Epileptic Insanity

Any one at all familiar with humane institutions is aware that a considerable portion of the inmates of such institutions are the subject of epilepsy, and having myself been engaged for some little time in asylum practice I propose in the present paper to give some account of this disease in its relation especially to the production of insanity.

Epilepsy must be considered to rank prominently among the predisposing causes of insanity, and various are the classifications proposed for mental disease. Generally, we find that all writers on the subject are agreed in making a separate division of the intellectual aberrations related to epilepsy. The term cerebral epilepsy has been applied to the paroxysms of insanity associated with epilepsy to close the relationship between the physical and the mental. The disease that some writers are of opinion that the paroxysms of insanity and the ordinary convulsive phenomena occurring in epilepsy are only different manifestation of the same pathological condition.

Follet has gone further and attempted to establish an intellectual grand mal that it was closely corresponding to the physical grand mal petit mal respectively. Such correspondences however is far from being universally present, it as a matter of fact, the most famous paroxysms of rage or fury that follow an attack of petit mal or may be got without any visible attack at all, while fits of grand mal petit mal occurring separately or together may often herald a harmless insanity, with the highest
degree of dementia but without the least violent reaction, which, according to Tuet, should occur exclusively upon the physical substrate.

According to Reynolds, mental failure in epilepsy would seem to depend upon a peculiar condition of pain induced continuously, with that which is the cause of the paroxysm. "That the cause of mental "failure," says this writer, "is not identical with that "which induces the attacks, is evident from the fact "that intellectual integrity of some who suffer severely "from the paroxysms, and from the absence of all direct "evidence between the degree of impairment and that of "intellectual integrity of some who suffer severely "from the paroxysms, and also from the absence of all direct "evidence between the degree of impairment and that of "mental integrity." It is however obvious "that the attack is to be inferred from the fact that the degree of failure goes far beyond "proportion to the frequency of the latter, and we may "further infer that its relation is more close to that "element in the causation of the attacks which induces "loss of consciousness than to that which causes the "convulsions, since it is with the latter only that "intellectual deterioration is associated more usually "than with the violent paroxysm."

For these reasons, I think we shall be nearer the truth if, instead of attempting to establish any immediate relation of cause to effect between the psychoneural physiologic paroxysms, we regard epileptic insanity as one of the manifestations peculiar to the spasmodic neuroses, recognizing its essential source, not in this or that kind of fit, nor in their frequency, but in the very pathological element of the disease.

Unconsciousness with an excessive reflex susceptibility to external impressions displays itself as the chief
characteristic of the psychoneural as it does of the physical paroxysm of the disease forms as it were a connecting link between the two. If we examine into the mental phenomena accompanying epilepsy we find there is 1. An elevated susceptibility to external impressions
2. An aura affecting some of the external senses but not necessarily connected with these impressions.
3. Cases of automatism or the performance of automatic acts 5. An abrogation of consciousness during all these conditions 6. Partial subjugation of powers of which the patient alone may be aware by dementia. And though these conditions differ widely in degree duration vary not necessarily but in every case, still, in whatever way they are combined however brief they may be, the characteristic-psychoneural element to bear in mind is the imperfect or suspended consciousness. In the same way there is a cessation of that thought function which regulates our rational acts, of which the brain takes cognizance, which are preserved by memory.

In answer to the question, does epilepsy necessarily entitle insanity? I think the general evidence is to show that while there is no necessary connection between the two, yet that in the large majority of individuals in whom the disease persists after puberty the mind does sooner or later become seriously impaired. There may be, it is true, to certain numbers of those subject to the disease who pass through life without suffering any sensible diminution in their capacity, power; but even in these, though symptoms of insanity actual insanity may never explicitly show to a sufficient extent to warrant restraint
In an asylum, the occurrence of fits tends to bring about important modifications in their moral and intellectual condition, the effects of the disease being manifested in a diminution of the power of self-control, in a perversion of the moral, the intellectual, the excessive irritability of temper, and general instability of character which seriously affect them in their social relations of life.

