In better men's places;

Causing confusion,
Figments heretical,
Scruples fantastical,
Doubts diabolical."

Leslie, in his life of Washington Allston, records: "When Allston was suffering extreme depression of spirits, immediately after the death of his wife, he was haunted during sleepless nights by horrid thoughts, and he told me that diabolical imprecations forced themselves into his mind." The distress to a man so sincerely religious as Allston may be imagined.

He wished to consult Coleridge, but could not summon resolution. Leslie, therefore, saw Coleridge for him. Coleridge said: "Allston should say to himself, 'Nothing is but my will. These thoughts, therefore, that force themselves on my mind is no part of me, and there can be no guilt in them.' If he will make a strong effort to become indifferent to their recurrence they will either cease, or cease to bother him."

The biographer says this reasoning was effectual.

Bunyan tells us he was tortured with blasphemous thoughts of all kinds.

He laid them at the door of Satan; and, of course, this diabolical train of malign suggestions was an artful design to keep him from the true path of duty.

They occurred spontaneously while he was praying, preaching or writing; but the immortal dreamer resisted them, and they finally disappeared, *especially after a rest.* Brain recuperation seemed to have driven the Evil Spirit away.

All such are doubtless sane, but on the borderland.

You will notice no delusions exist. The bent of mind is simply some dominant idea leading, impulsively, to action. Did delusions exist and action taken based on these delusions, then would we have diseased conditions, weak will-power, and, doubtless insanity. Many such are among the criminal classes.

Dean, in his "Medical Jurisprudence," tells us of a young man, twenty-one years old, who lost his father at an early age, and never evinced much love for his mother. When eighteen years of age he began to shun society, and felt a strong desire to commit murder.

Sometimes, when embracing his mother, his face would flush, his eyes sparkle, and he would cry out: "Mother, save yourself; I am forced to kill you." He kept his mental equilibrium by a strong effort of the will. Could we read humanity in its promptings, impulses and inhibitions, we would be astonished at the number of bad acts refrained from. A dramatic poem by Rossetti has the confession of a murderer, who killed his mistress because of a dominant idea from which there was no release, except in the execution of the deed:—

"'Take it,' I said to her the second time,
'Take it and keep it;' and then came a fire
That burnt my hand, and then the fire was blood,
And sea and sky were blood and fire, and all
The day was one red blindness; till it seemed,
Within the whirling brain's entanglement,
That she, or I, or all things bled to death.
And then I found her lying at my feet,
And knew that I had stabbed her, and saw
The look she gave me when she took the knife
Deep in her heart."

CHAPTER XVIII.

GENERAL BODILY CONDITIONS.

In treating those with brain disease, it is well to keep in mind the fact that *ab extra* abnormal conditions often occasion insanity, and that the removal of them means recovery. Heart disease, intestinal troubles, dyspepsia, anæmia, hepatic complications, diabetes, albuminuria, and any state which will bring about a general *malaise* are excitants, the result of which is insanity.

Uterine and ovarian disturbances and diseases do not produce insanity to the extent supposed. This statement is now supported by some of the best and most conservative gynæcologists on this Continent, such as Skene and Goodell. It is a matter of regret that modern surgery, which has made such advances during the past decade, has unsexed so many women because of slight troubles in one or both ovaries, under the impression that they are the cause of many nervous diseases and mental troubles.

It is safe to say that not over three per cent. of the female insane are afflicted with serious uterine or ovarian disease; yet, a large percentage of those admitted show evidence of medical or surgical treatment along gynæcological lines.

In some of the United States legislative enactments are in force against oöphorectomy, except under stringent regulations. It is a matter of regret that law is obliged to step in between a surgeon and his patient.

Uræmic conditions are often present among the insane. Sometimes these are associated with mania, but more frequently with melancholia. This mental depression is sometimes slight, but is often so profound as to lead to suicide. Uric acid, when in excess seems to have a demoralizing effect upon the nerve centres. The tendency for self-destruction is greatest after wakening up in the morning. It is possible that the increased alkalinity of the blood at this period leads to consequent increased solubility of uric acid, hence the toxic effect on the mental condition.

Many cases, with a sense of ill-being, are classified as neurasthenics because of brain starvation, who are simply the victims of slow uræmic poisoning; the nitrogenous waste products in any form, if unduly retained in the blood or abnormally produced, deteriorate the life current, and the first to feel the inimical influence is the brain. The condition of the blood stands first as a great causative agent of insanity. The order of sequence often is (*a*) trophic change, which, through nerve influence, affect such excretory organs as the kidneys; (*b*) dead tissues are retarded or changed to toxic agents, because of disturbed organic function before excretion can take place; (*c*) as a result, the most susceptible centres are poisoned.

In this connection, it may be noted that in melancholia, stuporous insanity and dementia, it is found, as a rule, that the number of blood corpuscles is sensibly diminished, more especially among the female insane. The hæmoglobin is less in quantity. In acute mania there is litte change in this respect. There has been found an increase in the specific gravity of the blood, especially in epilepsy, melancholia, general paralysis, and secondary dementia. There is seen no characteristic change in the relative proportion between red and white corpuscles.

The chlorides, phosphates and urea are often found in excess, but also below normal. The quantity and quality are not sufficiently definite in each form of mental disease to enable us to formulate a clinical law.

Among the pathological products of the kidneys, sugar and albumen are usually found, but their relation to the varied forms of insanity has not received that attention which the subject demands.

There is a wide field open for exploration in ascertaining the sympathetic relation which exists between the physical disorders of all bodily organs and the nervous systems, especially the cerebro-spinal centres. This intimacy is very great in the abdominal viscera, as was well known to the ancients, hence, the names melancholia, hypochondria and phrenitis.

Temperature and Pulse.

After a number of years of close observation of the heat of the body and the quality of the pulse in many,

if not the most, of the diseases of the insane, I have been convinced of the unreliability of those two tests, if depended upon alone. When we take into consideration the difficulty of finding the same heat twice under apparently the same pathological conditions, in the same patient; also that scarcely any two thermometers indicate the same degree under exactly similar influences of heat or cold, and that alarming conclusions are drawn from only a few degrees above or below the normal standard, it is evident that as a diagnostic method it needs to support it collateral confirmation in other quarters. If a number of thermometers are put in contact with the same axilla or under the same tongue it will be seen how fickle they are, and that no two of them agree exactly, even if adjusted as at present constructed. This untrustworthiness is also true of the pulse, both in respect to its frequency and intensity. A sudden bodily movement, a passing emotion, a transitory excitement, may accelerate the pulse, or a shock of depression may lower it without there being any disease present.

All that we can glean from the tone and frequency of the pulse must be of a general nature, and may indicate disease, or adventitious circumstances not abnormal. Even in disease different persons have no uniformity in this respect, so that its diversity and changeableness often put medical men astray, were they not led to just conclusions by other and more certain researches.

Many asylum reports give the temperature and

pulse of a large number of patients afflicted with dementia, mania, paresis, latent phthisis, etc., or it might be of two combined. Conclusions are drawn from these two sources of information not altogether warranted from any observations I have made here.

To put the matter fairly to the test, I selected a number of cases belonging to these classes, and the temperature and pulse were regularly taken for weeks together, morning and evening. No conclusions could be drawn from these of a satisfactory character except in a general way; in dementia we found the heat and pulse below the standard of health, but for several days at a time they would take a leap upward without any reason for so doing being discernible.

In cases where dementia and consumption were combined, both, as a rule, were found above normal, but in a erratic way they would come down considerably and stay there for a few days at a time.

The nearest approach to stability was found in paresis and consumption combined; both were above normal, and found to be uniformly high. In paresis alone the same uncertainty prevailed; they rise and fall without any regularity, but oftener above normal than below.

The temperature and pulse give general indications of bodily disturbance in disease; but, so far in our investigations neither pulse nor thermometric tests show indications of the genus or species of insanity or its ally called latent phthisis.

CHAPTER XIX.

AMENTIA.

AMENTIA, meaning mindless, is an erroneous definition. All of this class have minds, although of a rudimentary nature. To be without mind must, of necessity, mean the extinction of a human being. Under this term two classes are usually grouped.

1st. Idiocy.

2nd. Imbecility.

Idiocy may be defined as a condition in which is found circumscribed brain structure, from want of development. This defective growth may be from birth, or may exist by arrest of brain expansion during the infantile period.

By virtue of this deficiency the mind is incapable of acquiring such experience or mental capacity as would fit the possessor in any way to fulfil the most trivial duties of life as a social being. Some authors, like Esquirol, make three degrees of idiocy, and others make two, based upon the scale of intelligence.

They are usually deficient in physique, small and symmetrical heads, but sometimes very large. The sensibility is usually low, and they are subject to neuropathic complications, especially chorea, epilepsy

and paralysis. They have no morals, and their lives are largely instinctive. Occasionally they develop artistic capacity and aptitudes, which are capable of little development or cultivation. Bacon says: "An idiot is a fool or a madman from his nativity, and one who has never had any lucid intervals. Such an one is described as a person that cannot number twenty, tell the days of the week, and does not know his father and mother."

Psychologically, an idiot is a human being who, from defect or disease of the brain, at a period of life before the mind has been developed, has suffered an arrest of mental growth. The time of attack may be before or after birth, sometimes so late as four or five years after, and thus the legal definition that idiocy is "from nativity," is not strictly correct.

Idiots of the lowest type have merely organic life. In a step higher the mental condition more nearly approaches ordinary intelligence. Such patients have sensations of heat and cold, hunger and thirst, pain and a low form of pleasure, as in the brute creation. All are purely animal in instinct and lower than the higher brute creation in intellect.

Imbecility.

The distinction is only one of degree between the *imbecile* and the *idiot*, although it is convenient to give them two designations.

Like idiocy, imbecility may be congenital, or may

be arrested development in early childhood. The defect is less in degree, although of the same kind.

It is observed in the mental growth of the child by improvement being more marked in the imbecile than in the idiot. It is slower than is that of a merely so-called "stupid child" in acquiring new ideas from experience.

Some people differ from others in the amount of their mental capacity; so do imbeciles.

Some imbeciles approach so closely in intelligence to the stupid citizer that it is sometimes difficult to say to which class either belongs.

Some medical and legal writers make a test by the number of the words such habitually use. It is not based on that of cram, but of habitual use in every-day life.

Shakespeare used about fifteen thousand words. Milton used eight thousand. Ordinary, every-day, ignorant people seldom used more than four hundred.

We can descend the scale to imbeciles, who may use only one or two words, such as *no* and *yes*, or *pa* and *ma*.

When the process of development has come to a premature end—that is, there exists congenital mental deficiency—then we have what jurists call *Dementia Naturalis*.

We have an ascending scale of intelligence in *idiocy*, *imbecility* and *weakness of mind*. In these classes the process of development has not been carried *far enough*. In insanity the process has been carried far

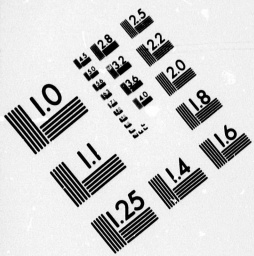
enough, but has, in adult life, diverged into a *wrong* and downward *direction.*

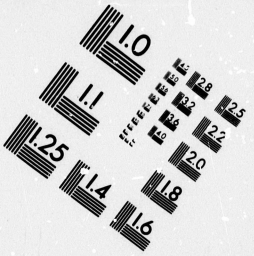
In mere weakness of mind there is every degree. At one end of the scale is the person who is not quite up to the average; who is found by his friends and acquaintances to be a little dull; who was in a lower class in school than others of his age; who, in spite of assiduous study, got plucked at his examinations; who is slow to appreciate humour; who is incapable of grasping ideas of a moderate degree of abstractness or complexity; who, if he reads works of fiction, enjoys only those which deal with incidents and adventures. Such men, if they possess industry and power of application, often attain a degree of success in life which surprises those who know the narrowness of their intelligence. The solution is in the fact that their interests are so circumscribed that their application to the object they have in view is not apt to stray. The attainment of any end depends more on the steady, continuous application than on the scope of mental ability.

The line which divides the dull or weak-minded man from the imbecile is the ability to *earn a living* in an intelligent way.

The man, who can earn his living, may be a dull man, a stupid man, a man of feeble, limited intellect, but he cannot be called an imbecile.

These two classes are in striking contrast to a thoroughly healthy, vigorous man. He has not only





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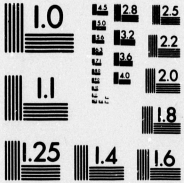
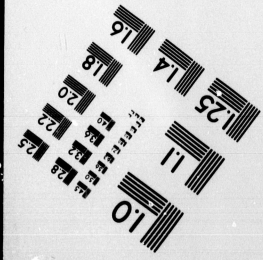
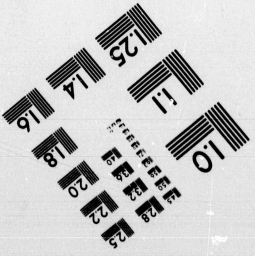






those activities by which he avoids direct physical danger, but also defends himself from it. He earns his livelihood with discretion and wisdom. He rears, feeds, clothes and educates his offspring. He does his share of the duties required of him as a social being and a useful citizen with vigorous mental power.

He has energy to spare to recreate himself—it may be in the pursuit of literature, art or some other hobby. The weaklings of the classes I have described have no such ambitions or desires. Animal pleasures or silly inanities or childish notions fill up their cup of enjoyment, in which is that of to-day and little, if any, care for to-morrow.

Occasionally a case of imbecility presents itself in which one isolated group of faculties is of average or even more than average development.

Such as the cases in which persons, otherwise imbeciles, show a talent for music or for calculation. In such examples the deficiency in brain development is not uniform. In some directions the development has proceeded to a normal extent, while in the remainder it has failed.

The unlettered savage has average mental capacity in the chase and in warfare, but otherwise he has a child's mind in a man's body. The baubles of the child please him, such as red cloth, beads, looking-glasses, and such like.

The gradations of mental growth might be illustrated in this way, omitting the affective nature:

Arrested Development.		Normal Growth.
Moral idiot. No ethical feelings.	6th Step.	Moral nature developed.
	5th Step.	Full intellectual development.
	4th Step.	Average man possessed of abstract and concrete ideas.
Circumscribed mental scope and arrest.	3rd Step.	Higher mental capacity.
Imbecility.	2nd Step.	Dawning intelligence above instinct.
Idiocy.	1st Step.	Animal instincts only.
	Birth.	

CHAPTER XX.

MIND STRESS.

THE civil engineer will give the weight necessary to break down a beam of wood, iron or steel, if the size and kind of each is given. In other words, he knows from experience the resisting power of various materials. It is a somewhat analogous law which exists in respect to the capacity of the brain to preserve its integrity against all kinds of physical and mental strain. These powers on the one hand and the brain tension on the other could be absolutely formulated as in mechanics, were all the conditions as well known. These varied forms of stress may come in the form of physical disease of the brain itself; from indirect bodily disease in distant parts, or through mental trouble such as worry, fear, emotional shock or any form of mental excitement and consequent exhaustion. Each brain, in respect to resistance, is a law unto itself, but it is subservient to this general condition. One may be robust and full of vigor, hard to tire and soon rested. Another may be feeble and languid, with the recuperative energies slow. The former might have, in an analogous way, the vitality and strength of the oak or the elasticity and dura-

bility of steel; and the latter only the weak fibre of the bass-wood or the pliability of iron.

The organ of the mind, when healthy and naturally strong, is capable of a large amount of steady work, but each person must gauge the tension upon his own brain by the effect produced daily in its working. It will soon throw out signals of distress when overstrained. In this age of tireless and sleepless energy, with sharp competition in all the walks of life, many a man is like the engineer who is running a twenty horse-power steam engine at twenty-five or thirty horse-power. The tear and wear will be tenfold that which would take place from normal work, just as running a mile expends more energy than would walking five miles.

In the young and vigorous the unusual demand may not always immediately show malign results; but as the years go by, and the vital powers have reached the maximum of activity, or it may be, by lapse of time they are on the decay, then nature has its revenges, because of the violation of its laws in early life, as it never shows pity to the transgressor.

Early or late the warning comes in one of many ways: It may be by want of sleep, by a feeling of fatigue when little or no work is done, by mental lassitude and incapacity, by a feeling of *goneness* in the body and a lack of power of concentration of thought, by waning memory, lowness of spirits and defective appetite.

In short, body and mind are at the ebb, and are going downwards and outwards "beyond the bar."

Nature has its penalties inflicted for violations of law, often long after the infraction. The fast young man begins to know this in middle life, when the executioner has overtaken him. The brilliant student may so eat up his vital reserves in college spurting as to shackle his mental vigour in after life. The business man, immersed in mental strain beyond his calibre, may see no loss of vital elasticity for years; but the day is sure to come in many such, when the warning cry is too late. A man finds, to his consternation, that in middle life his energy is flagging. He puts on an extra effort to make up for mental weariness, and thereby intensifies the evil. In his sleeplessness he hears the clock strike all the hours throughout the darkness of a seemingly endless night. He rises in the morning unrefreshed, and possibly with a tinge of low-spiritedness. The appetite is impaired, and an otherwise equable temperament has become irritable, and brooks little opposition. Business, in which he formerly took a delight, has become a bore. By noon mental exhaustion sets in, as the brain has not procured its usual rest, nor the great nerve-centres their well-digested pabulum. He was a social man, but now he has no zest for the company of relatives, friends or companions as he once had, and he is himself annoyed at his hermit desires. Intense introspection takes place, and even ordinary feelings of body are magnified into monsters of

disease. His mind is centred on self; and, try as he may to divert his attention objectively, the pendulum of thought will swing back to the morbid point with aggravating persistency. He feels and struggles against this pelting from the first drops of the coming mental storm, and often successfully, but if this condition intensifies, then is the borderland of insanity reached. Delusions usually set in, and although the patient knows them to be such, yet they may dominate his actions to some extent. A good business man avoids Victoria Street, because he has the idea that some calamity may happen to him on it. He knows the morbid fear is absurd; nevertheless, to quiet the perturbed feeling, he avoids the street. An intelligent professional man, actively engaged in his daily work, cannot sleep in a detached house, because he has the notion that it may blow down in the first gale. He feels secure in a tenement house, and, at the same time, laughs at the absurdity of his fears.

A commercial traveller dreads to ride upon a well-built and well-equipped branch line of railroad, and is in a nervous condition of alarm when he is compelled to travel on it. He has often gone many miles round to avoid it. He states he can give no reason for the possession of this unreasonable fancy, yet, it has remained with him for years. A woman who is fond of shopping indulges in it as a recreation, but never goes into one large store in this city, where she could feed her propensity to the utmost, because she has a fear of the ceiling falling down about her

ears. The heavy pillars of support and the solidity of structure have no influence on this dread. Scores of analogous cases might be cited; but, in all is found a substratal condition of nerve starvation, accompanied by a general sense of ill-being. Strange to say, the absurdity of the delusions is seen, yet they dominate and control individual action. Such men often struggle on for years in this unsatisfactory condition, if insanity should not intervene, until middle life is reached; and at this trial epoch for men, as well as for women, we often see premature old age set in as the first step of senile decadence. "The pith and moment" of vigorous manhood are waning. The capacity for entering into new enterprises with the vim, judgment and discretion of earlier years is very much weakened. In short, the grip of mental life is being loosened prematurely because of undue mental strain throughout a previous period of abnormal energy, and, it may be, of exceptional trial.

It is often the case—especially in commercial circles, in industrial centres and in professional routine work—that, as life advances, the demands upon time and upon mind increase rather than diminish. The work enlarges and becomes more complicated; and, as a result, the busy man—who looked forward at, say, fifty-five years of age, to retire with a competency—may have the riches he coveted, but has not the opportunity nor even the desire to seek quietude and rest. We too often forget that the

life-work of a citizen becomes, by repetition, to him a second nature, and, therefore, he has no enjoyment but in doing that work until his sun has set, or at least until the gradual decay of old age has made him lose his former interest in mundane things. As someone has well said: "He may have something to fall back upon, but nothing to fall back to."

Of course, there are exceptions to this law of life. Many brains of fine and tough structure luxuriate in great activity. To such labour is life, and the tireless capacity of such exceptions is often astonishing; but the masses of ordinary men are not thus endowed. As a rule, the educated brain has more endurance and more rebound to it, like a steel spring, than has that of the ignorant. By the educated is meant not simply the college-stuffed brain, but any organ of thought which has been trained in the school of experience, and has been the recipient of knowledge and wisdom from all sources of information.

The higher organization has in it greater recuperation than has the less complex nerve centre, just as have the skilled rower's or pugilist's arms, by training the muscles of the body, more power than have those of the clerk or cleric, who needs no great muscular development in his daily work. It is also true that unless these athletes are overtrained, their muscles will recover from injury and disease more readily than those of their more flabby fellow-citizens.