The presence of insanity usually implies an advanced stage of the epileptic malady, but it may arise some time after the onset of the disease. In some cases the occurrence of a train of mental symptoms, essentially epileptic in their nature, may be the first indication of the existence of epilepsy. Insanity, however, seldom occurs before puberty, as proof of this may be adduced by the age of any child epileptic. In one institution with which I have been connected there were between 500 and 600 epileptics, there were less than 4 who had not reached the age period of puberty before admission. This reason for this I think is not far to seek. So long as the brain is growing rapidly, the faculties of the mind may go on developing in spite of the occurrence of the fits, though less perhaps to their full extent; if the child, though he may be somewhat backward, wayward, peculiar, still finds himself as well as bodily stature, it is only after puberty has been reached when facetious becomes slower; the skin is insensible, that the brainful
Effects of epilepsy upon the mind manifest themselves. Then it is evident the disease causes obvious dislocations and delays in the decay of the brain's faculties. The intellectual disorders observed in epilepsy may, for the purpose of description, be divided into 3 principal categories:

1. Those which manifest themselves in the interval between the attacks, and constitute the habitual mental state of epilepsy, or those which occur temporarily, before, during, or after the attacks.

2. Those intellectual disorders due to new formations which, coming on in paroxysms independent of those convulsions or urticaria phrenica, must especially deserve the name of epileptic insanity.

Of the first class belong all those cases in whom there is no complete recovery of intellectual soundness between the paroxysms, but in whom mental deterioration persists throughout from not essentially modified by the recurrence of their fits. In these patients, imbecility and dementia a range of symptoms very similar (at least in the later stages) to those of General Paralysis of the Insane are more noticeable than the unconsciousness with excessive irritability, sudden violent acts observed in other epileptics. So a casual observer many of the least afflicted among these would not perhaps appear to suffer any further effects from their fits beyond a transitory stupor and mental turbidity immediately succeeding the paroxysm; to these however, who have an opportunity of observing them for any length of time, it soon becomes evident that they are the subjects of

...
Mental deterioration. These mental changes exhibit themselves in an extreme variability of temper disposition.

In the average irregularity in the state of their faculties as well as in the degree of their intelligence.

These irregularities of feeling and intelligence are necessarily reflected on the part in the action of such patients, only the cause of the excessive variability in their behavior to those about them.

The history of these individuals is often somewhat as follows: For a certain period perhaps of their lives they are laborious, punctual, attentive to their duties. Those who live with them or who employ them find their increase of capacity are pleased with their service. But at other times their conduct becomes suddenly modified. Presents the greatest irregularity. They are then incapable of fulfilling the duties confided to them. Become negligent, lazy, indolent, they forget the most elementary things, waste their time, wander here and there without aim or object in view, are themselves conscious of the deficiencies to their ideas. The most deplorable tendencies. The worst inclinations of themselves in them at the same time. They become lazy, slothful, pick up quarrels with those around them, complaining of everything. They are very easily irritated by the slightest cause. They frequently commit sudden acts of violence, which in most cases have been the excuse of prosecution on the part of the victims to these acts.

Such patients, though they may, at first exhibit gross symptoms of insanity, are, for the reasons just detailed, incapable of taking care of themselves or...
Learning a childhood. In other words, they are incurable, such as are pretty sure some of them to find their way to an asylum.