This law of repair is also seen in the percentage of recoveries among the insane, wise and ignorant. It

is true there is little insanity among savages, but the reason of this exception is obvious. The mental strain is little, and the indolence of such, especially in the tropics, leads rather to mental inertia than to morbid exaltation. Their happy-go-lucky mode of life is in striking contrast to that of the seething, struggling masses of Christendom.

It is easy to propose a remedy. We say to such, "Take life easy. Do not worry. Be content." The answer is: "We cannot. On the farm, at the counter, in the shop, in the professions, on sea and on land we must push our varied interests to the utmost or we will come to ruin." Keen competition, low prices for work and its products, the additional demands of a social kind or of a public kind which have come in with our civilization, all compel toil of brain or hand, or both, from which there is little cessation until life closes or, it may be, reason is dethroned.

This indictment against themselves is true; and, as a rule, myriads of such perish mentally, and, what is even worse, before the eclipse comes add in their children to the great army of defectives, who now swarm in every land and in every clime. Even the mentally great of the earth have seldom equally famous descendants, because genius burns out the superabundant energy, and consequently has no such bequeathment as a legacy to descendants. Here is where heredity shows its baneful effects, and which are working untold woe in all communities.

Health Boards chase the microbe to his lair and seek his destruction. They charge the plumber with culpable homicide because of his bad work. They wage war against filth and foul air. They throttle endemics and epidemics, and face the various scourges which march by sea and land with germicides, antiseptics, fire and water. It is well, but the more insidious mental diseases which produce a most deplorable condition in the tens of thousands of our fellow-beings, to which death itself is a relief, are never thought of, except by a few, and these are only voices crying in the wilderness. Prevention is better than cure, yet at present we are, so to speak, picking up human fragments at the bottom of a precipice, but have no danger signals at the brink. Health Primers on the baneful effects of secret vices; on heredity; on unsuitable marriages from a health point of view; on the active and predisposing causes of insanity; on the evil effects of mental strain, and such like, would be of invaluable benefit to the community. Many of these human ills are preventable, but about the consequences, of which so many are ignorant, because of a silly sentimentality among those who are qualified to instruct, little is known by the people.

There is a natural desire in those thus afflicted to seek relief. Unfortunately, many such find it, temporarily, in the use of some form of spirituous liquors. The fleeting paralysis of body and mind induced thereby gives comfort for the time; but the effect has

to be kept up, else more profound trouble than ever supervenes. The end is often a state of chronic alcoholism and final collapse. Some seek relief from this thraldom of mind-pain by the use of opium, morphia, chloral or some other such seductive drug. The constant use of such drugs ends in mental enfeeblement or insanity, and in such wrecks of humanity is seen the most deplorable affliction of a living death. It is forgotten that, in the struggle through life, nature is ever fighting towards recovery in disease or under any untoward circumstances. As a condition towards health, it is handicapped by anything which lowers the vitality or prevents recuperation. This is especially true when stupifying drugs are used to produce so-called sleep in insomnia. Natural sleep is replaced by stupor. The appetite is interfered with; hence, insufficient food. Good digestion is followed by dyspepsia, mal-assimilation of food, mal-nutrition and the nervous debility intensified. Under such drug influence remedial measures are impotent. Wholesome food, cleanliness, good air, exercise and short hours of mental work are "Love's Labour Lost," yet they are our sheet-anchor in all such cases.

At this stage the cure-alls are eagerly sought after. Drowning men catch at straws. The seductive pamphlet, full of testimonials of wonderful cures; the flaming falsehoods in the secular and religious press, which promise almost to raise the dead; the wonderful golden promises to cure evil habits by

injections of paralyzing nostrums into the body; the insane teachings that disease is only a mental fantasy; the equally nonsensical belief that faith alone can cure all human ailments, but cannot set a broken leg nor restore to their right minds the insane, the most pitiful of all God's creatures, nor lessen by one the inmates of the Home for the Incurables—have their day. All such promises look so plausible, when backed up by designing rogues or self-deluded believers, and look so feasible to those whose mind-stess is hard to bear, and who may find no immediate remedy from their physicians; hence the rich field for quackery and its many allies. Credulity cannot be eradicated from the minds of men as long as a belief in all human testimony exists. The distress is present, and the possibility of immediate cure is so seductive, when accentuated by so many who affirm that such-and-such mixtures, extracts, pills or liniments have done wonders in similar cases. The fundamental law of our nature is forgotten, namely, that all humanity can do with its best remedies is simply to stimulate the master-builder into activity, to repair the waste places and to furnish him with the suitable material to build up the body or to carry away the dead tissues by the excretories.

CHAPTER XXI.

NOTES ON THE CONDITION OF PATIENTS ON EXAMINATION.

A. BODILY Condition.—Such as weight, temperament, muscularity, fatness or leanness; expression of face and general appearance; any bodily injuries, or wounds or scars of past hurts.

B. Organic Functions.—As to digestion, condition of bowels, appetite.

Condition of the skin, as to eruptions, moisture and abnormalities.

The circulation, as to pulse, cardiac sounds, and injection of the conjunctiva.

The condition of the respiratory apparatus, as to the state of the lungs, breathing, and rapidity of the respiration.

The state of the glandular system, as shown in the examination of the urine, state of liver, spleen and thyroid.

C. Sexual Functions.—Especially as to habit, masturbation, and past or existing syphilitic attacks.

In women, enquiry as to catamenia, discharges, pregnancy, syphilis, and the trial epochs of life.

Enquiry as to previous attacks of such diseases as rheumatism, fever, inflammation and gout.

D. Nervous System.—Enquiry as to the existence—present or past—of paralysis, epilepsy, hysteria, hypochondria and neurasthenia. Any diseased conditions along the line of nervous disturbance are to be carefully noted.

The special senses need attention, especially as to illusions and hallucinations of sight, hearing, smell and taste.

The touch and nervous sensibility often give valuable information in our diagnosis. Sense of pain, reflex action, anæsthesia and hyperæsthesia, are to be thoroughly enquired into, as well as the various reflexes.

Heredity is never to be forgotten in its tendencies and reproductions.

E. The mental symptoms not directly related to the special senses.—In this class we are to seek for psychic conditions only. These would include consciousness, identity, power of attention, memory for recent events and for past events, coherence of language, mental exaltation, mental deprivation, depression of spirits, sleep or insomnia, delusions, propensities, habits and bias; such as using obscene language, dangerous to others, maniacal excitement in its various forms, indecent conduct, suicidal and destructive tendencies, or mere negation of normal mental activity, as in dementia.

The following tables are used by me not only to note the *post-mortem* conditions, but also to record as far as possible the insane life history of the individual:

RECORD OF AUTOPSIES IN THE HOSPITAL FOR THE INSANE, TORONTO.

GROSS LESIONS.

No.	NAME.	CAUSE OF DEATH.	SCALP, SKULL and MEMBRANES.	BRAIN. Sp. gr., Weight and Size.	BLOOD VESSELS OF BRAIN.	SPINAL CORD.	BLOOD VESSELS OF BODY.	REMARKS.

MICROSCOPIC.

No.	NAME.	CAUSE OF DEATH.	SCALP, SKULL and MEMBRANES.	BRAIN. Sp. gr., Weight and Size.	BLOOD VESSELS.	SPINAL CORD.	BLOOD VESSELS.	REMARKS.

GROSS LESIONS AFFECTING OTHER ORGANS OF THE BODY.

GROSS LESIONS AFFECTING OTHER ORGANS OF THE BODY.

No.	NAME.	Lungs.	Heart.	Stomach.	Liver.	Spleen.	Kidneys.	Intestines.	Bladder.	Uterus.	Ovaries.	REMARKS.

OTHER PHYSICAL CHANGES NOT NORMAL IN CHARACTER.

No.	NAME.	MUSCULAR.	THE SPECIAL SENSES.	SENSATION.	REMARKS.

MENTAL CONDITION.—ACUTE or CHRONIC.

No.	NAME.	Mania.	Melancholia.	Dementia.	Circular Insanity.	Insanity of Moral Nature.	Paranoia.	Hallucinations, Illusions, Delusions.	REMARKS.

CHAPTER XXII.

TREATMENT OF THE VARIOUS FORMS OF INSANITY.

In administering drugs to the insane it is to be remembered that the mentally diseased will often not express their feeling nor give a true statement of their aches and pains as the sane do. We must, to a great extent, judge of their condition by what knowledge our experience and senses give us. A maniacal, melancholy or demented patient may have retention of urine, loaded bowels, hernia, bleeding of the bowels or any one of numerous complaints and it may be of such an obscure nature as may escape the vigilance of the physician and attendant until such assumes a serious aspect.

It should also be accepted as a truism that medicine is only an assistant to nature. The vital powers of the physical system in its efforts to preserve live and restore health are the curative resources given to us in every form of disease. In the first place, then, we are not to frustrate these by undue intermeddling; and, in the second place, we are not to expect medicines to take their place. There are no cure-alls in pharmacy and therapeutics. We give stimulants, we

brace up with tonics, we quiet with sedatives, and we lull pain and give sleep with anodynes and narcotics, but, in all these efforts we only endeavour to guide nature to health. We cannot originate any powers it does not possess. We can only steer the vessel, but its propelling power must be left to nature's vital agency. Insanity, like many other forms of disease, will often run its course in spite of all remedies. Our aim must be to provide pabulum, and sustain nature in its struggle against the retrograde steps towards dissolution and death.

One of the first considerations in treating the insane is sanitary surroundings. These are more apt to be neglected among the insane than among the sane at their homes. If they are violent or suicidal the windows are apt to be fastened down and shutters put up; the doors of their rooms are kept shut; the fresh air and sunlight are excluded; a vitiated atmosphere is kept in. Personal cleanliness is too often neglected from ignorance of what attention in this respect is necessary, or from fear of unduly exciting the patient. Food is not given regularly, and the kind may be mere slops or abominable nick-nacks, instead of nourishing nitrogenous food, such as milk, eggs, fresh meat and fresh fowl. There is more fibre-building material in a good beefsteak than in a hogshead of so-called beef-tea with the beef fibre left out of the decoction.

In nursing the insane, the necessary combination of firmness and kindness is not often found in private

houses, yet how indispensible are all these simple requirements to induce health, not to speak of mental recovery.

Again, medicine is left by a physician to administer at stated times. It may be a necessary sedative, stimulant or tonic. His back is no sooner turned than some local wiseacre throws doubt on the wisdom of the doctor, or on the efficacy of his remedies, or on the necessity of his dietetic and sanitary rules. They are ignored, and yet he is held responsible.

Herein comes the advantage of asylum treatment, where no such untoward circumstances exist. All the conditions, except *hospitalism*, are favourable to recovery. These drawbacks are especially true of the pauper insane who are kept at home, and where, of necessity, the attendance and nursing must be of the most crude kind.

Our diagnosis is often hampered, because of those who are full of delusions and imagine they have a disease of some kind, which has no existence. It is useless to reason the matter with such, and the only other alternative is to give a *placebo* of some kind, and in this way employ mental therapeutics and watch developments. In these three aspects—of (*a*) not noticing their ailments, (*b*) hiding real troubles, (*c*) having the mind filled with imaginary ones—we labour under disadvantages which do not exist in treating the sane, if not delirious.

Nor are these all our difficulties. When medicines are given to a sane person, on a second visit we are

greatly guided in our future treatment by the account an intelligent and non-delirious patient will give us of the effects of our previous administration.

There may be idiosyncrasies against certain drugs, of which we were not aware. The medicine may not have the desired effect on account of causes which may be obscure, but which the patient may be able to assist in solving. A large number of the intelligent insane can be depended upon in describing symptoms, and on the other hand many cannot be relied upon in making our diagnosis, hence the physician labours under a disadvantage.

Under these circumstances we must fall back upon our experience of the therapeutic value of different drugs as usually administered, until we are convinced of their injurious effects, their negative character, or beneficial results.

It is possible that asylum medical officers cannot do much better for the insane than can an intelligent outside practitioner; but in asylums all the conditions enumerated are imperative, and no outside interference is allowed. As a rule, the hospitals for the insane in christian countries adopt the most modern methods and endeavour to bring about the best conditions necessary to recovery. It is true that there are a few neurologists in some countries not far off, who sneer at that band of excellent and, in a majority of cases, able men who make their life work the care of the insane, because they do not devote more time to the study of neurology and kindred subjects. Now,

as a matter of fact, the most advanced students along this line of thought in Christendom to-day are not these critical theorists without practical experience, but the men who are daily among the insane and live in a clinical atmosphere.

Synthetical chemistry is furnishing a large variety of sedatives and narcotics such as sulphonal, phenacetine, chloralamide, trional and such like. While not coming up to all their advocates claim for them; yet, there is no doubt, their calmative effect in mild mania and in the restlessness of melancholia makes them valuable additions to our therapeutic agents. At the same time, it is not well to accept as gospel truth all that is said of the hundred-and-one chemical substances which are being produced with wonderful rapidity in the myriad laboratories of to-day. New remedies—so-called—are being thrust upon the medical profession; so are old remedies, brought into use under new methods of manufacture and of chemical union. They are produced in many forms simply to sell, and in the purchase of many of them the profession is "sold." They serve their little day and pass into forgetfulness, usually with profit to the manufacturer, and are followed by the exhibition of new substances, which pass through the like evanescent stages of temporary popularity, largely because of the laudations of some susceptible members of our profession. It is true, valuable remedies may be and are discovered by chemists and by physicians fond of experiments, yet it is well to be largely conservative in our opinions

of the efficacy of all new-fangled drugs which may be thrust upon the market.

Puerperal Mania.

In the treatment of puerperal mania, the following points may be remembered: (*a*) Absolute rest, if possible; (*b*) the employment of a competent nurse, and, with few exceptions, the absence of such relatives who may have neither discretion nor judgment; (*c*) child weaning without fail; (*d*) bowels freely relieved by enema; (*e*) general antiseptic measures adopted immediately before and after delivery; (*f*) seeing that the breasts are attended to, being of paramount importance; (*g*) lochial discharges removed, thoroughly saturate the womb and passages with quinine held in suspension in tepid, distilled or boiled water.

Condy's fluid is excellent, as it contains a large quantity of permanganate of potash.

I have found a diffusible stimulant have excellent results, and such a drug in this condition of the patient is calmative in its effects; just as I have seen in dozens of cases in ordinary mania the administration of whiskey in hot water, with a warm bath, quiet more satisfactorily than many of the standard sedatives and soporifics.

A majority of such cases soon subside, and recover in two or three weeks. This statement refers to simple puerperal mania of the sympathetic form, and not to the septic class. The outlook of the latter is

varied, and uncertain as to duration and recovery. Quinine is our sheet-anchor where poison exists. It is antagonistic to all forms of micro-organisms and to putrefaction. Our forefathers knew this practically when they put great faith in Peruvian bark and charcoal as poultices where pus existed.

Hypnotics may require to be given as a final resort to allay maniacal excitement and consequent exhaustion, as a continuance of it, without cessation, means death. Chloral, or sulphonal, or paraldyhide may be used. A suppository of camphor and chloral *per rectum* not only is a good general sedative, but no doubt it allays local excitation. It is well to avoid hyoscyamus or any of the products therefrom, as it is a heart depressor, and as it dries the tongue and fauces it might cause a distaste for food. The bromides should be avoided.

Any of such drugs should only be temporary expedients, to tide the patient over the critical period of mental and physical prostration. Stop their use as soon as possible.

Should the patient recover from the blood poisoning, and not immediately rally, the usual result is a period of mental weakness with or without stupor. Sometimes a mild mania may supervene. We have in the latter class patients hard to manage, as they are very often erotic, obscene, filthy and often destructive.

A large number, however, of even this class recover inside of a year, but quite a few lapse into chronic

and hopeless insanity, especially should there exist a hereditary tendency.

On the whole, the prognosis is good, and we are encouraged to persevere in our treatment. Our aim should be, among other aids to recovery, to ensure the feeding of nourishing food, fresh air, cleanliness and tonics. When the acute stage has passed away, we trust to the simple forms of iron in effervescent combine, or in the pyrophosphate of iron, cod liver oil, with one or other of the phosphites, or, better still, the phosphides, peptonized milk with eggs, soups of a substantial kind, and a fair amount of some form of stimulant. I prefer any of the malt liquors to wine or any distilled spirits, in such cases. Treat such patients at home, if possible; but it must not be forgotten that home treatment too often means, of necessity, because of the situation, too much narcotism and too little of good nursing and general treatment; too little building up, and consequent depression; too much confinement, especially in towns and cities, and too little open-air exercise. These unfavourable conditions are often rendered more so by relatives exhibiting too much interference and too little tact. Because of these and other hindrances, especially among the poor, the medical attendant has his best endeavours very much neutralized.

CHAPTER XXIII.

TREATMENT OF MANIA.

In former times mania was thought to be caused by meningitis, and as a consequence, this supposed inflammatory condition was treated by the orthodox purging, bleeding and salivating. Occasionally, for a change, large doses of tartar emetic were given, the object being to lower the pulse, and consequently the circulation. Blisters were applied to the neck, and many years ago the actual cautery on the nape of the neck was used in this province. This treatment was in accordance with the approved practice of those days. These heroic remedies and methods are unknown in our day. The levelling down has been followed by the levelling up. In most cases of acute mania we have to consider what is best to be done to reduce the excitement and quiet the patient. Shall we give sedatives or narcotics, or neither? If we give neither, then one of three results will follow: that is, recovery after a time, if the natural strength should hold out, or a drifting into some form of chronic insanity, or death from sheer physical exhaustion. We are well aware that if we can husband the physical resources until the crisis is

over-past, we have gained a good deal; but we know that in mania it is not drugs alone that will do this. All the conditions conducive to health need to be present, especially good food, well cooked and plenty of it, cleanliness, and fresh air. In all forms of insanity this practice should be the golden rule. Let it be repeated with emphasis that hygiene and dietetics must always stand supreme in disease; if not, then our medicines will be of very secondary importance, and will not have fair play. Were I obliged to give up one of these two classes of curative agents in sickness of any kind, then would I let the medicines go, so important do I consider the former. The doctrine of "the gospel of fatness" is a well-tried dogmatism. These views being conceded, and seeing that sleep is absolutely needed in acute mania, we must consider what is the best drug to administer.

If there be great irritability and persistent insomnia, and no evidence of permanent lesion of the brain, then some preparation of opium seems to do best in our experience, either hypodermically, by the mouth or per rectum. It is preferred in the natural state, but if any of the salts are used, then atropine, in the proportion of the twentieth part to one part of the salt, is a good combination, as the one seems to modify the action of the other. Sometimes the deodorized tincture of opium added to bromide of potassium or sodium produces excellent results.

It is well if we find a state of hyperæmia existing not to give opium nor its salts. If we find the eyes

injected, turgesence of the superficial vessels of the head and neck, a hot head, a pulse neither full nor strong, then, as a rule, it is better not to give opium.

Notwithstanding what has been said to the contrary as regards the effect of opium to produce congestion of the brain, my experience has been that such is the case, and if given when contra-indicated, it would diminish the chances of recovery. We are threatened with exhaustion and death of our patient unless rest, artificial or natural, is procured. Even temporary relief may tilt the natural forces in the direction of recovery. The fire of acute mania will burn out after a time, if we can only in the meantime keep up the strength with food, and quiet the nervous system. The waste of tissue and of nervous energy are great, so these must be provided for by every means at our disposal, but medicine alone is neither meat nor drink.

If opium is indicated, then give full doses from the beginning, which in mania, as in delirium tremens, must be from a half more to twice the ordinary dose if a decided effect is expected. Repeat every four hours until three doses are given. If no effect is produced do not continue the opium or any of its salts, for more may produce a sudden cessation of the mania and a dead patient. This is also true of hydrate chloral and other remedies of the same class. The exhaustion of the disease, and the sedative effect of the drug combined, often repeated, may produce fatal results. The pathological condition may be too profound for the remedy to reach and effect.

Some patients tolerate opium to an enormous extent, and others find it a very bane to them. Idiosyncracies are not to be lost sight of, because death from opium may take place *without coma* in a condition which seems to be a combination of asthenia and asphyxia. Sudden collapse takes place, followed by a failing pulse, shortness of breath and death. When indicated, where there is sleeplessness and mania, any one of the following prescriptions may be used with good effect:

℞ Chloral Hydrate ..... ʒ ij.
Sodii. Brom. ..... ʒj.
Morphiæ Sulph. ..... gr. ¾.
Syr. Zingiber. ..... } āā f ʒj.—M.
Aquæ Dist. ..... }

Dose: A tablespoonful at bedtime, to be repeated in an hour, if necessary; or

℞ Sodii. Bromid. ..... ʒij.
Chloral Hydrate ..... ʒiss.
Tinc. Opium Deodor. ..... ʒj.
Syr. Aurantii. ..... } āā q.s. ad ʒvj.—M.
Aquæ Dist. ..... }

Dose: One tablespoonful at a time. This may produce the desired result as a sedative rather than as a narcotic.

When indicated, the following prescriptions are satisfactory to use in any form of mania:

℞ Chloral Hydrate ..... ʒss.
Tinc. Hyoscyami fld. ..... ʒij.
Aquæ ..... ʒj.—M.

Dose: To be given at bedtime.

Dialyzed opium (the same strength as tincture of opium) is a good form to use. The same is true of the bimeconate of morphia.

Neither of these has the unpleasant after effects of opium in other forms.

If a small quantity of one of the ethers be added, costiveness and nausea will be neutralized, and on some systems this mixture acts as a laxative.

When resistance is made to taking these medicines by the mouth, a suppository of them can be given *per rectum*. One-third additional quantity should be given.

The monobromide of camphor often does well to allay excitement of any kind. Four-grain capsules every hour will generally have the desired effect after the second or third dose is given, but sometimes one dose is enough to quiet, if not to cause sleep.

In mania a good sedative or narcotic mixture is as follows:

℞	Hyoscine Hydro. Brom.....	gr. $\frac{1}{50}$
	Chloral Hydrate	℈j.
	Sodii. Brom.	ʒj.
	Morph. Sulph.	gr. $\frac{3}{4}$.
	Syr. Zingiber ..... Aquæ	āā f ʒj.—M.

Dose: One tablespoonful at bedtime. It is to be repeated every two hours until the patient is asleep, or until three doses are given.

To produce quietness in the daytime the following pill is good:

℞ Zinci Valerianat. ..... ℥j.
Ex. Belladonnæ ..... gr. ij.—M.
Make into xxx pills.

Dose: One every two hours.

If the tincture of Hyoscyamus is used it must be given in large doses in mania. It has often failed to produce quieting results because we have been afraid to give it in sufficient quantity to produce desired effects. From two drachms to half an ounce of the tincture has been given by me with good results. When exhaustion has set in and collapse is threatened, it is well to combine it with compound spirits of ammonia or with the same quantity of sulphuric ether. Three drachms of it is equal to thirty grains of hydrate chloral, and equal to about forty minims of laudanum. It is simply a good sleep producer when indicated. The well-known remedy named "Bromidia" is composed of extract of hyoscyamus, chloral hydrate, bromide of potassium and extract of cannabis indica in solution. Many use this prescription in acute mania and praise its virtues.

In a number of cases of acute mania, the fluid extract of ergot seemed to have a beneficial effect. No doubt this is because the pathological lesions are primarily in a state of great cerebral and spinal hyperæmia. This congestion is no doubt due to a vasomotor paresis. This remedy has the well-known effect of reducing the calibre of the arterial system, and is antagonistic to congestions. A fluid drachm is given every four hours for about twenty-four

hours. This can then be intermitted with some such medicine as about thirty grains of bromide of potash and the hydrobromate of hyoscine, say 1-100th of a grain every four hours until the sedative effect is produced. Hyoscyamine in the chrystaline form, has been used largely by us hypodermically, mixed in glycerine, to which is added a few minims of carbolic acid to the ounce of solution, in order to keep it fresh and ready for use. Lest there might be idiosyncrasies against its use, give at first only the 1-16th of a grain. Its influence extends for about eight hours. We find, however, it is soon tolerated by the patient, and that after a few doses have been given, they must be increased very much to produce the same effect. We have sometimes given one-half of a grain at a time hypodermically after a few doses were taken, with no untoward results, and no more soporific impressions than were evident in the smaller doses previously given. It is often tolerated when opium or any one of its salts, or hydrate chloral cannot be given with safety. Hyoscyamine is prompt and certain in its action. It is non-irritable as a hypodermic injection. It is a good hynotic and a depresso-motor, or an excitant to the psycho-motor centres, according to the dose employed. It often tranquilizes and shortens the duration of mania. It does not affect nutrition if only given daily in a full dose at night. Hyoscine is often used now instead, but caution is needed as to dosage, as it is much more powerful than is the hyoscyamine.

Conium, in one or other of its forms, has been highly recommended in mania. It has been tried here, and that somewhat extensively, a number of years ago, but it did not give the satisfaction its advocates promised, although in combination with any of the bromides, it gave better results in modifying their depressing effects, and in seeming to increase the sedative action of this class of drugs. It is not to be forgotten that it is a very uncertain drug, either in its natural state or as an alkaloid, hence the necessity of caution in its administration.

Paraldehyde, which belongs to the alcoholic series, is a good sleep producer. Like alcohol, it first acts as a stimulant, then as a hypnotic, on the brain, then upon the cord, and when given in dangerous doses upon the medulla oblongata. The sleep produced by it resembles the natural sleep. The dose ranges from forty-five grains to two drachms. It is best given in mucilage flavoured, or in liquor diluted and hot.

Sulphonal is a good hypnotic in cases of mania and melancholia. It operates in about four hours after being taken. It has no taste, and can be given in a cup of coffee or tea while hot without the knowledge of the patient. It is hard to dissolve, but will do so if put into boiling water and then allowed to cool sufficiently to be taken. It can be given in syrup or in the form of a pill. It is more of a sedative than a narcotic, and seems to act on the system about forty-eight hours; sometimes a second dose is not needed on the following day. This con-

tinued effect may exist because of its slowness of absorption. The dose is from twenty to forty grains.

Many of these quieting medicines may disappoint the physician; then it may be well to fall back upon a combination of bromide of potassium and cannabis indica. This mixture may not narcotize. I am not sure but this is an advantage as far as the brain is concerned, for it means less interference with normal blood supply, and does not increase the congestion already existing in mania.

A number of cases of acute mania of the mild form are treated at home by the family physician. Many such recover if sensibly nursed, fed and properly medicated. Exhaustion and inanition are tugging at the heart strings, so pabulum must be provided to prevent death by keeping nature's reserves up to the normal strength if possible.

The tireless builder, who is making heroic efforts to keep the structure in good repair, is crying out for material, and that of the right sort. In acute mania the crisis comes soon, and our opportunity to tilt the nature towards recovery has to be taken advantage of at once, so as to possibly save from death or prevent a lapse into a chronic and incurable condition. In treating such it may be laid down as an aphorism that medicine might be dispensed with and recovery take place; but that cannot be said, as a rule, without nourishing food, cleanliness and fresh air. The former is merely a valuable adjunct to the latter, but it is not to be despised nor neglected. My repe-

tition of this rule of practice shows how important it is in my estimation.

The quantity of food which a patient consumes is to be considered in relation to what he digests. To cram food into the stomach of a patient who is somewhat physically exhausted without considering how much of it may be used by the body does harm, especially when the stomach is throwing out in various ways signals of distress. We should do our best to favour proper digestion and assimilation; if not, then will we have mal-assimilation and mal-nutrition from engorgement. We have to consider the right *selection* and proper *administration* of food. The nitrogenous or animal and carbo-hydrates or starchy are the two groups of food which our knowledge of chemistry suggests. We have the representation of the first class in flesh, milk, eggs and fish. The second kind is represented by the different grains, vegetables and fruits.

Animal foods supply material for the building up of the tissues of the body, while starchy foods supply the fuel, the burning up of which in the chemical processes which are constantly going on developes the energy necessary for the carrying on the activities of the body. In mania both classes are required in tissue building and in fuel producing. A uniform and continuous diet is not as satisfactory as are changes of somewhat similar food. The stomach takes kindly to varied food in disease as well as in health.

In any form of mania it should be a first principle

not to use any soporific if it can be dispensed with. If a patient can even only procure three hours' sleep in the twenty-four hours of the day, it is better than any length of time in sleeping because of the toxic influence of any drug. Medical brain restraint is only to be employed as an auxiliary when nature fails. It gives the struggling and exhausted vital powers a chance for life, but the dispensing of such potent agents should be discontinued at as early a period as possible. Three hours' natural sleep may be followed after a few nights by four or five hours of sleep; and, as a rule, as the sleep increases the mania subsides. This is always a good sign, especially in acute cases. No powerful narcotic or sedative should be used continuously day after day, except in great emergencies. It is well even intermittently to let nature get on its feet and have a chance to throw off its thraldom along natural lines. Spitzka truly says: "It is not so much the object to crowd down a psychosis as to establish a series of relatively lucid periods, and thus to tip the scale sufficiently on the side of struggling nature to overcome the pathological influence. It should be borne in mind that mania disappears not suddenly, as a rule, but by a series of oscillations between the healthy and the diseased state, which finally merges into a healthful equilibrium, and, in the absence of a specific remedy, it is wisest to follow physiological lines of treatment. No mania was ever choked down, but at most prolonged or diverted into the channel of deterioration by the excessive use of hypnotics and calmative drugs."

CHAPTER XXIV.

EPILEPSY, MASTURBATION AND MELANCHOLIA.

THERE are a great many remedies lauded in the treatment of the various forms of epilepsy. That is usual in these days of polypharmacy, especially in relation to the intractable diseases which baffle our skill and defy our efforts.

A few years ago amyl-nitrite was extensively advertised as a cure for epilepsy. This drug produces, as far as known, no special effect on the brain beyond the dilatation of the cerebral vessels, and, as a consequence of its action, there is a sensation of fullness and oppression in the head. It lowers the reflex irritability of the spinal cord. After a brief inhalation of it, the action of the heart becomes exceedingly rapid, the face flushes and a violent throbbing in all the arteries is experienced. That the vessels are enlarged we have evidence, not only from the flushing of the face, but also in the congestion of the retina, and by the free flow from cupped surfaces, which had previously yielded only a few drops of blood. This effect is said not to be produced by the influence of the vaso-motor system, but depends on a direct action of the drug on the muscular coats of the arteries. It

has also been asserted that it diminishes oxidation of blood.

During the year 1877 we gave this remedy an extensive trial in epilepsy Twenty-nine epileptics took it for some time, and nearly all were benefited by it. In some cases the fits ceased altogether for a lengthened period; but, of course, there is a periodicity in their invasion which must be taken into account. In other cases the attacks, under the administration of the drug, were as frequent as formerly, but not so severe nor of the usual duration. Some of the more intelligent patients told me that, since taking the drug, when they felt that peculiar sensation which some have before the attack, they had strength of will sufficiently strong to overcome it. A third class had fits, but much fewer and less severe than formerly. All these cases had been treated in the orthodox way before using this drug, and without any decided benefit.

It is impossible to say with any degree of exactitude what may be the condition of the brain in such typical cases, but in this asylum a large proportion of such cases were anæmic. It did not do well with the plethoric. From the well-known effects of this drug, in producing a temporary turgescence in the blood vessels of the head, it is highly probable that the medicine acts beneficially by its static effects on the blood, and not by any direct therapeutic value it may have on the disease. Whatever may be its way of

working, the condition induced is no doubt antagonistic to the epileptic *aura*.

The method of administration was by the inhalation of four or five minims at a time. It is put up by some chemists in small glass beads, and can thus be carried in the vest-pocket. All that is necessary for the patient to do is to crush one in a pocket-handkerchief and it is ready for use.

In nocturnal epilepsy, or in the masked or larvated form, strychnia is often very efficacious in doses of 1-30th of a grain three times a day, gradually increased to 1-15th of a grain. This is an excellent remedy, if there is with the fits any gastric derangement.

The debilitating effects of the continued use of the bromides in patients already weak, as are most epileptics, ought to be prevented or lessened by the use of strychnia, arsenic or cod liver oil, and a generous diet.

In making use of strychnia or arsenic, it is not to be forgotten that not only the bad influence of the bromides but also their favourable influence against epilepsy can be diminished by these powerful agents (especially strychnia). It is therefore necessary, when these agents are used, to increase the quantity of the bromides.

As a rule, epileptics do not do well on iron and quinine, unless there exists anæmia of a pernicious nature—chlorosis or cachexia from malarious poisons.

Curare and picrotoxine have their advocates, but they are of doubtful efficacy.

The bromides are at present the great remedies to

cure or modify epilepsy. This is the testimony of the profession, in spite of many so-called specifics, which have had temporary ascendancy, but soon disappeared, to be succeeded by equally ephemeral drugs.

The action of the bromides on the human system is general. It affects the nervous and muscular structures in every part. It acts as a nervous anæsthetic, and also on the mucus and integumentary surfaces. It affects the muscular organs of digestion, respiration and urinary excretion. Its sedative action on the circulation, its partial effect on the temperature and on the various secretions show perfectly the uses which have been made of this salt, without explaining its action on any special organs or on local parts.

It is by its anæsthetic and sedative action that it controls the most extensive and complex neuroses, such as hysteria, chorea, hystero-epilepsy and epilepsy. These haloid salts also act upon local nervous affections, such as dysphagia, whooping cough, asthma, spasmodic dysuria, spermatorrhœa, and where there are isolated morbid conditions such as we find in the neuralgias and rheumatism. Its sedative action controls the circulation, and renders it a suitable agent for the removal of any hyperæmia, whatever be its extent or situation.

While the bromides and iodides are thus invaluable in many of the neuroses, either alone or in combination, it is not well to give them continuously too long at a time, lest glandular insufficiency might ensue

thereby, or it might be a temporary paralysis, because of induced muscular weakness.

If a bromide has to be given regularly for some time, to avoid the unpleasant results of *Bromism*, it is better to give the zinc bromide salt, say :

℞ Zinci brom..... ℥ij.
Syr. simpli..... ℥j.—M.

Dose: Ten to thirty drops, three times a day, gradually increased.

This form is a powerful tonic, and will neither upset the stomach, nor produce cachexia, nor skin eruption, even if given six months at a time.

We have found the same beneficial result when borax is used with any of the bromides. In Germany and Russia the bromide of gold is lauded in epilepsy, and a mixture of gold chloride and arsenic are given in these fits, as well as in locomotor ataxia. It is possible the efficacy lies a good deal in the attractive name, as in the much praised cure for dipsomania from the same source.

Hydrobromic acid is a sedative neurotic like its salts, and is a good occasional substitute or alternative for them. The bromine in this acid state is not so liable to enfeeble the muscular tissues nor produce that alkalinity of blood and of the secretions, nor weaken the digestive and assimilating process which the long use of the salts does. It is also pleasant to take. It is often beneficial in solution with one or more of the salts. Less of both is required if com-

bined. In this way the alkaline saturation of the system is avoided. For example, when an epileptic may be taking 25 or 30 grains of potassium bromide three or four times a day; the dose can be reduced to 15 grains a day, if 6 or 8 grains of this acid are added to each dose in solution. Be sure to give plenty of fluids with any of the bromides. It is well not to give any of the bromides, and especially the iodides, on a full stomach, as their effect is not good on the starch of foods.

The following prescription, first recommended by Dr. Brown-Sequard, will often be found to do good in epilepsy of the idiopathic form, and often when other remedies fail. It is well known by the profession:

℞	Potassii Bromidi.		
	Sodii Bromidi.	ää	ʒiij.
	Ammonii Bromidi.		
	Potassii Iodidi.	ää	ʒiss.
	Ammonii Iodidi.		
	Ammonii Carbonati.		ʒj.
	Tinc. Calumbæ		℥jss.
	Aquæ ..... q.s. ad fit		ʒviij.—M.

Sig: A teaspoonful and a half an hour before each meal, and three teaspoonfuls at bedtime.

In hystero-epilepsy I have found a good deal of benefit in some cases in the use of a one *per cent.* solution of nitro-glycerine (Glonoinum). Dose: One to three minims.

It will thus be seen that the remedies used are

principally those of antispasmodics and sedatives. A combination may be given in the following formulæ:

℞	Potassii Bromidi.	} ãã	gr. xv. to xxx.
	Chloral Hydrat.		
	Strychniæ Sulph.		gr. $\frac{1}{40}$.
	Ext. Ergotæ	fl.	ʒss.
	Ext. Digitalis	fl.	m. j.
	Spt. Menthæ Pip.		m. v.
	Aquæ	q.s.	℥ss.—M.

Sig: One such dose after morning and evening meal, with water.

℞	Potassii Bromidi.	} ãã	gr. x. to xx.
	Sodii Bromidi.		
	Ext. Ergotæ	fl.	ʒss.
	Tinc. Nucis vom.	gtt.	v.
	Atropiæ Sulph.		gr. $\frac{1}{120}$.
	Spt. Menth. P.		m. v.
	Aquæ Dist.		℥ss.—M.

Dose: As above.

The "enshrouded moral pestilence," masturbation, is often prevented by means of passing a fine silver wire through the prepuce and knotting it so as not to strangulate the part inclosed. This can be left in for months at a time, and while *in situ* the habit cannot be indulged in. The same object can be gained by vesication; but it must not be extensive nor long continued, lest disagreeable cicatrices and contractions should be the result. The induction of *Bromism* often takes away the erotic desire, but it must not be pushed too far, lest semi-dementia should be induced.

If the patient has any will-power left, he may be able to control the vicious habit by keeping the parts clean and by the application of ice-water when an impulse comes on, unless the desire is purely psychical. The hope of cure lies in the period antedating the invasion of insanity. When brain disease sets in the habit may largely cease, but the mischief has been done to the great nerve-centres.

The incurable and intractable disease, Progressive Paresis, in its first stages requires to be treated with sedatives. As it progresses, the most of those thus afflicted find their way to some hospital for the insane to end their days there.

The syphilitic form may be staved off for some time by the use of such remedies as Donovan's solution, or some other form of mercury and arsenic with the iodides.

The mania of paresis is treated very much as are any of the other manias.

A pill of valerianate of zinc and extract of Belladonna has good results to allay the restlessness so often seen in the daytime. It has little effect on positive mania.

Treatment of Melancholia.

Remember that in melancholia the condition is a weakening and a diminution of the tension of the nerve currents. Treatment must be directed to arousing a more intense activity in organic life. The process of storing energy in the nerve-cells is a part

of the general work of nutrition. If we can by any means increase the activity and vigor of the nutritive processes generally throughout the body, we can compel the nerve-elements to take a share in the increased activity, and may, by degrees, restore them to their normal state.

First among the restorative measures is the administration of food. Hunger is wanting, hence poor eating; but the taking of aliment must be *insisted upon.*

Dyspepsia may be present of the *atonic* form, which so frequently co-exists with the mental depression. This fact should not prevent the administration of food. Abundance of food must *always* be administered, no matter what the state of the patient's digestion may appear to be, and no matter how directly contrary it may be to his inclination. It is not enough to give slops and concentrated essences of meat and peptic fluids; solid food of varied nature is the sheet-anchor, if the greatest benefit is to be obtained.

To assist digestion, reasonable exercise and fresh air are needed, not to speak of cleanliness. The tendency is to sit and brood over imaginary ills. Ordinary cleanliness is often neglected. The friends are often poor nurses to see to sanitary conditions. For insomnia, opium, or choral, or sulphonal or some of the bromides are resorted to. My experience is that, as a rule, a patient is better without any of them. A natural sleep of even three hours in the twenty-four

has more restoration in it than has any number of hours in stupor or in drugged quietude.

Of much more avail are drugs—such as iron, quinine, arsenic and strychnine—which tend to stimulate the processes of digestion and of nutrition generally. I have found good effects from the syrup of the phosphates of quinine, iron and strychnine (known as Easton's syrup).

Beware of indulging in too much purgation. A laxative is needed sometimes to unload the colon, but there often is costiveness because of empty bowels, in which condition drastic remedies would do injury. Good feeding alone leads to peristaltic action of the bowels. The best aperients are some of the mineral waters given fasting in the morning. If there is exhaustion from continued sleeplessness (and, of two evils, the less has to be chosen) administer a full dose at once of the sedative used.

There is so much hope in so many of these cases in the acute stage that we are encouraged to persevere in all methods conducive to health, and which are taught to you in your Practice of Medicine lectures.

It is well for you to intimate to the relatives of patients that usually recovery is slow, so as to keep them from wearying with the physician and usually seeking succour from charlatanism.

I repeat, again, that I find it a very common practice to give sedatives, such as the bromides and hydrate chloral, or both combined, to produce temporary relief and sleep to the patient, and also to satisfy

the urgent demands of relatives and friends to give *something* to procure sleep. In this way *stupidity* can be produced, but not a natural sleep. The nerve-centres are, for the time being, benumbed.