From simple imbecility, they may go on to a state of more or less complete dementia. This condition is the natural termination of epileptic as of all other forms of chronic insanity. In it the various faculties of the mind are all partially or completely obliterated. The individual has in many instances a purely vegetative existence. The memory appears to be the faculty which is most frequently the earliest affected. The character of the change is this, that the individual, though capable of recalling some impressions especially those received in periods of some passing, is not able to remember the little events or circumstances of the day. The hour before D. F. Turnau offers his failure of memory for recent events to the want of power of attention excited by the patient. He says: "The change in mind consists "in defective memory of the past but in the idea "a facility for attention on receiving the influence of "present external agencies which are in a different state" of the cerebral organization produced on "change effect upon the sensibility of that of sensation, "perception." But attention is obviously an act of the will, its defective power of attention modifies itself into impaired condition. The epileptic may have a power of will which is ascribable to which any one who has had to do with them can testify, whereas, otherwise that will at times to the extreme of obstinacy, yet his will is inspirative in the little affairs of daily life these make no impression upon him. The secret of this loss of memory lies in the loss of power or desire of the
advice being too liable to call into exercise the violent
very act of attention, impressions derived from which
are but faintly registered in imperfectly examined
But while the hallucination is the faculty most frequently
at least it is not the only one affected. We find the
unwillingness of such individuals, defective. Any association
ideas becomes to them difficult or usually beyond
their power; while their powers of determination is lost,
attailing a want of negative in their actions the loss
of control over their functions, sensations,
These remnants individuals are much more to wander
up about aimlessly, reflecting all sorts of notions
which they see come, in the recesses of their garments
coveringly indrap round their necks. If spoken to they
only reply with a vacant stare or perhaps will repeat
the word or phrase addressed to them. This "echo" as
it has been called, or word or phrase addressed to
them or present in their mind is, it may be said,
and the liberation of the present will impulses.
The phenomenon renders itself very evident in the writings
of the epileptic while at rest. Confirmation of the
Automatization Repetition of Movements Intellectual acts so
peculiar to epilepsy, the worst cases are exceedingly
disturbing in their habits; they eat ravenously have no
control over their evacuations, this latter failing being
here the result of apathy or often will than the
 sphincters. Hence we find 'many' of the "lost智力"
cases in hypsaeus are epileptics.
The second class of mental disorder embraces
the which exhibit before, during or after the fits
when occurring before the fits they may proceed
thereby by an interval ranging from a few hours to a
few days. They vary very much in their nature, but, whatever form they assume, they are, as a rule, invariable in the same patient; that is to say, in a given individual the same symptoms occur before each successive fit or series of fits. So true is this that in many instances the patient or their attendants know at once from these prodromal signs that fits are impending. Extreme irritability, if present, is a very common precursor of fits. It may last for several days and amount sometimes almost to mania. An acute attack of mania is however rare immediately before apoplectic convulsions. It generally culminates in a single fit or in a series of them. It is remarkable that the occurrence of these signs in any instance to relieve the mental disturbance, the patient, after remaining for a varying period of time in a state of torpor, springs from this condition in a normal state of consciousness. This is more especially likely to happen if the patient sleeps after the fit. In some cases the occurrence of fits is foreshadowed by various eccentricities of conduct on the part of the patient. One, for instance, who is usually gay and sociable becomes suddenly, unaccountably, sullen and despondent, setting apart his fellow-patient, resisting any attempt at conversation. Another will exhibit an exact opposite demeanour, becoming irascibly, irritable, quarrelsome, officiously meddling with his neighbours and finding himself upon every possible occasion. Others again appear to be dominated by intense religious sentiments, often associated with erotomania. They will recite verses from their Bibles, sing hymns, repeat prayers in the least
ostension, manner. Perhaps the most tryin of all is the genuine, special patient who is always complaining and whining like a spoilt child, never satisfied but always complaining of somethin or somebody. They are often suspicious of their neighbours. I remember one man who when he felt "fit" would invariably place his treasure in the safe. Keeping one of the attendants watching, they might be stolen from him. While in a fit, they are often at some trouble to find a secure lodgin place for their belongings. After they have recovered from the paroxysm, may be accused of some neighbour of stealing them from their person, being themselves totally oblivious of what they did immediately before the attack came upon them. One might add infinidly to the catalogue of strange acts performed by some of them in their so-called "fit" condition. The theory of sponorictics which have already been mentioned as characterising many of them are constantly involving them in trouble with their neighbours and lead to acts of recrimination. It needs almost the wisdom of Solomon to be able to settle their numerous petty differences to the satisfaction of all parties.

Hallucinations, especially of sight hearing are very common in these profoundable states; it is important to remember that these hallucinations are frequently associated with ideas of violence or terror. Thus, it is not uncommon to see extreme and distorted on the countenance of some patients just before a fit. They will often tell you that they felt overcome by a Sense of some
Inciting character which they may not be able to relieve but which is sufficient to account for many of their actions. One portrait will run as if to escape some imaginary danger, and then is impelled to take hold of some one as if for protection. They will often bring unfounded accusations against their attendant, falsely patient, giving the cause of bruises and other injuries they may have sustained during a fit. Many after acts of violence may I think be reasonably looked upon as acts of retaliation for imaginary wrongs done them.

As already mentioned, when the convulsive paroxysms have assembled themselves, the psychological atmosphere (if one may use the term) seems sometimes to be cleared by the storm. The patient may, after a certain period of protection, return to his usual mental state; but though the fit may occur without resistance, in others the fit is followed either immediately, or after a short interval, by an acute attack of mania, which, for violence and destructibility, is unequalled by any other form of insanity. The distinguishing features of epileptic mania are the extreme suddenness of the onset, termination of the attacks, the violence and impulsive nature of its acts, and its short duration as a rule. But though of short duration it is sometimes most dangerous in its consequence. While it lasts, the most fearful crimes have been committed during attacks of epileptic mania. These patients admittedly constitute the most dangerous class of lunatics. When in
Their excited state. They will sometimes make
that unprovoked assault upon inoffensive indi-
viduals, who may happen to come in their way,
notwithstanding the impulsiveness which character-
tizes their act as a crime. Cases are on record
of deeds of violence committed by epileptics which
have every appearance of being the result of
premeditation. This naturally has an important
bearing upon the medico-legal aspect of epilepsy,
invoking as it does the question of responsibility
for their actions in the sufferer from this disease.
It is not my intention in this paper to enter
upon any discussion of the legal relation of
epilepsy. It is a subject upon which there has
been much controversy between jurists and med-
ical men upon which the opinion of experts
are still far from being agreed. It has been alleged
by jurists that those who plead irresponsibil-
ity for epileptic crimes for them on that account exemp-
ted from the risks of the penal law, are principally
those who have been associated with the disease
in the sense that their views do not represent the
opinion of the medical profession at large. This
may be true, but it is, I think, not be-
cause medical men in epilepsy allow any
lack of feelings of humanity to bias their judg-
ment, but because men in their fitter natu-
rally rely on specialists in their subject oppor-
tunities for studying the mental aspects of the disease
which are denied to the uninitiated. Bearing in mind the reflex nature of the physical
t mental phenomena incident in epilepsy it follows as a matter of course that epileptics should be regarded irresponsible from criminal act com-
mittent under the influence of a paranoid. Those familiar with epileptic know that the majority have no knowledge or at least a very imperfect idea of their undue such state of unconsciousness being the chief characteristic of epileptic insanity generally. The uncertain condition which exhibited to a high degree in epilepsy wind, however, peculiar. It for we observe it more or less in other forms of insanity, notably in somnambulism. Before, therefore, we can fully appreciate or decide upon the nature of any acts perpetrated during an alleged condition of epilepsy it is indispensable to have a clear demonstration of the above-described phenomena. Even under such circumstances, in the present imperfect state of our knowledge as to the precise nature of the epileptic condition involved in epilepsy, the difficulty in determining precisely where responsibility shall end irresponsibility begin, is great, each case must be decided upon its own merits.

I have thus hitherto of the above mental symptom associated with epilepsy which I have placed in the 3rd category, viz those which occur periodically in no proximate connection with any act of fraudual or petit mal. This is the epileptic katatonic marked epilepsy of Mowat who was the first to point out these true epileptic origin of such attacks. This would observed in certain individuals in whom
there were no manifestations of the ordinary internal symptoms of epilepsy, periodic attacks of it.

These were of the nature of the attacks of mania so often associated with epileptic seizures. They occurred very suddenly, were very violent, while they lasted, terminating as suddenly as they commenced. They were followed by the ordinary epileptic mania by a period of prostration. Such cases he found moreover often developed later or true epileptic seizures thus confirming his views as to their real origin.

The discrimination between these attacks of mania, manic or masked epilepsy, the forms of mania, is rendered very questionable account of the antecedents of the patient. The insomnia, for instance, which is a symptom of a constitutional nervous disease, is attended to in temperance, an extreme susceptibility to aui with strange peculiarities of character, mental depravity, failure of mental development of the intellectual faculties, in addition to the usual fits during infancy or adolescence with subsequent bouts of fainting, are elements of disease which indicate the true epileptic nature of many transient instability or mental disorder that has occurred without variation or with such a complete resemblance to the preceding paroxysms as we notice its exceptionally many the kind of mania.