Patients afflicted with melancholia may, at any time, manifest suicidal tendencies; hence, constant watchfulness is of the first importance. If the patient's friends are wealthy, and can afford all necessary accommodation and competent nursing, then are home and its comforts and surroundings a good refuge for such, unless delusions of persecution by friends exist. These would, in their effects, antagonize any benefits home might otherwise bestow. If these favourable conditions do not exist, then is a retreat or an asylum, with its treatment, imperatively needed at the outset. Unfortunately, at home and among friends, there are not that firmness and kindness combined, so necessary to cause the patient to eat well and to receive necessary exercise and air. Too often friends allow their sympathy to get the better of their judgment—the heart to control the head—and as a result, because of the want of necessary attention, the patient suffers. There may be, and usually is, great constipation, especially in the colon, yet this irritating state is not attended to; there may be refusal of food, and firmness and skill may be wanting to see that sufficient is administered; there may be no sleep, and consequent exhanstion, yet little attention is given to the insomnia; the patient may care little about personal cleanliness, and

it requires tact and firmness to insist upon it being attended to. These, as well as many minor attentions, which in the aggregate mean much in successful treatment, need intelligence, firmness, kindness, discretion and knowledge in the nurse.

Many such cases require to be fed against their will, especially if they think that all food given to them is poisoned. Some will take food by coaxing; others require to be fed with a spoon; others again can only be fed with a feeding cup; and, as a last resort, the tube has to be used. Some prefer to use a rubber tube, by passing it through one of the nostrils well back into the throat and œsophagus. A large catheter may be used in an extremity, with a tin funnel attached. Milk and egg will pass through them by gravitation. A larger tube and more flexible, with a hardened and perforated end, is now used, and which is better in every way. The stomach-pump is not difficult to use, unless the patient resists the tubes' introduction between the teeth. It will allow more solid food to be given than by the smaller tube through the nostril. If any of the back teeth are wanting, even with shut teeth food can be passed into the throat with a child's feeding-cup.

We see now and then in the newspapers descriptions of cases who have starved to death at home, through the culpable negligence of relatives or friends or medical men, if called to see such cases, and then allow death to ensue through want of food. It is criminal to allow it in the delusional insane, and many

are artificially fed for months, and make good recoveries. I remember that, about sixteen years ago, one of our medical staff fed a young woman artificially twice a day for a year and a half. She had the delusion that she had no mouth—personal experience to the contrary. It is not well to give opiates in melancholia with delusions. In fact, if delusions exist in any form of insanity it is well not to prescribe opium or any of its salts. It has only a tendency to increase the malady because of consequent brain congestion.

In melancholia, accompanied by merely emotional disturbance, opium has sometimes excellent results. The deodorized tincture of opium, with one of the ethers, is usually well borne, with an occasional laxative to empty the bowels. Many such have gastro-intestinal catarrh with the costiveness. The tongue is coated with a brownish-yellow deposit, and anorexia is present. This state is largely brought about by imperfect mastication, or none at all in artificial feeding, and by insufficient or vitiated secretions of the stomachic fluids. This condition needs attention by the use of the usual peptonic remedies.

Some patients cannot tolerate opium in any form. If so, other remedies must be used if hypnotics must be given. One of the bromides combined with morphia will often be tolerated, when either alone will not be well borne. As is so often the case in medical preparations, one drug modifies the action of another, in some unaccountable way.

The giving of nerve pabulum is not to be neglected,

and we know that phosphorus in the chemical union, which is easily disintegrated, is more readily assimilated. The phosphides excel the phosphites in this respect, and the phosphites the phosphates. Phosphorus is essential to animal life. It is found in the solids and fluids of the body. If it is not supplied in the food or by medicine, the result is mal-nutrition, a neurasthenic condition and depreciated brain power. In fact, phosphorus, in one form or another, has been truly termed food, as it is present in all cell growth, and is indispensable to functional activity.

As a rule, nitrogen and phosphorus are found together as builders' material in the constructing and repairing the physical system. So it will be seen how important they are as sources of nerve force, and the stimulating agents of nutrition, hence the importance of supplying them to the body in nervous diseases and insanity. Give material in proper form and nature will perform the work. Phosphorus in conjunction with cod liver oil, is an excellent combination, say, 1-100th to 1-15th of a grain at a dose. Fats enter largely into nerve composition, and it is necessary to organic integrity that the hydro-carbonates should be administered artificially, or built up in the system by nature's processes from material being furnished in the foods. The fats are an important element in nerve structure, as well as is phosphorus.

In *melancholia* we have mental depression, or a sense of ill-being, to deal with. This means trophic lethargy or deficiency, in whose sluggishness is loss of physical activity, and, as a result, mental misery.

It is evident that any useful therapeutic agent must be largely tonic. In other words, it means that which will conduce to appetite, digestion and nerve stimulation of the vaso-motor or trophic system. In our experience, quinine, phosphorus, strychnia and iron stand first in insane melancholy.

Give as few sedatives and narcotics as possible. Trust much to fresh air, wholesome diet, cleanliness, and gentle exercise. Bromides are not borne well in such cases.

A recent author truly says: "Quite extravagant hopes have been based on the alleged curative effects of electricity on insanity. Superficial theorizers have even undertaken to indicate the special kinds of currents and directions of such, to be applied to the head in various forms of insanity, and it is to be presumed that the more modern imposition of static electricity will come into vogue, and after a brief sway over the minds of the credulous, and an occasional success with a simulating or hysterical patient, share the fate of other epidemics of charlatanism. Electricity can have, from the very nature of the case, no specific effect on insanity. Its applicability is limited to those in which there is simply atony, as in stuporous insanity, and to those which are associated with organic and functional disease of the nervous axis. In the latter case the ordinary rules of electro-therapy apply. In stuporous insanity its effect is to stir up the patient, but we should be sure of our diagnosis before applying it, and not confound atonic melancholia with dementia,

for in a melancholic patient electrical manifestation and manipulation would probably provoke additional delusions of persecution to those he already entertains. If we were better acquainted with the molecular condition of the brain in health and disease, and if we understood better the exact influence of electricity on the atomic and dynamic states of that organ, we would be better able to formulate the indications for the use of this potent neurotic agent."—*Spitza.*

There is a great deal of therapeutic value to get the mind to think of something away from itself. This is especially true of melancholia, in which the mind is centered all in self. If it is possible to get such to employ themselves in work of any kind a great point is gained. To work needs attention to it, hence the advantage obtained. It also means exercise. No one can be healthy without it, much less the insane, who are not maniacal. The circulation is languid; the nutritive processes are slow, and need the natural stimulation which exercise gives. Amusements are not without their influence for good, and in the aggregate may do more to bring about recovery than we are aware of. They are pleasant recreations to even the chronics, and serve to beguile the weary hours of an otherwise monotonous life.

Hypnotism has had its advocates in the treatment of delusional maniacs. Those who have studied the matter must now attach no importance to it as a therapeutic agent.

CHAPTER XXV.

HEREDITY.

IT is not my intention to discuss the general laws of heredity, as manifested in biology or in natural history. It is a great subject in all its phases, and it must be acknowledged that, as yet, we are only on the threshold of enquiry into all the latent and manifest forces and potentialities which constitute the existence and possibility of transmission of physical and mental characteristics. The consideration of that aspect of the subject belongs to the physiologist.

Much has been accomplished in this field of investigation by such eminent men as Lamarck, Beale, Spencer, Darwin, Romanes and Weismann. August Wiesmann, of Germany, has given recently to the world of science two volumes, ably written, on the subject, and combats the Darwinian theory of "The transmission of acquired character."

It will thus be seen, in the diversity of opinion, that fundamental facts are, as yet, only partially developed. Mercier, the English alienist, truthfully says: "That the subject of heredity has been regarded for generations as having a special bearing on the subject of insanity. It is considered ominous for in-

sanity to exist "in the family." The tendency of late years has been to lay increasing emphasis upon the hereditary factor in this relation. In estimating the influence of heredity in producing a tendency to insanity, regard has to be had to the number of instances of insanity that have occurred among the relatives, direct or collateral, and of the taint of the patient under consideration. Heredity has been considered to exist in those cases, and in those only in which a record of insanity has been found among the near relatives."

1st. This estimate is liable to error. The insanity of the relative may not have been heritable, or at least remotely so, as, for example, in general paralysis of the insane.

2nd. The insanity of the relative and that of the patient under consideration may arise from different sources, and not from a common cause.

3rd. The factor which is inherited cannot be insanity *per se*, but may be an instability or disordered arrangement of nerve tissue, which allows insanity to occur, and we must look for the bequeathed antecedents of insanity, not in insanity itself as existing in progenitors, but in all maladies which display evidence of undue instability or disorder of the highest nerve arrangements. For example, the nervous peculiarity which exhibits itself as insanity in the offspring may have become apparent in the progenitor, not as insanity but as epilepsy, as chorea, as hystero-epilepsy, as dipsomania, or in some other form of nervousness.

4th. The law of transmission in a general descent of characteristics is admitted, but it is halting and diverse in minor particulars.

In genus "like produces like," but in species transmission may not be identical, and, in fact, is not, as children differ in many respects from either or both parents. We each have a distinctiveness and personality in which we differ from every other human being, including progenitors.

5th. Recently acquired characteristics are unstable and evanescent in the human race. The more recent the appearance is of any character the more uncertain is its transmission; and, on the other hand, the more numerous the generations through which a character has been transmitted the greater the certainty of its re-transmission.

In coming down through a long line of ancestry the character seems like a falling body to gather momentum, and the further it has descended and the greater momentum it has acquired, the less liable is it to be diverted from its course, and the greater is its power to overcome any obstacle in the course of its descent.

6th. It is obvious that where the attributes of the parents are contradictory there are five possible alternatives as to the appearance of these traits of character in the offspring, viz.:

(*a*) The offspring may inherit the attributes of each parent solely, but not of both.

(*b*) It may inherit the qualities of one parent in some respects, and those of the other parent in other respects.

(*c*) The offspring may inherit the father's attributes at one time of life, and at another time of life those may be displaced by the attributes of the mother.

(*d*) The offspring may inherit a residue of characteristics of both parents, plus acquired ones of the child. No one is moulded exactly after parents.

(*e*) The child may have physical resemblance to one parent, but may have psychic similarity to the other. The nerve centres are not subject to physical appearances.

(*f*) The power of transmitting latent qualities is possessed by all highly-developed organisms, and this law is exceedingly important in its bearings on the occurrence of insanity. "It may be written," as Darwin says, "in invisible ink, ready to appear on the proper test being applied."

There seems to be a law of evolution and development, in which attributes tend to appear in the offspring about the time of life at which they appeared in the parents, and this is especially true of traits that have been recently acquired. It is not merely the successive changes of development to which this rule applies, but also to other features, such as nervous defects.

For example, in the family of Le Comte blindness was inherited through three generations, and no less than twenty-seven children and grandchildren were all affected about the same age. This rule is certainly true in some cases of insanity. In this institution at present is a mother and her three daughters, all

accomplished and well-educated women. The four have the same form of delusional insanity, and have had since the invasion of the disease some ten years ago. Priorry tells of a family, every member of which became insane at the age of forty. Esquirol relates a case in which the grandfather, father, and son all committed suicide when in or near their fiftieth year. Of course, in many of these cases the law of suggestion must be taken into account. At the same time, the operation of this law may explain many an apparently causeless outbreak of insanity. The *latent* malign influence becomes the *active* agent of mischief.

The seed, like that of the mustard seed, lay in the soil an inert germ until conditions favourable to its growth gave it developing energy. When the degree of kinship between the parents becomes too close the offspring deteriorates in every respect. Hereditary taint, when transmitted through several generations, gradually leads to degeneration somewhat in the following sequence:

1st. In the first generation we find, apart from nervous symptoms, the disappearance of ethical feelings.

2nd. In the next generation a tendency to various excesses appear, especially animalism and dipsomania.

3rd. In the third generation there is perhaps suicide, or an affective form of insanity; and, finally, there appears more profound forms of mental disorders or want of development, such as congenital idiocy or imbecility.

If little new blood is introduced the race becomes

extinct. It is not safe to establish laws of heredity based upon experiments on the lower animals. Their physical differences and mental aptitudes have not that stability which we find in man. They have not the variations found in man, nor have they the persistency in forms and conditions of existence. The veterinary surgeons can predict and obtain results in breeding which a law of selection could not obtain in human beings. In man's complex organism the law of inheritance of like qualities is largely modified by laws of variation. The son is not the exact image of his father, nor of his mother, nor is he a simple mixture of their qualities, as he would be were the law of heredity one of simple inheritance; that is, of like begetting like. It is not possible to predict what will be the exact mental qualities and bodily features of the child of two persons, whose characteristics are very well known, nor so much as to tell what its sex will be. Not only so, but in a large family of children with the same parents no two are alike in mind and body. Each has a distinct personality of its own. Solomon, wisest of men, did not trust his wisdom to decide the quarrel between the two women about the child which each claimed to be hers. The resemblance of the child to one or other of the claimants was not such as to found a decision upon. Twins, so like in features and bodily outline, may and do differ very much in their mental make up from one another.

The Hungarian twin-sisters, that lived united by their backs for twenty-two years, had extremely

different temperaments, although after their deaths their blood vessels were found to communicate, so that the same blood served both. The same was true of the Siamese twins, who died a few years ago. It is also remarkable that a mother supplies the fœtus and child for nine months of its intra-uterine life with her blood, and it has been evolved from her ovum, yet she does not always stamp her whole individuality, or any of it, on the child. We, in our ignorance, simply state that blood supply is one thing, and the selective law of cells, each according to its kind, is quite another.

Dr. Oliver Wendell Holmes, in his "Elsie Venner," put the subject as follows: "There are things parents can see, and which they must take account of in education, but which few except parents can be expected to really understand. Here and there a sagacious person, old or of middle age, who has *triangulated* a race—that is, taken three or more observations from the several standing-places of three different generations—can tell pretty nearly the range of possibilities and the limitations of a child, actual or potential, of a given stock; errors excepted always, because children of the same stock are not bred just alike, because the traits of some less known ancester are liable to break out at any time, and because each human being has, after all, a small fraction of individuality about him which gives him a flavour, so that he is distinguishable from others by his friends, or in a court of justice, and which occasionally makes a genius, or a saint, or

a criminal of him. It is well that young persons cannot read these fatal oracles of nature. Blind impulse is her highest wisdom, after all. We make our great jump and then she takes the bandage off our eyes. That is the way the broad sea-level of average is maintained, and the physiological democracy is enabled to fight against the principle of selection, which would disinherit all the weaker children. The magnificent constituency of mediocrity, of which the world is made up, are the people without biographies, whose lives have made a clear solution in the fluid menstruum of time, instead of being precipitated in the opaque sediment of history."

The following points might be noted :

Heredity is the most potent cause of insanity in its predisposing tendency.

When it comes directly from either parent it is called *immediate* transmission.

If it descend from both parents it is called *double ;* and if from collaterals then have we *converging factors.*

Simple heredity is its descent from either father or mother.

If it skip a generation and reappears it is *mediate* heredity or reversion.

If it has existed for a number of generations then is it *cumulative.*

When insanity appears in children at the same time of life as it did in the parent it is styled *homochronous.*

It is *anticipatory* as to the parental disease if it should make itself manifest before the time it has appeared in the parent. It may be similar or it may be transformed into some other form of nervous disease.

It may intensify as the race continues and progress to personal extinction, or foreign blood may be introduced which would dominate over the tainted and the downward tendency, when it might and does disappear. The fight towards health is the salvation of our race.

One parent being insane is not as strong evidence of heredity as if parent and grandparent or parent and uncle, or aunt, or both, were insane.

The insanity of brothers and sisters is of little value in respect to inheritance, unless strong extra evidence is produced to show the conditions of the life history of each.

Cousins may have very near blood relationship or very little, as so much depends on the bequeathment of foreign or kindred diatheses. For example, one parent may have a hereditary taint, or may have been insane. The other parent may have been the possessor of good mental and physical health. A child of these parents, as the saying is, "takes after" the father, for example, largely in mind and body. On account of the dominancy of the paternal vigor in the child it may escape the dangers which may lurk in the constitution of the mother, and if this line of ancestry is maintained with suitable marriages, in which there is no taint,

then may the insane heredity die out. The converse is also true, and when there is a line of deterioration intensified and perpetuated by misalliances then extinction is the result. It will thus be seen that one child in the family may escape this tendency when another may be very susceptible to it, depending on which parent each resembles the most, and from whom it receives its inheritance. Children may be born before insanity attacks either or both parents, and children may be born afterwards. The former children have immunity, and the latter have the tendency downwards.

It will thus be seen that the relationship of cousins may be very near if the similitude should continue along the collateral lines, but remote if the children should follow in constitution the foreign blood introduced into the descent.

CHAPTER XXVI.

SYMPATHETIC INSANITY.

THIS is an old name for a disorder of the brain connected with the disease of a more or less distant organ, which has no apparent biological relation with the brain.

Sympathy is either physiological or abnormal; sympathetic insanity is a morbid sympathy which affects the brain in a secondary way.

This word sympathy, when applied to mental troubles, was used as early as the days of Homer, as he mentions it in this relation in his "Iliad." Aristophanes has this term in his "Comedies."

Hippocrates, the father of medicine, investigated the relation between mania and the irritation of the stomach, and has described the mental disorder connected with menstruation in young women. Aretius, an ancient physician of Cappadocia, places the seat of mania and melancholia in the intestines.

Galen enunciated his famous theory of *humorism*, and attributed insanity to the injurious action of the bile. This view of humors or moistures in the human body held ground down to the 18th century.

It was held that there were four principle

"humours" or "moistures" in the natural body, viz., blood, choler, phlegm and melancholy; on the combination of which the disposition of body and mind depended; in other words, *temperament*, or the *tempering* by mixture of these human elements.

Humoral pathology meant morbid changes in those four elementary humors or fluid parts of the body, without assigning any influence to the state of the solids.

This blood produced phlegmon; bile produced erysipelas, etc.

These views are now known to be fanciful; yet, we know that all the body has not only a community of interests, but each part of it is in intimate relation to every other part in sympathy and function.

It is not to be wondered at, then, that many excitants to mental diseases are found primarily outside the brain; as, for example, some uterine affections, intestinal worms, hepatic suppuration, catamenial disorder, heart disease, tuburcular diathesis, the dyspepsias, and such like.

As I have said before, however, we are not to put the effect before the cause, as is done so often by practitioners.

Very often the reflex influence is from the nerve centres to the organs. So it would be bad practice to treat the errant organ which is only throwing out signals of distress functionally.

Sympathetic insanity may be naturally divided into two categories:

1st. Insanity produced by functional disorder.

2nd. Insanity produced by morbid conditions.

The disorders of the former class are such as puberty, puerperal, menstrual, ovarian and climacteric insanity.

The disorders of the latter are such as insanity from diathesis, derangement connected with general diseases and with neurotic conditions.

Time would fail me were I to enter into details to show how derangements of the *digestive* and other *organs* affect the mind.

Esquirol and Wichman tell us that they have found displacement of the transverse colon a common cause of insanity. I have never done so.

A large number of the melancholy are afflicted with some form of intestinal trouble, especially duodenal catarrh.

Organic lesion of the liver is not often found among the insane, but functional derangement of the liver and bile-ducts is quite common.

The psychoses of renal origin are not few.

Although diabetes is not actually primarily an affection of the kidneys, yet it plays an important part in the causation of mental disorders.

Thirst and polyuria are often absent in patients thus afflicted.

Cardiac affections are very common among the insane.

Considering how much physical tone depends upon heart action, both as to volume and regularity, it is

not to be wondered at that its condition affects brain diseases.

The puerperal condition is a powerful factor. We see it in the eclampsias of child-birth. A sane mother, in an hour or two after sanity has been lost, becomes a raving maniac, either from blood poisoning through the disintegrating uterus, or because of shock in an explosive form to the greater and less sympathetic systems. We know how great are the reflexes manifested in the ramifications of this manifold system of fibres and ganglia. The vascular tone, the stimuli to heart and arteries, the influence on nutrition, the animal heat, not to speak of the effect on general pathology, all show the results produced through the influence of this system of nerves.

The relation of one part to another is strikingly seen in diseased conditions. For example, facial neuralgia causes congestion of the conjunctiva and lachrymation; salivation occurring in pregnancy; faintness or constipation due to irritation of hepatic or renal calculus; contraction of vessels and arrest of urine, set up by calculus in the kidney; partial cramp of vasomotors, confined to the extremities of the fingers, seen sometimes in angina pectoris; the effects of cold on the vessels of the extremities, explaining various neuroses of the extremities; convulsions from teething, severe burns or bowel complaint; tetanus from a slight prick in, say, one of the extremities; flux from the intestinal vessels is a sequence of the irritation of some foreign body in

the canal, or of the collapse, from perforating ulcer of stomach or intestines; contraction of cerebral vessels may be caused by the irritation of the proximal end of the divided posterior roots of the sciatic or other spinal nerves. All show sympathetic relations.

Sciatica may induce saccharine urine, the fourth ventricle being here the centre of the reflex arc.

Examples might be multiplied to show what a community of interests the nervous system has, and that any malign influence affecting even distant parts, may and does set up brain disease and insanity.

A number of authors give to us particular forms of insanity as being allied to particular bodily lesions.

They tell us that we may expect one organ to produce melancholia when diseased, another delusions, another, it may be, mania, another stupidity, and so on.

This coupling together specific mental conditions and definite organic morbid states is a classification more fanciful than real, as we know that no two people are physically or mentally counterparts of one another, so diseased influences are never uniform in their operations.

To the above list might be added as active or predisposing causes, rheumatism, fevers, syphilitic poisoning, the various cachexias, gout, scrofula, pyæmia, and such like.

These do often directly and indirectly become important factors in the production of insanity.

In studying the life history of patients intelligently the existence of one or more of these eccentric diseases should be diligently sought for, and their influence valued in brain disease.

"Recent physiological and clinical investigation more and more tend to set up the brain as the great inhibitor and stimulator of all nutrition; in short, the master of functions of all other organs and tissues. It influences strongly both the blood formation and the blood supply. Any alteration in the brain state has a more or less trophic effect on the organs of the body.

"On the other hand, we are coming more practically to recognize that the condition of the nutrition of all the tissues and organs affect the brain directly through the changes they produce in the blood, and reflexly through their different nerves.

"We are not surprised when an attack of indigestion causes irritability and depression of mind, or when impaired metabolism results in lassitude, or when badly-working kidneys produced sleeplessness with hallucinations of the senses.

"The recognition of the action and reaction of peripheral organs and brain is now daily experience in medical practice.

"This clearly implies an intense reactiveness of the highest of the brain functions, manifested in mind

phenomena, to all abnormalities of function and nutrition throughout the body.

"The mental centre is necessarily the highest and the most universally related of all the nerve centres." —*Clouston, in Psychological Dictionary.*

These central truths show that in our main divisions of the different forms of insanity there is an artificiality which excludes too much the central fact of a community of influence in all the organs focalizing in the supreme nerve centre.

Unless these sympathetic relations of the various parts of the body to the brain are constantly kept before the mind in our diagnosis, then will we fail to understand and properly appreciate all the factors influencing the object of our investigation.

CHAPTER XXVII.

THE BORDERLAND OF INSANITY.

NEURASTHENIA.

THE name *neurasthenia, or neuratropia*, is as good as any term we can use to describe this nervous disorder. The class of patients to which this formidable word can be applied is very large, and is growing larger day by day in this nerve-exhausting age. The patient's mind is "centred all in self." The woes and aches and pains such endure—real or imaginary—and which are recited to the physician with wearisome reiteration are legion. The old story is to such ever new. The history of these multiform afflictions becomes an old friend in its familiarity. The weary doctor in his rejoinder can only *encore* his previous homily to relieve the recurring distress. This sad recital is repeated from week to week, and from month to month, until recovery or insanity has taken place. The concentration of thought on all the varied moods and feelings which the patient may possess intensifies the mental pain and aggravates the nervous condition. We know in our own experience how much mental anxiety or anguish depresses physical function. Fear is more distressing than pain, and

tugs at the heart-strings with greater intensity. Out of this class comes the many suicides who are not insane, and who leave behind them sensible but woeful epistles to friends or acquaintances.

In medical literature this condition has been given many names, such as cerebrasthenia, brain exhaustion, general debility, nerve starvation, "run down," poverty of blood, spinal irritation, and other terms "too numerous to mention." This disease is not to be confounded with hypochondria, hysteria, or insanity. Each of these conditions is well marked and easily discerned by any observant physician The morbid fears of insanity are usually definite and permanent, and accompanied by delusions, which are fixedly believed in by the insane patient. The neurasthenic, on the other hand, will tell you how unfounded are their extravagant ideas, and that they can temporarily banish these vagaries, but only to return again, like the swing of a pendulum. These ever-recurring whims pull down the physical energy, and the bodily depreciation reacts on the mental until the nerve masses and the physical activity are mutually put out of gear for the time. The functional want of harmony is bordering on the pathological.

The morbid fears of people thus nervously unstrung are as varied as are the individuals. The list of their fancies and wild imaginings is endless. All are based on some groundless alarm in respect to themselves or in their relation to others. Men full of energy and push succumb to the depression.

"Enterprises of great pith and moment," which in their best estate they would have taken hold of without wavering, and have carried through successfully, now paralyse them in mere contemplation. The brain debility conjures up lions in the way, or mountains too high to climb over. The fears and forebodings of indefinable evil about to come, the unnatural and morbid dread of impending adverse circumstances have been the means of bringing about commercial or business disaster before friends see that worry of months, and it may be of years, has been drawing on the patient's stock. The reserves of the nervous system, which we all have in store for emergencies, have been consumed, and the fagged-out system has no alternative but capitulation, which it never does without a struggle.

The neurasthenic may be divided into three classes:

1st. Those who complain of general weariness, becoming easily tired, having poor or capricious appetites, being restless, yet look fairly nourished and healthy.

2nd. Those who are evidently feeble. They are usually pale, thin, and show generally a waste of tissue and a breaking-down without any evident local disease.

3rd. This latter class contains those in which we find a hysterical condition and anæmia, especially in chlorotic females.

It is well, however, in all such cases not to jump too hastily at conclusions, lest organic and local

disease should exist, and the nerve conditions only prove to be symptoms indicating permanent trouble, which may need special and direct treatment. I have made mistakes myself in this direction, and many cases have come under my care in which my professional brethren have been guilty of the same sins of omission. Be thorough in your examinations.

All these phenomena are defects, outside of brain disease, of a permanent character. The identity is not present, but the family resemblance is striking in this brood of evils which border on insanity. The want of sleep, followed by a low power of thinking in the pursuit of daily business; the weakening of the power of attention and a desire to wander from necessary thought; a shrinkage from doing a business which heretofore was a delight; becoming abnormally wearied in mind when doing routine and ordinary work; not the natural facility to put ideas into words, and an unnaturalness of temper in respect to small matters and on small occasions; and change of manners and feelings to near friends and relatives without any just reason, are cardinal characteristics. We sometimes meet with the other psychical extremes, such as unusual and constant buoyancy of spirits, mental exhilaration not natural, loquacity and flightiness, which are observed by everyone except by the individual himself. So marked are these changes of character, that many such are accused of having become drunkards. The accusers do not know that these symptoms are signals of distress. The inde-

cision of will, the bewildered judgment, the lack of self-control and of discretion, the excitement alternating with unaccountable mental depression may be only temporary and evanescent, or they may be "coming events casting their shadows before."

If there is any hereditary taint of insanity, or any serious neurosis existing, then these evidences of physical and mental deterioration are not to be lightly thought of, for any such condition may evoke from latent tendencies active diseases of an alarming character. The deficient mental control of sane people thus afflicted is a psychological study of great interest. They know how absurd are their fears and forebodings, yet no reasoning can shake them off or remove the general nervousness. The hopelessness, the silly fancies, the unnatural dread of being in company or of being alone, the fear of contamination in many ways undreamed of when well, the undefined terror of walking certain streets or living in isolated houses, and the general sense of ill-being with a dread of something vague about to happen, are only a few of the many psychical conditions found in the neurasthenic. The most pronounced manifestations underlying these morbidly tinged conceptions and misconceptions are timidity, irresolution, and constant irritability of manners and speech not natural to the person. This state of feeling has a defined period of invasion, and has not been gradually acquired through daily experience and repetition, nor is it a congenital trait of character. This abnormal condition is often

the primary stage of insanity. It is interesting to note how conversely we often find insane convalescents show merely this modification of mental weakness in the last stages before recovery. Just as the colours of the rainbow, or those of the spectrum analysis, blend into one another so imperceptibly that no boundary between each shade can be located, so it is often difficult to know by observation, or to define in language, where the dividing line is in many cases between that disease we call insanity and nerve-starvation. It is not, however, *a fixed physical disease, and does not effect and control abnormally the language and conduct of an individual*, as in insanity. The physical condition is not to be overlooked. We often find abnormal dryness of the skin and mucous membranes, tenderness of the spine in circumscribed places, as, we often find in hysterical women. Complaints of feeling heaviness of the loins and limbs; shooting pains, simulating those of ataxy; irritable heart-action, best known by a tremulous, variable pulse, accompanied by palpitation and it may be intermissions of beats, mostly the third and fifth beats. Convulsive movements, especially on going to sleep, which have often been mistaken for nocturnal epilepsy; localized hyper-æsthesia; sudden giving out of general or special functions; temporary paresis, or it may be paralysis, and *generally a feeling of profound exhaustion unaccompanied by positive pain.* Some graphically say: "They have a feeling of *goneness.*"

It need scarcely be added that these signs and

symptoms, as a whole, are not to be found in any one patient, nor are all enumerated in the above recital. When the imagination has full sweep, based upon feeble or no impressions, then has it "no pent-up Utica." The usual diagnostic and differential skill will enable any one readily to distinguish this disease from either hysteria or ordinary anæmia. It is not chiefly found to exist in naturally nervous persons.

A patient may be plethoric and muscular—not necessarily anæmic—and yet have impoverishment of the nervous system. *Neuratropia* exists chiefly in patients between the ages of twenty-five and fifty years. Its presence does not depend on any important recognizable organic disease. I have found in a majority of cases a full, normal pulse, but sometimes it is very rapid, or abnormally slow, with a fluttering feeling under the finger. There is no cardiac disease present in most cases, and the face may look the picture of health. The patients will often apologize for their satisfactory appearance. In spite of apparent strength, such are easily fatigued by mental exertion, and complain of giving out long before the usual time of resting. The memory is often temporarily weakened; consecutive thinking, intense attention, or sustained mental activity of any kind, is found to be impossible, even when there is no muscular fatigue. It is at this stage when insomnia is complained of, usually to be followed by mental depression and by distressing forebodings of some impending calamity, which they cannot define.

It is a general sense of ill-being and *ill-happening*. It is common to both sexes, but is more common in the male sex. A frequent mistake is made by medical men in attempting to lecture such patients out of their notions about themselves. This will only deepen the morbidity and intensify the evil. It is best to accept the evil as a fact, but to raise hopes for the future in a *sunshiny* way. This is mental therapeutics.

No two cases can be treated alike. If it is a case merely of brain exhaustion, then our main reliance must be upon vigorous out-door exercise and light mental exertion. The muscular and organic life can do much through activity in bracing up the nerve centres. If we have an anæmic case, or one in which there is evidently exhaustion of the cord, especially in the chlorotic women, then absolute rest and quiet are indicated. Digestive power and hygiene are our auxiliaries. I am a great believer in alimentation—not over-feeding, but what the system can fully assimilate. It is nerve nutrition which we have to do with, hence the necessary pabulum must be provided. Such usually recover, but gradually and so slowly as to discourage patient, friends and physician. The fact is, that all nerve deterioration needs a protracted time to recuperate, and it is well to set out in treatment with this understanding by all, that this depressing condition has invaded the nervous system by slow approaches, and that it will leave the seat of disease with reluctance, under the most

favourable circumstances. It is necessary to start out with a large stock of patience in treating such cases.

A close catechising of a number of young persons has led me to believe that this abnormal condition is often brought about, or at least intensified, by worry, the vicious habit of self-abuse, or from syphilis. It is also well to make minute inquiry as to the existence of the mild form of epilepsy, especially of the nocturnal or *larvated* or masked variety, which is often overlooked, yet, by its enervating shocks, not only does it pull the system down, but also keeps it prostrated when the mischief is done. A rigid inquiry on these points is of paramount importance in diagnosis of many cases. I am inclined to think that the abnormal mental conditions are always secondary, and that the primary trouble is in the sympathetic and spinal systems.

The constant complaints of unusual sensations in one or more of the abdominal organs are evidences of this. The heart's irregularity, the atonic dyspepsia, the obstinate costiveness, the kidney derangement, and the temporary dyspnœa, all point to these great nerve centres as the efficient causes of these derangements.

If we keep in mind that in the neurasthenic we have mostly to do with reflexes of the sympathetic and spinal cord, including all the organs to which nerve stimulation is given from these centres of influence and control, we can understand how varied must be the symptomatology of this generic disease. If we add to these disturbing causes a tendency to insanity,

or at least find a nervous diathesis predominating, then, of necessity must our prognosis be less favourable. I have found that those who usually complain of pain in the back, show that the spinal nerve function is temporarily deranged. This fact is evident when we find the oxalates, the urates, and uric acid in excess. These are present only as results, and are not pathognomonic, as in oxaluria, because on a return of tonicity in the nervous system these abnormalities disappear. They are at first only signals of distress, which warn us of graver evils should the disease intensify and continue. The pathology of the disease is not yet fully determined. It may be a change in the *quality* or *quantity* of blood supply to the nervous system, it may be an impoverishment of nerve force, it may be bad nutrition from low power of assimilation—one or all of these causes, or others yet unknown, would account for the exhaustion, the positive uneasiness, the unsteadiness, the fluctuating character of the morbid sensations and phenomena. Whatever may be the *cause* or causes, the result is nerve starvation; the cry is for more food and for more reserve energy.

Let me summarize the treatment:

1st. Rest and cheerfulness for the anæmic.

2nd. Outdoor exercise and work for the plethoric and sedative.

3rd. Fresh air, substantial food and absolute cleanliness for both classes, as a rule.

4th. No chloral, no opium, no alcohol; in short, no artificial stimulant, soporific, or narcotic of any kind.

Such short cuts to rest only murder natural sleep and strangle the heroic efforts of nature to come back to normal conditions. Even when these stilts are used, it must be after serious and thorough deliberation.

5th. Any employment which will have a tendency to divert the mind away from self-contemplation: in short, it is seeking relief by the law of substitution.

6th. I find the best remedies are such as the arsenites, cod liver oil, zinc phosphide, ferri pyrophosphate, nux vomica, bromides with caffeine, zinc oxide with ergot, and such like.

These tonics and calmatives assist nature to seek again the old paths. Allow me to add a word of warning to the younger members of our profession. If sedatives, or narcotics, or stimulants are administered it is well to mask them as much as possible. We all know their seductive power, and I have been told by dozens of victims to the alcohol, chloral or opium habit, that the first knowledge they had of the pleasurable potency of such drugs was received from the family physicians. After their visits ceased the remedy became a luxury, and the druggist was applied to for the material to inflict infinite injury to many a valuable life. My method has been to use some menstruum which would disguise the taste and smell of these drugs, and to maintain a stubborn silence as to their presence in my prescriptions. This warning is given here, as there is a great temptation to use them in neurasthenic cases, in which are found insomnia, local trouble, and mental distress.

CHAPTER XXVIII.

THE BORDERLAND OF INSANITY.—(Continued.)

Dipsomania.

The dipsomaniac has our pity, but mere compassion is of little moment unless it can take a practical shape. Essays on alcohol and on its physiological effects in the human system have little power to reclaim an old toper. Moral tracts on the sin of this excess are mostly thrown away on the confirmed inebriate. Sermons depicting the future fate of such are practically useless. He cares next to nothing for his present or future fate with a burning thirst for spirits upon him. Caricature may do its worst; imitation of his stupid antics and frolics may adorn the speech of the temperance lecturer, and set his audience in a roar of mirth; starvation and rags, filth and physical distress, scorn and ostracism, all have no effect on the majority of the pitiful victims of alcoholism. Nothing short of a miracle or a Divine dispensation can save a vast majority of those from their morbid and debasing appetite, if left to themselves. The few are saved by well-meaning philanthropists, but the many are lost to themselves and society. It is, therefore, a social

problem, involving tremendous interests, how to save these weaklings of humanity.

The writer may be permitted to divide the drunkards into four classes.

1st. Those who become drunkards from a habit of tippling.

2nd. Those who become drunkards from drinking to relieve nervous prostration, or to drown sorrow or worry.

3rd. Those who drink to excess because of a hereditary tendency to thirst after some stimulant or sedative, arising from nerve and brain susceptibility or depreciation.

4th. Those who become drunkards because of some injury to the brain, spinal cord, sunstroke, or great nervous shock of any kind. The nature becomes changed as well as the character, because of any of these afflictions. They influence the whole man for evil, and that without a truce.

Those who become drunkards from habitually imbibing are usually of three kinds.

(*a*) The weak-willed, who cannot resist the temptation to imitate others in a drinking bout, or who may think it manly to toss off the glass with boon companions.

(*b*) The genial, jolly, companionable fellow, who loves company, and is usually good-hearted, generous and free with his money.

(*c*) The mean-souled man, who cannot resist the temptation to take a glass or two when others pay

for them, or who delights to "sponge" on the good-will and pockets of his more free-giving neighbours.

Any or all of these varieties begin to imbibe as sober men; but, by repetition, the custom becomes a habit, and at last it degenerates into a vice. Such stimulants are insidious, and often do their stealthy work before the victims are thoroughly aware of the mighty grip these have upon them. They wake up to the fact that they have generated and nursed a craving want which it is misery not to satisfy. Some can, by the exercise of great determination, refrain from drinking in spite of the quenchless desire, but the many drift down the fatal stream without making one effort to reach the shore of safety.

Those who become drunkards by nightly potations, to relieve mental trouble, are more numerous than is supposed. They are not usually found among the drunk and disorderly in a police court; they may not make exhibitions of themselves in public places; they may even give little trouble to their friends or families, and many are not even suspected of drinking until a vicious habit has been formed. The drinking is done in secret. The victims pass sleepless nights, and as a relief drink themselves nightly into profound stupor. It is a drunkenness of which no one may know, because the person has no excited stage, seeing he has at once saturated his brain with an overpowering quantity of the stupefying potion. This demoralizing habit may go on for years without any particular symptoms being seen by others during

the daytime, as the nocturnal drunkard will only take a small dose in the morning to enable him to throw off the stupidity of the nightly debauch, and to appear as usual before the public. This truce cannot last long, and outraged nature takes the punishment upon itself. Paralysis, or apoplexy, or insanity, may be the result. In many, before these sad inflictions supervene, the nightly soporific is followed by the daily spree. The disguise is thrown off, and there is a full surrender to the persistent victor. This class usually belongs to our active members of society.

The daily brain work above normal; the worry of competitive business; the humdrum of all work and no relaxation; the fierce battle for life all along the line; the envies and jealousies in the world of fuss and fashion, which end in commercial ruin and disappointed ambition, and a thousand such malign influences cause sleeplessness, mental anguish and general nervousness. Such victims flee for refuge to any temporary relief, and they find it most readily in the oblivion of debauch from the use of alcohol or opium.

It might be mentioned here that such nightly stupefactions are more fatal to mental integrity than is any other form of drinking. In such, the excretories have not time to remove the poison from the system nor the brain to recover its tone from the daily invasion, before they are again called upon to defend the citadel of life. Each assault makes the resistance more feeble, until, at last, there is unconditional surrender. It really means daily drunken-

ness up to the point of stupor and narcotism. No system can stand this constant strain and live out all its appointed time.

The third class include all the unfortunate victims of a hereditary tendency. These have bequeathed to them a heritage of woe. "Our fathers have sinned, and we bear their iniquities." It is not to be forgotten that it is not drunkenness which is inherited, but only the nervous bias in that direction. It is a sleeping lion, which is harmless until aroused. It is a magazine of dynamite, which is as inert as a piece of granite until rudely shaken or percussed. It is a battery of electricity, whose latent energy is not known until a condition favourable to its manifestation is created. Under a similar law this dangerous element of tendency in a man's nature may remain latent until evoked by alcoholic stimulation. The dormant demon is then aroused and will-power is tied hand and foot by an infernal tenant, which no exorcism can lay. The paroxysms come on the man thus stricken, intermittently, as do the periodic impulses of some forms of insanity. The dipsomaniac has his tidal wave of all-conquering impulse. Occasionally men of giant self-control belonging to this class can successfully resist the burning desire to quench the insatiable thirst for alcohol. They are the few, and through life have an incessant struggle with the tempter. These are among the heroes of our age. The man who has no taste for spirits can easily avoid this temptation, but the man to whom the whiff of

liquor from a bar-room door as he passes is almost fatal to his integrity of purpose and sobriety has more bravery in him, when he conquers his desire, and more determination of will than has the soldier in a forlorn hope. The hereditary foe is conquered by daily battles, and not by a few isolated repulses or assaults of or against the relentless enemy. This third class is composed of persons in whom is easily discerned constitutional disturbance before the invasion of the periodic outbreaks of dipsomania.