Pathology. In inquiring into the manner in which epilepsy operate upon the brain so as to produce it is necessary first briefly to consider
What happens during the various stages of the paroxysm which characterizes the disease. In the 1st stage, there is an increased irritability of the medulla oblongata in which the dissection consists, leading to spasm of the vessels of the brain with temporary deprivation of blood to several portions of the nervous elements very similar to their healthy activity. In the 2nd stage, in which coma supervenes, there is a blurring of the picture of the muscle of the neck, stimulus of the muscle, respiration, we may have the breaking up of the structure of the brain by a multitude of minute vesicle-like cells. In the 3rd stage, in which coma remains, we have poisoning of the brain by imperfectly related kind in these nervous conditions of the brain corresponding with the steps of stage. The epileptic attack are contained the origin of all the pathological alterations in the central nervous system found in connection with epilepsy. It must be understood that the change which come under operation in the posterior horn of the ependyma is necessarily chiefly associated with advanced cases of the disease. Since these mental complications which are held to justify the deprivation of liberty are not usually developed until epilepsy has held possession of the nervous system for many years, the life is often far protracted after seclusion in an asylum has become necessary. What then are the changes most constantly found in the brain of those epileptics who have labored
under mental aberration? Speaking generally they are the following: a hardening of the medullary matter throughout the whole hemisphere, dilatation of the blood vessels, or any action of the pyramidal fibres. These are not however found in every case; in very recent or very advanced cases they need not be looked for; in recent cases they have just been fully established, while in very advanced cases they are all found at least in a marked degree, because certain changes springing out of them have vitiated them. The serious failure of brain power which is sometimes seen in very recent cases is to be traced, not to hypertrophy induration of the organ, to which the same kind of failure a little further on the disease is ascribable, but to a muscular perturbation analogous to what happens in consumption. The brain is suddenly thrown out of gear by the brain in the contractile fibers of the muscles that act time to recover itself before it is again charged by a recurrence of the disease. This is also seen true to be indicated by the fact that deep dementia has been observed to follow a series of attacks of petit mal in which no clonic convulsions nor central cataplexy occurred, but merely luminary unconsciousness with pallor of the face. It is a well-known physiological fact that pressure upon the brain leads to hypertrophy. This particularly, when the pressure is of an interrupted character, only produces time to time - continued pressure produces atrophy. We find the law exemplified little
effects of oppression upon the brain. The first effect of
the interrupted pressure which is applied to
the brain appears to be a genuine hypertrophy
of the brain matter in the brain and in other organs, is manifested
chiefly in the connective tissue. A kind of
phlegm substitution slowly but surely for an
infinite time which are periodically subject
to capillary thinning. We see evidence of this
in the thickening of the bone of the skull, in
the coarse hair under the skin covering the head
weeks in epileptics. I may here mention, in
respect of this hypertrophy of the tissues, that
scalp wounds heals with great readiness by
REFERENCES in epileptics a fact most due to
the increased number of blood vessels engendered by
the hypertrophy. I have had frequent occasion
to verify this subject as these patients are to
violent blow bruises of various kinds, can
only average the comparative uniformity they
enjoy from pressure of the skull to a correspond
less increase in the thickness of the bones.
The brain of a chronic epileptic is constantly
dense and hard. When cut it feels tough to the
knife; the gray matter is darker in color.
The white substance muscling in appearance;
while the convulsions are flattened. The sulci,
instead of gaping as they usually do contain
this fluid, are become more lines. In those
in which a series of attack has immediately,
precedes death there may be a sported bunched
appearance of the medullary substance, while
in the very advanced cases there may be some atrophy or wasting with sparsity of the cerebral
the atrophy being due to the contraction of the
hypertrophied fibrous tissue.
It will be seen that the above post-mortem ap-
pearances do not tend much to point upon the
precise nature of the cerebral change upon which
mental failure depends. They show however,
that the nutrition of the cerebral cortex does in
some cases become impaired. The influence
from symptoms could not be the same effect
the impairment is due in all probability to the
changes at which the epileptic condition indue
upon the tissue through the vascular system.
The circulation in the brain proper is under the
control of that portion of the reticular centre in
which epilepsy has its seat through change in
the latter the former becomes deranged.
Anoxia of the brain is the essential pheno-
menon of the point noted. Situs, followed by the
toxic effect of the veins blood, is also present
in the fraud real; yet persistent mental failure
does not result from these parasymptomatic changes.
But the condition which cause these are to be
regarded as the source of that failure operating
slowly progressively as the disease does in human cases that commencing with its prem-
ance eventually the veins producing most makes
deterioration even before any parasymptomatic dys
phenomena have been observed.
Treatment. The treatment of epileptic insanity
proves itself in great measure into the treatment
f epilepsy itself, for we can remove the new, both which cause the convulsions and if we shall at the same time also remove the edema upon which the development of mental disorder depends. Reynolds has shown that mental impairment in epilepsy holds a close relation to the frequency of the seizures. Hence our first step in treatment should be to effect an diminution in the number of these seizures. To attain this, we may have recourse to drugs which exert a sedative influence upon the brain excitability of the reflex center in the medulla oblongata in which the nervous function consists.