Medical men can easily perceive the unusually nervous condition, the irregular blood circulation, the low nutrition, the morbid fears and forbodings, the unnaturally irritable temper, the lack of resolution and firmness so foreign to the individual in health, and even misconceptions and delusions may supervene when the attack is coming on. The physical and mental conditions show undoubted signs and symptoms of the coming outbreak which the victim cannot resist any more than can the insane maniac. To blame such a man to the same degree as we may those of the other two classes shows ignorance and injustice in respect to these unfortunates of inbred propensity. During these bouts of drinking mania the man is uncontrollable. He has inherited this defective tendency. What in an ordinary man might be very moderate drinking is to him destruction. To even touch the fatal glass is to invoke the hidden energy of incarnate mischief which has come to him as a sad legacy. He is not to be put in the same category

as is the man who, solely by his own habits, puts himself in an irresponsible condition by reason of this drunkenness. Such a person is much to blame for the result of his voluntary acts. He could have avoided being dragged into the frenzy, which often ends in direful acts, perpetrated on himself or others, and so far is without excuse. The person who takes to drinking to excess by imbibing largely at bedtime, to relieve nervousness and to procure sleep, may scorn the idea of doing so for pleasure, as does the tippler. He usually declares that of two evils he is choosing the less, and treating himself medically. His course of conduct generally ends disastrously to himself, and cannot be excused or palliated. He is responsible for his conduct, as the method adopted of indulging in a nightly debauch is voluntary, and medical experience warns him of its danger. He ought to know what the end must be when he sets out on this evil habit. It is astonishing what credulity these people have in their own will-power. They positively assert that they can stop the habit at any time they choose, yet never make the endeavour. With the most of them this idea of freedom is a delusion and a snare. They boast much of what they can do in throwing off the habit, but their vain-glory is that of the braggart. Seldom is the faith in themselves followed by practical results. So faith without works is dead.

The fourth class is remarkable. A sun-stroke, a blow on the head, or a concussion of the brain, or of

the whole nervous system often brings about a change of character. The chaste man becomes suddenly licentious in word and action; the taciturn and dignified become garrulous and offensively familiar; the brave become cowards; the honest man can no more be trusted; the total abstainer, who never had a desire or taste for stimulants, becomes an inveterate drunkard, not through tippling and confirmed habit, but suddenly after any such nerve injury. The whole nature has undergone a complete revolution, and the morals suffer first. It is not a wickedness, but a physical perversion which has turned into a new channel or modified the moral and intellectual attributes of such a man. This condition might be called insanity.

Experience has shown that many of those who have received a shock or an injury to the nervous system are much more irritable than was formerly natural. As might be expected, such are more easily affected by a powerful stimulant like alcohol, and its influence is more deleterious than would be under the more healthy conditions. As a rule, the persons in this class are more intractable, excitable, and even maniacal than they would have been had no injury to the nervous system taken place.

It will be seen, then, that we have floating about in our midst, on the stream of life, these hapless slaves to drink. We may eliminate from this vast army of defectives those who could reform if they would only try; yet a large number remain on whom no moral suasion nor social nor Christian influences have ever had any

effect to reform. It makes the heart sad to see the futile efforts of such to escape from this maelstrom of depraved habits, but only finally to be sucked down remorselessly into its ever-devouring vortex.

There is no help for these but enforced restraint. They must be put in custody, where the temptation is beyond their reach. The Insane Asylum is no place for them. They need the same oversight as the insane, but different surroundings and medical treatment suitable to such. To effect a cure, it is necessary to provide them with healthy work, fresh air, various amusements and nourishing food. The buildings should be as homelike as possible; the prison-like should be avoided, as far as practicable. Each case has to be studied separately and treated on individual necessities. The nervous system is starving for its usual stimulant, and this acquired and morbid demand must be met by the administration of natural food and support. Nature seeks healthy highways, if it is only assisted in its heroic efforts to return to the old paths. Were it not for these noble efforts of nature to seek its primal conditions and throw off this man of the sea, woe betide drinking and drunken Christendom.

In the recuperative powers of nature is our great hope in rescuing these perishing. Many of the wealthy go voluntarily to pleasant asylums when remorse is on them after a prolonged debauch. The desire for drink may have left such for a time, then are they in a penitential mood. They readily agree

to abide by the advice of the physician. It proves to be only as long as the lull in the brain-storm lasts. The irresistible impulse returns, and nothing short of personal restraint can then keep the dipsomaniac from his cups. He cares nothing for the conditions of his bond; he defies everyone; he is lost to appeals. He flies from the drunkard's hospital, and quenches his intense thirst in the intoxicating draughts. We casuists and moralists have not the faintest idea of the agony of such a man, seeking temporary relief to quiet the raging devil in his surging brain. At these crises he is irresponsible and helpless. Call him a sinner, a depraved man, a vicious citizen as you may, but in the sight of High Heaven he is held guiltless, if no will of his and no moral influence can restrain him. In the first stages of his downward career he may have been to blame, but now he is an object of pity. To hound such a creature in the last stage of his career, because he at first brought it about by voluntary acts is cruel. The man who becomes insane by a sensual life, in which he is the victim of a loathsome syphilis, is none the less an object of pity thereby.

To reform any such drunkard is a difficult work. A refuge must be provided for him with all the stringent rules of a reformatory in active operation. It must be free to "the drunk and disorderly," whose depraved tastes have brought beggary and disgrace on themselves, as well as having an open door to the rich. The notorious and habitual drunkard, who has become a pest to himself, his family, and society,

should be committed to an inebriate asylum under the same safeguards and stringency as are the insane. It matters not whether the admission is accomplished by voluntary surrender of personal liberty, or by commitment of a magistrate, or by virtue of medical certificates. All or any of these methods should be statutory, and should mean an indefinite and prolonged term of oversight and submission to prohibitory rules and regulations. The great want in the Province of Ontario is the absence of such an asylum to which the poor can go for succour and cure.

All such institutions conducted on the voluntary principle have failed, and must fail to cure chronic drunkards, however well these are conducted. The principle of freedom to come and go at will is practically of no avail to cure. This system of providing pleasant boarding-houses for a few weeks or months away from bosom and boon companions, and without restraints, of necessity, cannot be curative establishments. This is their record in Britain and the United States. A pauper drunkard has no needy shelter to go to but the prison. The vast majority of drunkards are poor, yet they need to be saved from themselves as well as do the rich. The state has put in their pathway all the conditions necessary to make sots, inebriates and maniacs of the feeble-willed, and it is a pity that, after the cruel work has been done, there is no haven of refuge and cure for them.

The longer a steady drinker of the tippling class is kept from imbibing stimulants, the more easy is it for

him to continue a total abstainer. This is true of all our habits for good or evil, hence the importance of endeavouring to undo a habit of excess by introducing in its place a habit of abstinence and industry.

A hospital to cure drunkards should, in its operations, insist upon healthful habits. Its hygiene and sanitation, its necessary discipline, the absence of the usual temptations and associations, the precept and example, the impossibility of indulging the drink craving, the gradual return of nerve strength and self-possession, the power to refrain from seeking this evil—all contribute to the recovery of many who could never be otherwise than chronic drunkards were no restraint put upon their indulgence. Many storm-tossed and pitiable wretches, who are now bringing untold anguish upon themselves and families, and who are a curse to society, as well as an expense to the country in our gaols and reformatories, might, in properly-conducted hospitals, reform and become useful citizens.

The experience of centuries has shown that we are "wasting our sweetness on the desert air" to endeavour to reform these who are thus afflicted by any other means than personal restraint. Religious and moral influences are not to be despised when the despotism of disease has passed away and reason begins to assert its sway. Noble efforts, by means of these agencies, are continually being made. A few reform, who are not too heavily handicapped in their struggle for liberty, but they are only the few of the great army

of drunkards. Among this class of reformed drunkards —so called—a large proportion relapse, unless they are daily kept under the influence which incites to sobriety. With them it is a daily fight for the mastery.

In my official report of 1879 is the following paragraph bearing on this subject: "Hereditary drunkards must have the curse removed from them or they from it. The former is not likely to be done at present; the latter may be carried out under Government supervision. The reformation of such is not absolutely hopeless, but the chances of recovery are not many; yet it is the duty of the State to aid such in their efforts to reform; and, if this be impossible, then it is equally incumbent upon society to prevent them injuring themselves or others. The immediate injury done by such a drunkard to himself is not by any means the worst feature of the case. If a child inherit to a great extent the constitution and individual peculiarities of one parent, who is a drunkard, with no strongly marked traits of the other to counterbalance them, the probabilities are that a tendency to dipsomania will be the lot of some unfortunate member of that family not thus protected unless moral influence and early habits of abstinence have kept in check the exciting cause.

"The same rule which exists in respect to the insane should prevail for the benefit of these sufferers. As medical men it is our privilege and duty to educate the rising generation, our legislators, our ministers of the Gospel and our moral reformers that there is a

class of inebriates who border on insanity, and who are objects for medical treatment. Experience teaches that appeals to their religious instincts are in vain. The moral nature is paralysed and utterly helpless to control conduct. The physical system through which mind operates is out of tune, and nothing but the repair which time and health can bestow will bring concord and harmony out of the instrument. The experience of medical men is, that nothing short of personal restraint can cure the members of this class, and to whom is given the name of dipsomaniacs. It is as futile to appeal to their manhood as it would be to reason any maniac into rectitude of language and conduct. This mania is not confined to drunkards. Every druggist and every physician can testify to the increased number of opium and chloral consumers. Those who have formed and are forming the habit are daily increasing. Many who have reformed in their spirit-drinking habit betake themselves to such narcotics. These drugs are stealthily indulged in as substitutes for liquor, and thus while they have driven out one devil they have cohabited with a dozen in his stead. The former punishes with rods and the latter with scorpions. This is not reformation, it is only a change of intoxicants to those of a far more deleterious nature. This habit is more prevalent than is dreamed of by social reformers, and a crusade is needed against the indiscriminate sale and consumption of all such intoxicants. In this neuralgic, nervous, sleepless and bustling age, this tendency will

increase unless a warning cry is raised by medical men."

Narcomania.

Within the last thirty years the use and abuse of such narcotics as opium and its salts, chloral, absinthe, chlorodyne, and such like drugs have increased an hundred fold. It is possible that alcohol, in all its baneful effects, is doing less injury in the world to-day than these toxic agents. Their victims are not demonstrative as are the alcoholic drunkards, hence are not thrust prominently into view. The insidious effects are produced quietly, unless at the latter stages of the morbidity delusional mania should supervene as a result.

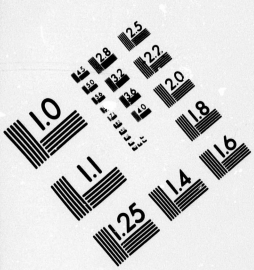
The Customs returns show how much consumption of these and kindred drugs is taking place, after making liberal deductions for those used by the medical profession. The quantity is increasing from year to year to a greater proportionate extent than is the population.

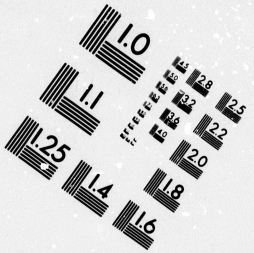
The causes of this increase in narcotics are many. They may be classified under two heads:

(*a*) Because of physical discomfort or pain.

(*b*) Because of mental ill-being or of some trouble or distress, for which it is a temporary solace.

The physical diseases for which an anodyne is taken are as many as are all the troubles which afflict humanity. The most common, however, are the neuralgias, headaches, hysteria, insomnia, rheuma-





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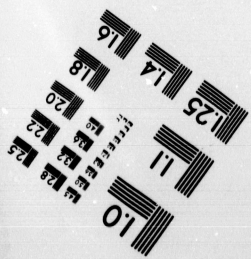

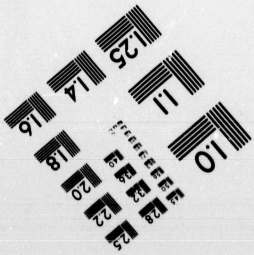

tism, cerebral affections, hypochondriasis and sane melancholy.

The bodily symptoms are many in the narcomaniac, and all are of a most distressing nature.

The tremors, the temporary ataxy, the organic derangements, especially those of nutrition, the trophic feebleness and consequent low cell selection, all point to serious derangements of the vital activities in all the somatic domain. The victims of this habit, when it has risen to a vice, are pitiable objects of contemplation.

Many of these were at one time alcoholic drunkards. On account of the frenzy which spirits produced, and which made them thereby the scandal of a neighbourhood and a nuisance to relatives, they change the agent of mischief to that of one of these drugs which satisfies their cravings. If such should have an inherited neuratic constitution, then is their reformation one of extreme difficulty.

The permanent mental symptoms, apart from the immediate effects of the drug, are usually melancholy, irritability, loss of memory, suicidal tendencies, lowered intellect, sometimes mental exaltation, and always depreciated moral tone. The loss of good habits is almost pathognomic, and the depths of depravity many will go to is scarcely credible. This is more true of opium and its salts than of drugs of a more evanescent nature, yet these untoward results depart when a cure is effected by the removal of the poisonous agent, so it cannot rightly be designated insanity.

Treatment may be one of three kinds:

1st. Sudden withdrawal of the drug.

2nd. The deprivation being a little at a time, but very slowly, extending over several months.

3rd. The entire withdrawal of the drug in, say, a week or ten days.

The first plan is cruel and dangerous. I have, on several occasions, seen collapse, heart failure and death from this method. At other times delirium, followed by mania, with delusions and hallucinations of the most pronounced kind are present.

Half a usual dose of the drug given would drive these away, unless permanent insanity should have invaded the brain in the meantime.

The second mode of treatment is adopted by many, and has strong advocates in its favour. At the same time, it is to be remembered that it is well to deprive the patient of the drug as soon as it can be safely done, and thus shorten his suffering to the least possible period, compatible with expected success.

The third method commends itself to my judgment, and has been adopted with good results in a majority of cases treated.

No drug of a kindred nature should be put in its place, even in insomnia; no cure can be affected by a change in toxicants. Codeine and cocaine have been recommended as substitutes. It is malpractice to administer them, as experience has shown in too many sad instances.

If we can tone up the system during the with-

drawal, especially by improving the appetite and infusing moral courage into the invalid to exercise will-power against the tempter, half the battle is won. At the same time, if such are free agents to procure the drug before normal conditions are set up, then must we fear collapses into the former state, especially in those of a neurotic diathesis. A goodly number, however, of those at large recover under judicious treatment.

My plan has been to gradually reduce the dose of the drug so that at the end of, say, ten days its use is discontinued. In the meantime baths and fresh air should not be neglected. Three times a day, full doses of bromo-caffeine might be administered, which should be given for some time after the noxious drug has been entirely withdrawn.

The following prescription produce good results as a substitute.

℞ Sodæ Brom. ..... ℥j.
Liq. Strychniæ ..... ℥ij.
Tinc. Capsici ..... ℥iij.
Aquæ ..... ℥viij.

M. Dose: One tablespoonful in three tablespoonfuls of water, morning and evening, at least one hour before meals.

Or,

℞ Zinci Phosphidi ..... gr. ½.
Extract Nucis Vom. ..... gr. ¼.
Extract Cannabis Ind. ..... gr. ⅓.

M. Dose: One pill of the above three times a day.

If a pure preparation of cocoa leaves is used it proves an excellent anodyne in the opium habit. It is much more satisfactory than is the alkaloid of the erthroxylon coca.

For the thirst of inebriety the following is good:

℞ Tinct. Capsici..... 1 drachm.
Tinct. Nucis Vom..... 1 drachm.
Acidi Nitro-hydrochloric, dilute.. 1 drachm.
Infus. Gentian ..... ad..12 ounces.

M. and make mixture. Sig.: Two tablespoonfuls as often as three times a day.

Or,

℞ Quinine Sulph.....gr. ij.
Zinc Oxide.....gr. ij.
Strychnia Sulph.....gr. $\frac{1}{40}$.
Arsenic.....gr. $\frac{1}{100}$.
Capsicum.....gr. ij.

M. et. ft. pil. no. j. Sig.: One three times a day.

Together with this pill, some use, for sixteen days, the following hypodermic dosimetry:

℞ Strychniæ Nitrat.....gr. j.
Aquæ Dest.....oz. ss.

M. Sig.: Eight minins daily for eight days; four minims daily for another eight days. To quiet the morning nausea of alcoholics, two to three drops of wine of ipecac on the tongue, fasting.

To induce sleep the following sedative is administered at night for a few days;

℞ Tinct. Opii. Deod. .....
Ext. Hydrosc, fld. ..... } āā. dr. ij.
Chloral Hydrat. .....
Pot. Bromid. .....

Tinct. Capsici. ..... dr. ss.
Tinct. Aconit rad. ..... m. v.
Aquæ Menth. pip. .....ad.. oz. iv.

M. Sig.: Two tablespoonfuls at bedtime for a few days only, freely diluted with water.

If the patient is very much excited, and is bordering on delirium tremens, the following is useful for two or three nights:

℞ Hyoscin, hydrobromat. .....gr. j.
Aquæ dest, ...dr. ix.
Spt. vini. rect, ...dr. j.

M. et. ft. hypodermic solution. Sig.: Dose from five to ten minims *pro re nata.*

These remedies are also excellent in the treatment of dipsomania, as all toxic agents produce somewhat analogous results on the nerve centres.

CHAPTER XXIX.

APHASIA.

APHASIA is an affection of the motor speech region of the brain. The idea of what words are required for expression is correct, but the co-ordinating vocalization is impaired. Wrong words are attached to correct ideation.

It is to be distinguished from the merely functional aphasia seen in hysteria or where deep emotion exists, as these are only temporary. The incorrect utterances of the insane are not included in this term. It is not paralysis of the organs of articulation, such as we meet with in hemiplegia or glosso-labio-pharyngeal paralysis. It is not aphonia, for loss of voice is caused by impairment of the vocal cords. It is a singular dislocation between the ideational centre and the motor region. The volition is rightly exercised, but its command is not correctly obeyed. This lack of co-ordinating power to articulate correct words is called *ataxic aphasia.* If there is added to this condition loss of memory of words, then have we *amnesic aphasia.*

Among the first class there may be no apparent mental disturbance, but if the disease continue for

any length of time, the substance of the brain becomes diseased to such an extent as to result in mental lesion.

Aphasia is often accompanied by hemiplegia, and both are frequently seen in apoplexy in aged people.

The disease is usually caused by embolism of the left middle cerebral artery, and, as a rule, is found in the third left frontal convolution.

The uniformity is not sufficient to constitute it solely the distinct functional centre for verbal expression.

The island of Reil, which lies immediately adjacent, is often found to be the only brain substance affected, including sometimes part of the *corpus striatum*. This is not to be wondered at when we consider that the same blood vessel supplies the island and the second and third frontal convolutions, where disease is most often found in aphasia.

When words are uttered with the meaning of which the aphasic patient is familiar and they are not comprehended, although the intellect is unaffected, then there exists what is termed *word-deafness*. The sensory relation with hearing and speech is disarranged.

If words which may be written, and which are well-known to the patient in health, convey no meaning to him, then have we *word-blindness*.

Those afflicted with *motor-aphasia* are often able to utter words, and are not deprived of phonation.

When the power to articulate distinct words is lost,

sounds can be made by the vocal organs, showing that their power still remains. Many such patients will make intelligent signs, as the intellect remains unaffected. It is only the medium that is out of order. If he cannot understand seen words then has he *alexia*. If his healthy arm and hand cannot coordinate movements to write proper words, then has he *agraphia*.

AMNESIA.

This is a disease of memory.

1st. The loss of memory may be limited to a single category of recollection, leaving the remainder apparently intact; these are so-called partial disorders of memory.

2nd. Others affect the entire memory in all forms; completely dissever mental life; produce chasms that cannot be bridged over. These are called general disorders of memory.—*Ribot.*

The different forms may be divided into:

1st. Temporary amnesia.

2nd. Periodical amnesia.

3rd. Progressive amnesia.

4th. Congenital amnesia.

In progressive amnesia the general law of experience is, that the more simple and early impressions are the longest retained. The impressions remain the longest which are received in childhood, and, as a physiological fact, must be retained in a primitive form of the brain, presumable in the medulla and in the

basal nerve centres. The physical basis of memory in its conservation and reproduction depends on two conditions. (*a*) Certain modifications of cells. (*b*) Formation of more or less complex groups of cells, which have been called "dynamic associations." This bald statement gives us little light in the obscurity.

There is nothing more striking on the approach of insanity in many than mental enfeeblement, as evidenced in lessened power of attention or lack of concentration of thought, added to impaired memory. This is especially true in progressive paresis. Long before pronounced symptoms are observed, trivial matters connected with every day life are unaccountably forgotten. Appointments, names, friends and the days of the week glide away from the memory. The impaired recollections of many persons not insane may not rehabilitate at will some particular letter in a word, or some numbers in arithmetic, or one of several well-known languages, or some other particular phase of knowledge which was but slightly registered in the mind. It looks as if memory were composed of successive layers of records, and those last put on are first taken off, or that the plastic brain of youth has had events and experiences more deeply engraven on it than those of latter years, so that in effacing these reminiscences the shallowest hieroglyphics are the soonest and easiest obliterated. The penmen who make these imprints on the brain are attention and repetition. If these powers are

weak then are the fleeting ideas written on sand and easily destroyed beyond power of recall.

It is interesting to observe how toxic agents, as well as some forms of insanity, affect memory. In fever and on the approach of apoplexy memory is often exalted in a remarkable degree. Past events come back into introspection with startling distinctness. The same is true with narcomaniacs. In the insane utterances of those attacked with acute mania this revivifying of forgotten past events is noticed. Not only so, but the mind seems enlarged in its capacity in some directions. The sceptic becomes highly religious, and may be a walking volume "on Evidences of Christianity." The prosaic man becomes a poet, and sometimes shows himself to be no mean rhymster. The man to whom arithmetic was a vexation glibly talks of figures, problems, and, if qualified by previous training, of geometrical puzzles. Of course, these evidences of latent power coming to the surface are exceptional, yet their existence is a wonder. At first thought it seems almost miraculous that a person should be deprived of all recollection of words and retain the other faculties of the mind intact; that he should forget one language and retain his knowledge of others; that a language long forgotten should suddenly return, and one recently used should for the time disappear as if it had never been acquired. It is not to be forgotten how unequal is the memory of each of us in respect to past experiences, and how intuitively we select out of the past

facts in our own life history with more or less vividness and correctness from among the millions of ideas which have gone into oblivion. Not only so, but new capacities are often evoked not known at first even in the normal state.

If memory on its physical side depends upon blood supply to the cells, then would it seem that not only does increase of blood circulation to the tens of millions of such bodies make these enlarged powers possible and probable, but also the extra blood supply may raise to psychical prominence tracts of nerve energy not made manifest before.

We know that all the wild and impossible imaginings of dreaming are determined by blood supply. Were we to attempt to do what we dream of doing then the result would be that we would require restrain during our sleeping hours. At these times imagination runs riot, yet, the varied panorama which passes before our vision transcends any effort we could put forth in that direction in our waking hours. The ideation has no check, as we see in the frenzy of acute mania, although from two different conditions of the brain in its blood supply. On the one hand we have physiological anæmia; and on the other hand, pathological congestion and cell deterioration.

The varied capacity of brain and mind is thus seen in two very different states. We need not wonder at the vagaries of mentality found on record in abnormal conditions.

CHAPTER XXX.

CRIME AND RESPONSIBILITY.

CRIME has been defined to be a violation of human law or the law of the State; sin, a violation of the Divine law or the precepts of religion; vice is opposite to virtue, and is an offence against morality, or a violation of the moral law. Crime is especially the object of jurisprudence; vice, of ethics; and sin, of theology.

Responsibility is the capacity of discharging an obligation, or ability to be accountable for actions.

We must bear these definitions in mind in discussing the relation of crime to responsibility. Some classes of humanity must be held to be exempt from responsibility.

1st. The child of immature age.

2nd. The idiot with arrested brain-growth and dwarfed mental development.

3rd. The imbecile in whom the mental powers exist, but in a feeble and circumscribed condition.

4th. Various classes of the insane.

5th. The epileptic (not insane), when fits are coming on or leaving.

6th. The dipsomaniacal in the frenzy of drunkenness.

The last two classes are held in law to be responsible, whether conscious of their acts and the quality of them or not. Law says it cannot distinguish between the knowing act of an epileptic and that done unconsciously. It also says the drinking maniac is in that condition because of his voluntary act of drinking; hence his accountability. The law holds that all insane are irresponsible, but bases its definition of insanity on the capacity of a person to know the distinction between right and wrong in the abstract. This fulcrum mind-test was laid down by the English judges in the McNaughton case (1843). In carrying out the law, judges never give a personal opinion. To them the accepted *lex scripta* is gospel truth, as far as the verdict and execution of law are concerned. They do not question the received decisions, authorities and precedents of their legal ancestry. To them, it is what the law commands, which is supposed to be founded on justice in its fundamental principles. We need no other example in this particular than that already mentioned. To make a knowledge of right and wrong the crucial test of sanity has wrought untold mischief in the administration of law. In fact, it is now acknowledged by eminent jurists, such as the late Sir James Fitzjames Stephens, in his work on "Criminal Law," and by Lord Chief Justice Cockburn, in his opinion given before a Parliamentary Committee, that such a rule of law is misleading and faulty. The consequence has been that in recent works on medical jurisprud-

ence a new element has been introduced into the legal definition. The ethical test is not given up, but there is added such a clause as, "the law allows that a man who, by reason of mental disease, is prevented from controlling his own conduct, is not responsible for what he does."—(*Stephens' "Relation of Madness to Crime"*). It is added, "No doubt there are cases in which madness interferes with the power of self-control, and so leaves the sufferer at the mercy of any temptation to which he may be exposed; and, if this can be shown to be the case, I think the sufferer ought to be excused."—*Stephens.*

In 1874, when Russell Gurney's bill was before the English Parliament, a clause embodying the recognized fact that the moral test was very fallacious, and that a statement should be introduced accepting as proof of unsoundness of mind or lack of responsibility such brain disease as destroyed self-control. The law officers of the Crown recommended its rejection, and it was shelved accordingly. When this proposed amendment was before the Committee of the House, Lord Chief Justice Cockburn cordially accepted this amendment, and significantly said: "The pathology of disease abundantly establishes there are forms of mental disease in which, though the patient is quite aware he is about to do wrong, the will becomes overpowered by the force of irresistible impulse. So the power of self-control, when destroyed or suspended by mental disease, becomes, I think, an essential element in irresponsibility." At the same time, Sir

James Stephens suggested that in such cases a jury should be allowed to bring in one of three verdicts, viz.: 1st, Guilty. 2nd, Guilty, but the power of self-control was diminished by insanity. 3rd, Not guilty, on the ground of insanity.

The judicial instructions to juries in rendering verdicts remain as before, and even Chief Justice Cockburn was obliged to charge juries according to the written law, although he knew how inconsistent with physical fact the law is. He was obliged to abide by the traditions of the legal fathers. Hanging under the old definition is still going on, in spite of the flood of knowledge which has been poured upon the subject by psychologists during the last fifty-two years, since the moral test formula became law. The more enlightened opinions of eminent jurists must ultimately have weight in the British Empire and in the United States, and will tend to affect legislation in the right direction. This is notably the case in the United States. Newly enacted penal codes in some of the States have, in addition to the morality definition of 1843, some form of recognition of loss of self-control by virtue of disease.

From these general statements it will be seen how widely law and medicine differ on this radical and all-important matter. The medical test for insanity is based on the presence of physical disease and its abnormal results on conduct; the legal test is metaphysical and theoretical. The medical diagnosis is based on pathology and experience; the legal ignores

any physical condition which does not affect the moral attributes. The legal cares nothing for impulse, loss of will power, or sudden change of character and conduct without motive or from childish incentives; medicine takes in the whole man in all his multifarious interests. The former tests by the ambiguous notion of *right* and *wrong*; but the latter by the *will not* or *cannot* of each individual. The one deals with an abstract idea; the other in what is found practically true every day in the wards of any lunatic asylum. Law adheres to tradition and the fiat of statutes; medicine points to the facts of clinical experience and practical knowledge. Legal *dicta* permit a counsel and judge to instruct a jury both as to law and facts, both as to responsibility and value of evidence; but a medical witness—whatever his experience and skill may be—is not allowed to relate them to the jury, although they may be of intrinsic value in teaching and enlightening those in whose verdict lies the destiny of a prisoner. The man, of all others, who should know whereof he asserts, must be "a dumb dog," while the man whose experience may be of the most crude kind is legally allowed to appeal, to instruct and direct a jury in the most abstruse of all medico-legal subjects. The writer, not long since, heard at a State trial a well-known Canadian barrister and Queen's Counsel instruct a jury that any ordinary man was as able to detect any form of insanity as could an expert. The absurdity of such a statement might be seen any day by turning loose into the

wards of a strange asylum this counsel, a jury, and asylum medical officers, to select the sane from the insane as they might be presented. A short experience in this discriminating work might not convince, but it would certainly give ground for legal reflection and possibly prevent a repetition of such a statement. Perhaps he should not be blamed too much, as his text-books make the same assertion. It would be rank heresy for him to fly in the face of accepted authority, even were he convinced of its absurdity.

In reading the history of jurisprudence, it is satisfactory to observe that the broad minds of the great jurists and wise legislators are groping towards the light. Let us take the question under discussion, for example, and see its evolution.

During the last century, the definition laid down by Lord Coke was accepted as law. In this it was held that to be insane meant to be totally devoid of mind, memory and understanding when an insane act was committed. If this negative condition did not exist, such were responsible. It need scarcely be said to-day that no insanity ever existed to which this definition would apply in its entirety.

In the beginning of this century it was held that insanity should be tested solely on the basis of the possession of delusions. Of course, the absence of them would imply sanity, yet we know many insane have no delusions. This phase of legal thought was followed by the crucial test that any person who has the capacity "to know the *nature* and *quality* of the

act he was doing" must be sane and responsible. Many insane are quite capable of knowing as described. This moral test is absurd in itself. What right and wrong are in the abstract have not been determined. Law is one thing and ethics may be quite another. As one item of the curiosity of law penalty, it may be noticed that at the beginning of this century more than 200 offences, from robbing hen-roosts to treason and murder, were punishable by death in the British Isles. In 1816, no less than fifty-eight persons were under sentence of death for such offences, and one was a child under ten years of age, who could neither read nor write. As the years rolled by, it became evident that punishment and crime were unequally associated, and law began to adopt a sliding scale in the administration of justice more in keeping with the quality of the crime. Anyone who will take the trouble to wade through the evidence on which the verdicts of those days were based, will see it fared badly with the poor lunatics. The court suspended the insane, in many instances, instead of the judgment! The putting the life of the assumed insane in one scale and then placing these ever-changing conditions of law in the other have been, are now, and apparently will be the means of putting many innocents to death. Definitions are mischievous when they bind down judges, juries and legal evidence to certain lines of opinion, from which there is no deviation permitted. The results, so far, has been that legal history in the past was full of records of the

victims of crude definitions and legal subtleties. Cast-iron definitions have been the means of bespattering the pathway of nations with the blood of these more unfortunates.

The word *insanity* is a relative term, and means a disease. It is always a brain disease, with gradations of severity. As we cannot tell where the colours of the rainbow blend, nor can we point out when the steel-grey of the dawn commenced, nor when the last glow departs of the closing day, neither can we define where sanity ceases and insanity begins. There is a borderland which lies in the shadows, and no one can penetrate it with a pencil of light. Reason passes into it, possibly unconsciously, or, it may be, with dread forebodings, and emerges from the ominous cloud into the positive region of mental alienation. The foe comes stealthily, but surely, and ties the captive to his chariot-wheel. There is at this stage no mistake as to the mind-trouble. It has assumed a definite form in its prominent features, which is modified by the personal characteristics of each individual; hence no detailed definition of insanity can ever be given. No two people are alike in any one particular, so mental manifestations differ. In judging the insane, the temperament, peculiarities, education, habits, surroundings and apparent motives must always be taken into account. Does the man act naturally? Is he himself? Is his unusual conduct brought about by anything but brain disease? We must measure all men by their own half-bushels, and

not by an arbitrary standard of capacity. The ascending series of intelligence seen in the normal creation have a counterpart in insanity. If we take an intellectual general test and apply it to each class of the insane, we will find at the lowest points the harmless dement in whom is little mental capacity beyond that found in the helpless child. Such have little vitality beyond organic life. At the other end of the series are the cunning, clever, intelligent insane, who puzzle even experts in their most searching examinations. Among this higher class are found the insane over whom courts sit in judgment, and concerning whom juries give strange verdicts. The stupid, the boisterous maniac, and suicidal and religious melancholics are easily known; but the clever possessor of delusions which he carefully hides, and which may be the mainspring of his general conduct, needs to be carefully examined, watched and studied before the most experienced can pronounce definite judgment and determine responsibility. These delusions may be of a harmless kind, and control or may not impel overt acts, or they may be mainsprings to urge to insane manifestations. Of course, we all have delusions of some kind, but the judgments of the sane give them proper value. The insane accept them as facts, not fancies. There is a large class of individuals between the feeble-minded and the normal section of the community, and naturally *animalism* is the predominating feature of such beings. The intellect is developed to such a degree that they may be

tolerable citizens as far as intelligence is concerned. They are, however, low in the scale, and are known to be such by even ordinary observers. The cunning, selfish instincts and impulses found in animals are strongly dominant in them. They set lightly on law or any of its restrictions so long as they can avoid detection. With such, it is not a question of morals, but of punishment. The sense of right and wrong is feebly developed, and the moral judgments are seldom exercised. Conscience is either not present, or, at best, weak and functionless, and gives little trouble. It is not an ethical nature blunted by repetitions of evil, but a faculty never brought to maturity. Such have been called "moral idiots." No crime, however dark and horrible, will cause them to lose a meal or a night's rest. Like brutes they live, and like brutes they die. If they have not much mental activity they may be harmless in a community from sheer *inertia*, and are never heard of but as *ne'er-do-weels;* but if the brutal instincts goad on the intelligence, we have developed a low class of criminals for whom there is little hope. They crop up as the chronic vagrant, tramp, petty thief, or, in short, the inveterably depraved all-around character. The whole being is saturated with laziness and cupidity, because of which a living is procured at the expense of the honest workers of society.

The fact is, all intelligent creation is like a pyramid. The first section from the base represents the animal instincts of man and beast. The next section

may represent the higher intelligence, not instinctive; it is much narrower in its scope. The section including the apex might typify the moral nature, and represents a much more circumscribed and higher class of being In humanity, the building up of our nature is in the following order from birth: 1st. Animal instincts. 2nd. Intellectual powers. 3rd. Moral conceptions. In any or all of these we may have arrested development.

Now, in the building up of this sympathetic whole from childhood to adult life, we may find the growth arrested at any of the stages. If development should be checked in any stage of youth, only the animal exists: hence the idiot and imbecile. If arrested in the progress of intellectual growth, we have feeble-mindedness and dwarfed mentality. If atrophy takes place in the last section of building a full manhood, then have we intelligence, but no moral nature, or, at best, only the rudiments of one.

No amount of metaphysical refinement can reason away the physical fact that our whole entity of body, intellect, will, affections, emotions and morals are only manifestations of one organic whole, and are interdependent upon one another in many relations of this unity. The genesis of our conduct is largely dominated over and affected by their development, their relative power, and their controlling activity. The elements of our existence have in them the potentialities of the coming man. Habit, education, and favourable surroundings do direct these primary

forces for good or evil, but they never can obliterate the characteristic features which make us congenitally distinct from one another. Our individuality is born with us, and goes with us to our graves. A very little change in the relation of our constituent element of character and of primal nature does alter very much individual peculiarities, just as a very little change in chemical elements brings about radical differences in material substances. The old landmarks, however, remain unchanged, and must, in the nature of things, so continue. No two physical forms or faces of humanity are alike; no two brains are alike; and no two minds are counterparts of one another, except in a generic sense. The primal elements are varied, and the growth of brain and mind is different in each person. The immature brain of a child may be fully developed into the mature and complex brain of manhood, but the attempt to improve a partially dwarfed brain, such as is seen in the feeble-minded, is wellnigh hopeless. The juvenile brain grows, and mentality with it, in a corresponding ratio, so that an equation might be made between the two. A brain has only a mental scope equal to its capacity and power.

The child is judged according to its mental power, so ought the savage and the feeble-minded to be. It is not by years we should measure mind strength, but by the standard of the ordinary intelligence of the ordinary man. There are children wise

beyond their years, and there are men with childish minds.

The brains of the lower forms of humanity and of the higher beasts come close together in structure and shape. The natures of both such men and beasts have much in common. Both have intelligence and reasoning power, but there is no evidence that they have a moral sense, or, if so, it must be in a rudimentary degree. They have no contrition for acts. Punishment, not compunction, restrains them. The idiot has not even the animal intelligence. The imbecile is a step higher in the plane of instinct and knowledge, but is little, if any, higher in these than a dog, elephant, or chimpanzee, and is held not to be accountable because of mental deprivations. The feeble-minded approach more nearly to the normal man, but are lacking in keenness of judgment, the abstractive faculty, and mental concentration. Such are either very childish and harmless, or show viciousness or many forms of depraved propensity. The criminal and accountable, in the next stage, have no keen appreciation of the rights of others. Many of them are children with grown bodies, just as we find in the habits, tastes and mental scope of the untutored savage. The immature brain of a child, a barbarian, and the weak-minded produce analogous mental phenomena. It is to be remembered that there can be no responsibility where there is no moral nature, and there can be no moral nature where there is little or no intellect. The fact of a knowledge and appre-

ciation of our relation to law and of the consequences flowing from its infraction may exist without responsibility. To simply know is one thing, but to be able to determine and set in action responsible volitions is quite another.

These statements are made to help to an appreciation of another class, which can be placed between the feeble-minded and a fully-developed man. We find a large class of the community who have, in a low degree, judgment, discretion, common and moral sense. From this class comes the vicious and low criminal. Reference is not here made to those who become so by association, example and habit, but to those who are congenitally weak in all the necessary attributes of a well-ordered humanity. They start life handicapped with low cunning, inordinate acquisitiveness, selfishness, cruelty, low mental powers, and lack of a moral sense. All of these deterrents are seen in a lower plane in the brute creation. Such prey on the public, do no work for a livelihood, indulge in petty larceny, revel in the mere performance of wickedness for the love of it, whether sensualistic or destructive; in short, indulge in all depraved tastes and vices, and never know practically what is meant by the stings of conscience. A love of wrongdoing is an inborn and inbred condition in which they take delight. As a matter of fact, the responsibility of such is small, measured by any rule of ethics, and it is a serious matter to consider if such criminals should not be incarcerated for life when

they become chronics. They should be made to earn an honest living, not merely as a penalty for crime, but as a charity towards the vicious, and as a protection to society against their ravages. Such ordinarily spend most of their time in prison because of repeated offences, and are let out of durance intermittently, only to prey on society, to educate others to follow their example, and to leave behind them a criminal progeny. The low criminal, by oft convictions and repeated imprisonments, becomes an incurable law-breaker, and should be treated as incorrigible. Experience shows he is such, and being so, has forfeited all right to liberty and personal consideration beyond kind treatment and forbearance, based on industrious habits and good conduct.

It is easily to be understood, then, that in this next upward stratum is found the larger number of our ignorant, depraved, lazy, bestial criminals. Their cunning will make them sham religion when it suits their purpose, their instability makes them yield readily to temptation, their *animalism* makes them the sport of their passions, their love of ease makes them indulge in the luxury of vagrancy or petty larceny, their low tastes make them victims of strong drink and the seekers of like associates, and their gregarious instincts cause them to form combinations which threaten to disturb the foundations of society, and of necessity make them social pariahs.

In view of these facts, it is one of the great social problems of to-day to determine, in equity, how much

conduct is influenced by natural and irresistible qualities, and how much is modified by immediate and proximate external causes and circumstances, or wherein our actions and modes of thought are influenced and directed by our natural aptitudes and propensities. As far as we can know these factors, they should be taken into account in estimating the culpability of actions. Law is based on abstractions, and punishes absolutely according to act and not according to turpitude. The man who commits a homicide in a frenzy of drunkenness has little consideration shown to him in his sentence, yet culpability may depend largely on circumstances. In one case, the passion for drink may have come on from a vicious and acquired habit, therefore it is blamable; in another, it may be a dipsomania by reason of hereditary transmission, from which there may be no manumission. It is a heritage of uncontrollable impulse, which is transmitted in its invasion and continuance. In both classes the penalty is identical, hence the injustice often meted out.

A forgery is committed by a man whose whole life record has been that of honesty and truthfulness, but who, by stress of financial pressure, has suddenly fallen from his high estate. The trend of his whole career has been in the direction of virtue and honest living, but with commercial disaster staring him in the face he commits a felony, which he hopes to rectify before discovery. His whole moral nature revolts against the act, but his sensitive fear of men

and of the effects of poverty on his family and himself is a motive too strong to resist.

Another man has a mean, grasping, selfish nature. He has been naturally so from childhood. He has cultivated all evil influences, and has sought environments calculated to encourage their growth and deepen their intensity. Because of these tendencies, natural and acquired, he forges and cheats simply to possess and increase his gains, based on the pure love of greed.

The acts in both examples are the same, but in their comparative guilt they are far asunder. In the one, it is a sudden impulse to deviate from the well-beaten track of a life-long rectitude; in the other, it is the natural outcome of an ingrained vicious nature. The guilt in both cases is scarcely to be compared, but the penalty is equal. The motives are not taken into account. In fact, the man of heretofore good reputation is held to be the greater culprit, although it was only an incident in his life, and in the other the outcome of a bad record.

In short, it may be said that :—

1st. The natural history of crime shows that brains of chronic criminals deviate from the normal type and approach those of the lower creation.