Facile principles among such drugs is Brandy of Potassium. Dr. Clouston has in a careful series of experiment conclusively shown that the drug, administered in free doses of 30 to three times a day, very considerably reduced the total number of fits and reduced the severity of the fits. Even when subsequent to the complete elimination of the number of epileptic attacks, diminishing the nervous mental irritability and tendency to sudden violence some cases produced mental improvement even while the fits remained as frequent as ever. Opium is sometimes of service in quieting off the attacks, but it is doubtful if it bears any permanent influence. It must be given in small doses, either by the mouth or preferably by subcutaneous injection. In my experience, it is chiefly useful as a sedative for these numerous and severe pains and indescribable symptoms to which many chronic
spileptics are prone to mitisation of which renders their lives less burdensome perhaps than they otherwise would be.

Hypogastric juice in large doses by 3rd Feb fracture will sometimes quiet the maniacal excitement of the same may be claimed for Belladonna, Cannabis indica, but to a less extent other drugs are at best uncertain in their action. In the asylum in which I was resident the routine practice was to give a mixture of Quicksilver and Tincture Antimony to epileptics, but I could not detect any material advantage accruing from this method of treatment.

The old method of counter irritation in the form of blistering either to the head or cheek, though now looked upon as a somewhat barbarous treatment, was no doubt of service in many cases. It is a matter of common observation among epilepsy, in asylums that the existence of a large open wound or sore often while it lasts exerts an abnormal influence upon the frequency severity of the fit, the same may be said of organic disease such as pulmonary, pulmonary phthisis or, the fits sometimes disappearing entirely during the continuance of the disease but recurring again as soon as the "counter irritation", as it may be termed, is removed.

Even if we cannot hope to cure the patient much may be done to relieve his symptoms by attentive general health. Their diet should be carefully regulated to avoid any disturbance of the digestive functions. Regularly, meals, even at
Attention to the habit should be rigidly enforced. Warm clothing to protect the action of the skin is necessary. The patient should always sleep in a warm and well-ventilated room. A fair amount of bodily exercise is essential to a moderate exercise. The patient's mental faculties should be encouraged. A certain amount of recreation is beneficial. As to the mode treatment of epilepsy, it need scarcely be said that kindness, consideration, with firmness to more towards restraining their outbreaks than any amount of mechanical restraint, although this latter may occasionally be absolutely necessary both for the sake of the patient himself and those around him. I do not believe in indiscriminate seclusion, for from what I have seen I am sure that positive harm is sometimes done by the excessive zeal exhibited by some asylum officials to prevent the slightest seclusion appearing in the asylum records. Means for the constant supervision of epileptics are not being taken in most of our asylums but to be of any service the system must be thorough. The means of ascertaining the constant vigilance of the attendants should be efficient. I do not believe in having all the epileptics together in a large ward as is done in some asylums. I think that to 70 patients is the largest number that should be admitted to one ward. If larger than this, they become wilderness in which it is
Very difficult to maintain proper supervision. Fortunately, cases of suffocation of patients for
turning on the face in bed during rest are not
of common occurrence. But statistics seem to show
that the system of constant night supervision
has proved beneficial in reducing still further
the number of accidents from this cause.