2nd. That many such are almost as impotent to restrain themselves from crime as the insane are in abnormal conduct.

3rd. That immoral bias may be hidden because of expediency by cunning until evoked by circumstances.

4th. No man can shake himself free from the influence of the physical surroundings in which he is encased.

5th. Crime is an ethical subject of study outside of its penal relations.

6th. Insanity and responsibility may coexist.

7th. Some insane can make competent wills, because rational.

8th. The monomaniac may be responsible should he do acts not in the line of his delusion, and which are not influenced thereby.

9th. Many insane are influenced in their conduct in the same way as the sane; the rudiments of free-will remain.

10th. Many insane have correct ideas in respect to right and wrong, both in the abstract and concrete.

11th. Many insane have power to withstand being influenced even by their delusions. Therefore, irresponsibility and insanity do not always cover the same ground.

CHAPTER XXXI.

LEGAL POINTS IN RELATION TO INSANITY AND CRIME.

THERE are three distinct definitions of insanity required by British law:

1st. In criminal cases, the legal test of insanity is the knowledge of the distinction between *right* and *wrong;* that is, a criminal is considered sane and responsible when he committed a crime if "he then knew the *nature* and *quality* of the act," and that it was wrong. Some jurists hold that this knowledge needs only extend to the civil law of the country, and others hold that right and wrong must also be looked upon in an ethical sense. In other words, the indicted person is or is not capable to understand and formulate moral judgments is the test of sanity or insanity.

2nd. In testamentary cases, the requirement of the law is somewhat different. Here the *nature* and *quality,* the *rightness* and *wrongness* of the act are not considered. A testator is considered *sane* if he is "of sound mind, memory and understanding;" and, conversely, he is judged to be insane if his mind, his memory and his understanding are unsound.

3rd. In the third class of cases a third test is required by law, and this class is the most important, because in it alone is the question of sanity or insanity, pure and simple, of a person directly raised.

In an inquisition in lunacy, the actual issue placed before the jury is: "Is the subject of this enquiry sane or insane?" To this investigation is attached the test: "Is the patient capable of managing himself and his affairs?" This test is very widely different, and of very far more comprehensive scope than either of the others.

In both the previous cases the jury have to get, as it were, inside the man's mind, and to guess as best they may at what was the receptivity and scope of his consciousness and intelligence on a certain date. They have to attempt to discover what he then knew, what his thoughts were, and what reliability could be placed on his memory and judgment. It is self-evident that there is only one person who can, by any possibility, know without fail the state and validity of a man's memory, of his knowledge and of his discretion and judgment, and that person is the man himself.

We only know by inference and by judging from their actions, what the consciousness of other persons than ourselves may be. This is taking for granted that actions in others are accompanied by states of consciousness and motives similar to those which, in us, accompany like actions of our own. This is far from being an infallible guide. We know by daily experience that like actions may be preceded and

accompanied by very different states of mind. Similar conduct may be prompted by very different motives. It will thus be seen that our knowledge of modes of mind in other people is not intuitive, but inferential, and therefore uncertain.

In the third class of cases, however, the subject matter of the investigation is very different. In an investigation or inquisition of lunacy the jury have to determine whether the person is capable of managing his own affairs, and this they do by immediate inference from observation of whether he *does* manage himself and his affairs in a common-sense manner.

In such a case there is no attempt to reach the innermost thoughts of a man, and procuring a knowledge of the workings of his mind in its multifarious activities. In this class the law only requires us to look at his *conduct*, which is open to our direct observation. It will be seen that the distinctions made of the first two classes are based upon metaphysical classification, while in the last class we deal with what we perceive and judge accordingly. The distinctions are practically far from satisfactory, but it is well to know that they are made by jurists.

It used to be the custom of judges to regard persons deaf and dumb as, in the sight of law, idiots. This presumption is no longer recognized. It has long been understood that persons who lack these important senses may yet be possessed of very considerable intelligence, and be capable of a very large amount of culture. The general rule in such cases is that

the court should ascertain that such a witness possesses the requisite amount of intelligence, that he understands the nature of an oath, and that being satisfied upon these points, it should direct the witness to be sworn and receive his evidence through a sworn interpreter. If the witness is able to communicate his ideas perfectly in writing, he will be required to adopt that as the most satisfactory method, but if that cannot be done, he will be permitted to testify by means of signs.

Evidence given by a lunatic during a so-called "lucid interval" or during a remission of the disease is often accepted; but in order to render such evidence valid, it is in some cases necessary that no serious fit of insanity has intervened between the *event* and the *testimony;* at least no such attack as would cloud the recollection of the witness; and, as Allison's "Court Practice of Scotland" says: "That would cause him to mistake the illusions of imagination for events which actually took place."

The testimony of idiots is not admissible in courts of law.

The word "witness" does not merely mean corporeal presence of an individual in court. It also includes the idea of the possession of sufficient intelligence to observe the circumstances of the event, and retention of memory to recollect and relate these facts, somewhat in the order of occurrence, so as to be understood by another party.

It has been held in law that some imbeciles can

give evidence, and the statements of the highest order of intellect of this class have been accepted.

The jury must determine the value of such testimony. Although it is often difficult, in fact, impossible, to gauge the mental capacity of such in regard to right and wrong. Some imbeciles have a wonderful facility to invent lies. Lying becomes the habitual exercise of their minds.

In this relation, it is to be remembered that imbecility, which is congenital, and the natural dementia of old age appear very much the same. Yet on one point they materially differ. In the childishness of old age the memory loses its latest impressions first, and while all traces of recent events have disappeared, there is a distinct remembrance of many remote incidents. On the other hand, the imbecile's memory may be trusted with regard to the events of yesterday more than of years gone by.

At one time, even those labouring under mild mania were produced as witnesses, but it was seen there was no consistency in the sequence of their ideas. This commingling of events in the memory with delusions of various kinds made them thoroughly unreliable, and now-a-days such evidence is not admitted in our courts.

The writer is of the opinion that the evidence of some insane persons should be received, with the proviso that it would need corroborative evidence to fully substantiate it, especially if the insane person is delusional. A weak or rotten thread in the warp and woof of the mind affects to some extent the robustness of mentality. Hence the necessity of

caution in the acceptance of such evidence. The question of credibility should be left to the jury after the *ex parte* statements of counsel and the direction of the judge have been heard and considered. Unfortunately the motives for truth or falsehood are on a lower plane in the insane than in the sane. Some jurist has said: "Every selfish act of a sane man is leavened with some unselfishness; every hell-ward tendency is redeemed by a little reaching up to heaven; but in the case of many lunatics it is not so. They are almost invariably selfish. Large-heartedness is a rare virtue in the insane." This is a sweeping statement which pronounces a general truth, but makes no allowance for many exceptions of unselfishness and kindness seen every day among the insane. It is true, the animal instincts remain the longest in all cases of mental decay, and these, apart from paternal impulses, are essentially selfish. This stage in humanity means the extinction of the nobler qualities in man, hence motives are a crucial test in the insane as well as in the sane, but with circumscribed boundaries. These conditions must be considered as factors in testing the value of insane evidence. The judge, in all cases, determines the *competency* of a witness, and the jury his *credibility.*

These important points are fully discussed in "Brown on Insanity," Roscoe's "Criminal Evidence," and "Best on Evidence."

They show the difficulties which meet the jurist in order to arrive at the truth, when the search for it must be made through such uncertain channels.

CHAPTER XXXII.

MEDICAL WITNESSES IN THE COURTS.

A MEDICAL witness is often put in a difficult position when he is attempting to explain to a *petit* jury any form of insanity which is obscure and not maniacal. The jury is often told by judge and counsel that each member of it is as capable to judge of insanity as is an expert witness. This statement is an echo of what is found in law books of over a century ago, when mania and insanity were held to be synonymous terms. The more subtle and dangerous forms of mental disorder of the quiet, cunning and delusional type had been relegated in those days to innate moral depravity, or to the instigation of the devil. In criminal cases the majority of such died upon the scaffold, as they occasionally do now-a-days, because of the necessarily inexperienced juries who tried such cases, not to state the prevalence of ignorance and superstition in former times.

At the same time a medical witness must fearlessly and intelligently endeavour to explain his views to a jury either for or against the plaintiff or the criminal. A few hints to him may not be out of place.

He should endeavour to keep his mind in a semi-

judicial condition, and be uninfluenced except by undoubted testimony or personal knowledge.

He should never lose his temper in the witness-box, however great the provocation. An angry witness is usually at the mercy of his tormentor.

It is not well to retort on an annoying examiner by personal sarcasm or cutting irony. It is better to have the sympathy of the jury under the teasing of a brow-beating catechist than to attempt to copy his method by an exhibition of "smartness."

The witness should keep on solid ground by not going beyond his depth in hypothesis and theory, as only *facts* are wanted.

He may be caught tripping should he attempt to split hairs over matters of which he may have only a superficial knowledge.

He should never attempt to be scholastic in his statements, as he has to do only with the jury. Professional and scientific terms may be to a jury as unintelligible as Choctaw. It is seldom that a witness cannot explain in every-day language what is in his mind, even relating to professional matters. This an intelligent jury will appreciate and weigh, when a learned disquisition by some pedant will be looked upon as unintelligible jargon. Even the learned witness should be like the soldier and keep his scholastic ammunition behind his back, to be used very rarely in courts of law, especially seeing that the Anglo-Saxon language is so prolific in every-day words to explain every variety of thought. The

pedantic witness is usually found to be an egotist or a silly fellow.

A witness is sometimes asked if he is familiar with certain works of well-known authors, or even of obscure authors, and is also examined as to their particular views. It is well to be sure that the witness is familiar with them before giving answers to such questioning. I remember a witness being asked if he was acquainted with the works of a certain author. The name given sounded very much like that of a well-known writer. The witness answered in the affirmative, yet there existed no such author. This fatal mistake rendered his evidence nugatory.

Many questions are put to a witness, and a categorical reply to each is imperatively demanded. It is not to be forgotten that a *yes* or *no* may not be a correct answer, hence caution is needed.

The old example in our logic lessons will illustrate this. For instance, the following question is put: "Have you finished whipping the boy?" Were the answer given "No," then would it mean that you were whipping him and still continued so to do? Did you answer "Yes," then it meant that you had whipped him, but had ceased to do so. Neither answer would be correct had no chastisement taken place. The assumption was false, therefore would be either of the answers. Many a medical witness has been trapped into a wrong answer, on account of such a simple logical fallacy not having been detected. There is a large class of interrogations to which

affirmative or negative answers would be incorrect. Be on the lookout for them.

It is well not to digress from giving a direct and sufficient reply to each question put. Prolixity is to be avoided, as well as the introduction of extraneous matter largely foreign to the case. A witness will have plenty of opportunity in his examination and cross-examination, not to mention rebuttal testimony, to inform the court all he knows of the subject in dispute.

Let no cross-examination, however severe, force a medical witness to be, or to appear, as if he had taken a side so strongly that all his evidence is *ex parte*, because of the antagonism evoked by a sharp counsel endeavouring to bring his truthful statements or evidence into contempt. The imperturbable, intelligent and conscientious witness will not be driven from a judicial position irrespective of the results to any party in the case. We are always to remember our oath and the sacredness of absolute truthfulness.

Should a witness change his opinion before giving testimony based upon the evidence heard, it is only just to the party who has subpœned him to state the fact at once to the counsel. Unfortunately, because of our present faulty system of jurisprudence under which an ordinary jury has to determine the value of medical testimony on matters professional, about which they of necessity must know little, medical witnesses can be found to give evidence for both sides. This is a matter of regret, but a witness should not allow

himself to be trapped into valuing the merits and demerits of other medical witnesses. It is the province of the jury under law to weigh the value and reliability of all evidence.

When authors are quoted he must be guarded in respect to the quotation, lest part may be only given, and thus change the tenor of the meaning entirely. Remember a part truth is the biggest lie. A witness may be asked to give his opinion as to the respectability of a medical journal from which a theory is to be read. We are not to forget that the magazine may be creditable, yet individual writers in it may ventilate arrant nonsense.

The eminent barristers in the legal profession are usually very fair and courteous to witnesses, while anxious to do all they reasonably can for their clients. Occasionally one will be found who thinks savagery to a witness is evidence of forensic ability. When a professional witness has the misfortune to encounter such a lawyer he can always appeal to the presiding judge for protection. Such appeals should, however, be rare, and only made under the greatest provocation.

A witness should study thoroughly all the phases of a case about which he is expected to testify.

It gives him confidence to know that he has all sides of it at his fingers' ends, so to speak. This is especially true in insanity cases. He should never be ashamed to declare his ignorance on any subject he is not familiar with.

The witness is safe to confine his evidence to what

has come under his personal knowledge. Hearsay evidence is not admissible. He may not be allowed to quote the opinions of authors, however distinguished; but an examining counsel may read quotations from them and ask the witness to give his opinion in respect to them.

An expert witness is allowed to hear all the evidence of facts about which he has no personal knowledge. He is then permitted to give his opinion on all the evidence presented in court, taking for granted it is true. He is not allowed to value the evidence in forming his opinion. It must be taken by him, as a whole, as being undoubted truth.

He will not be allowed to judge of the case if only part of the evidence is heard by him. This is only just, as a partial hearing might mean much misconception of the whole case.

An expert witness is one who is supposed, from his opportunities and life-work, to know of and to be thoroughly conversant with the subject upon which he is called to testify.

He is called to enlighten the court on the question at issue, and is therefore more than an ordinary witness and less than a judge.

Such an exalted position should impress the witness with the importance of every word he utters.

It is true, many judges have said hard things about him and his vocation, yet these should not influence the witness, as no judge, or counsel, or jury, can take from him the importance of his truthful evidence,

based upon experience and not upon hair-splitting, metaphysical subtleties. His statements may not be heeded, and may even be the object of irony or biting scorn, yet it is the duty of the witness to unswervingly adhere to what his matured judgment presents to his mind.

A witness with a warped judgment, on whose mind undoubted evidence has little influence, proves thereby his incompetence to testify in any medical case.

Technical skill makes many witnesses valuable in courts, and such as the Admiralty Court find the evidence of experts necessary. The maxim is accepted that "every person should be believed in his own art."

In insanity cases this rule is not adopted, but in part, because jurisprudence cares nothing for diseased states, nor for the evidence adduced to prove them. It only considers ethical conditions, and the conduct based thereon.

The testimony of the medical witness is thereby circumscribed to very narrow grounds; and, as a matter of fact, is so limited as to be of very little use, as the whole extent of his knowledge and experience and inferences therefrom is not allowed to be presented to the jury.

There is a tendency to more latitude in modern times, but as precedence is against it, that freedom is only permissible by the grace of the court.

A medical witness must not forget that the promise

of secrecy, given in the strictest professional confidence, is not privileged from disclosure in court. A medical man should be prudent, and not allow himself to be the custodian of secrets not strictly necessary to his medical practice. Our motto: "*Fidus in Arcanis*" will not save us, if, as witnesses, we are asked to divulge them.

A witness may rightly come to the conclusion that insanity exists in a person from a large number of minor facts in language and conduct. They must, however, be taken *as a whole*, and a witness must not allow himself to be cajoled into giving an opinion on each of these facts taken separately. This is a common trick of counsel, whereby ridicule is thrown upon the evidence of such a witness. The cumulative force of evidence is lost in such details.

It is also not to be forgotten that in language and conduct the sane and insane have much in common. So far, these cannot differentiate the one class from the other.

A witness is allowed to use notes to refresh his memory, but they must be the original ones, and not copies or abstracts, even if made out by himself.

Steps Taken to Admit Patients into the Asylums in this Province.

There are two methods legally necessary to be adopted before a patient can be received into an asylum in this Province.

The one requirement is designated (*a*) *by ordinary process*, (*b*) the other is by virtue of a *warrant*.

What is necessary in the former step is that "two legally qualified medical practitioners" shall examine a patient separately, and if insane shall so declare in a general statement, which must be followed by a record of observed *facts* upon which such an opinion is based. No general opinion will be taken, as *specific acts* must be stated which indicate insanity.

To these assertions are added the presumed facts given by friends and relatives. These alone are not sufficient, as they are only hearsay evidence. All blanks as to dates, the *full* names, and such like, must be filled up. *Two witnesses* are necessary to each signature.

These two medical certificates are important documents, hence great care should be exercised in filling them up properly. They are virtually a warrant to commit a citizen to an insane asylum, and a medical man should appreciate his responsibility in the matter.

The second method is, that a warrant is issued to arrest a person who is supposed to be insane. This may be done by a constable if such a person is at large, and has become a nuisance or a menace to himself or to the community. On the other hand, an affidavit may be made by a friend, a relative, or a neighbour, asserting that such a person is insane and dangerous, or not able to look after himself. Based on this sworn statement a warrant of arrest is issued by a magistrate, and by virtue of it he is committed

to gaol. He is there examined by the County judge, the gaol surgeon and another medical man, and if declared insane by them he is sent under warrant to an asylum. A warrant of discharge is needed, based upon the recommendation of the superintendent. This dismissal warrant must be signed by the Lieutenant-Governor. Under the ordinary process no such complicated and slow processes are needed. The simplicity of the one method, and the complexity of the others, under exactly similar conditions, show how tenaciously we cling to obsolete and cumbersome red-tapism. The necessary forms should be the same in all cases of insanity. The one class should not be treated as criminals simply because arrested, and the other treated as patients, and sent as such to a hospital for the insane, to be discharged by the chief officer without any formality when recovery takes place.

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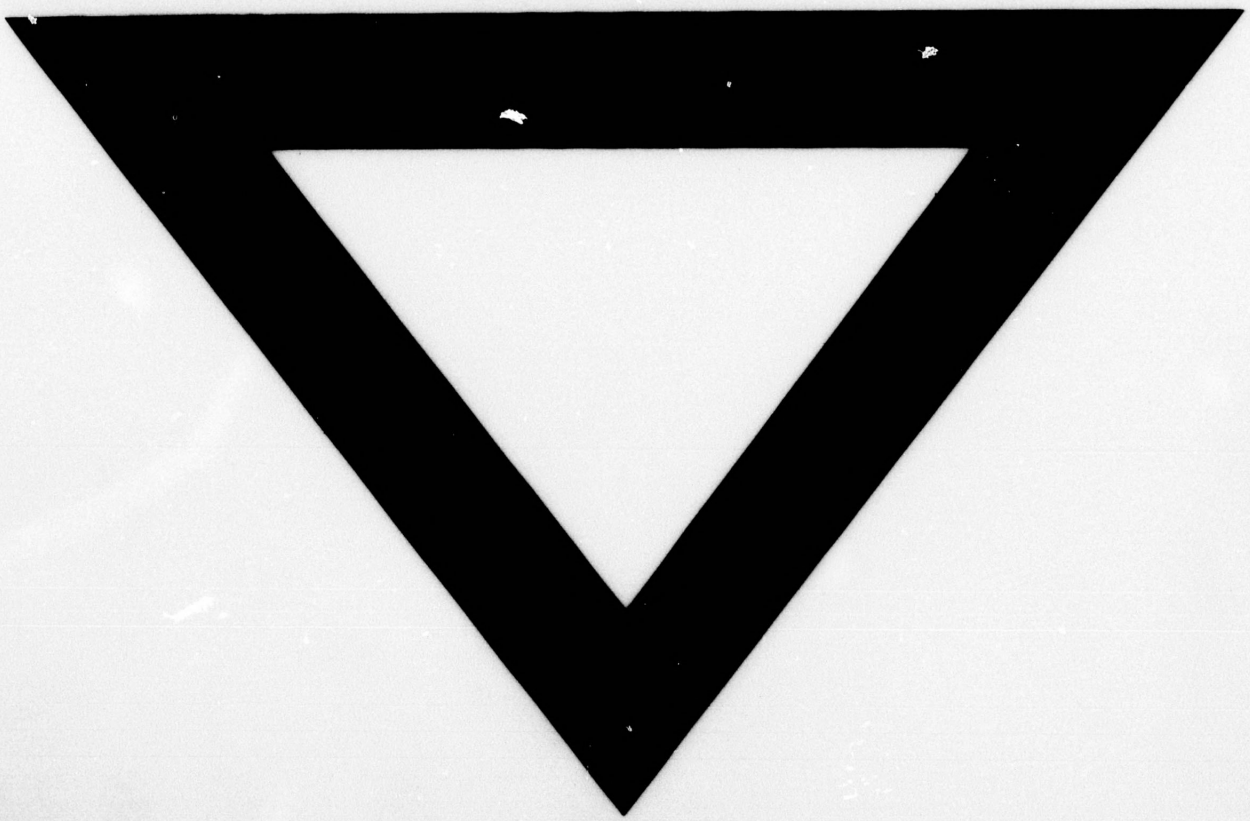
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