"Emaciated, enfeebled" p 9

Insanity with paralysis aperverum with turant
was started because "not practised" in 10
inhabitants of insane centre affected
Depends on alcohol before death. x 20

General Paralysis of the

Insane

+ Phrenic +

John Meredith

Pathol. Anatomy of the last stage x 27,
what is the pathology of the first
Irregularity of the temporal, an ear indication?
132
General Paralysis of the Insane

The term "general paralysis" was applied by Calmeil to a certain disease which
Requien and "Robriquez" named "progressive
paralysis" and Bayle "chronic meningitis." Some
recent writers on the subject consider "progressive
paralysis of the Insane" as more applicable.
All these terms approach the truth to a certain
extent; but as will be seen in the sequel, none
of them convey a correct idea of the malady
which they are supposed to indicate. And
although the name I have adopted is a little
descriptive as any of the others, its being generally
accepted by Authors of the present day, renders it at least
preferable that I should also speak of it under that name.
Requil was the first who directed
public attention to it; but Delage was the
first who described it as a special disease.
So Bayle and Calmeil; however, is due the
credit of having first fully investigated and
clearly described the disease. He did in his
Treatise on "Chronic Meningitis" published in
1822; the other in his work on "Paralyses of the Insane" 1826 since the publication of which nothing of great importance has been added to our knowledge of the subject. Notwithstanding the numerous array of Essays, that have been written upon it.

I do not wish to conclude from this that general Paralysis is clearly understood. Indeed we have yet much to learn as regards both its causes, Diagnosis, treatment, and pathology.

It is a matter of regret that comparatively few only of the members of our profession understand any thing about general Paralysis.

How few of any of the young graduates of our Universities could either diagnose or say any thing about its character! And is this to be much wondered at since our Lecturers on Systematic Medicine seldom or never make any allusion to it in their Lectures, and the Disease is almost unknown in our Public Hospitals. Dr. Jane states that, excepting a few eminent Physicians in consulting practice,
And some medical men, who have from their position been frequently brought in contact with the inmates of our Asylums, he has met with very few practitioners who had a correct idea of the Disease."

In fact, there is a sort of tacit understanding among the general mass of the profession that general paralysis belongs entirely to the province of the alienist and possesses no interest for the general practitioner.

This apathy and want of interest cannot be due to the unimportance of the disease; nor to its rare occurrence. For the reports of almost every asylum show how cases are admitted far advanced in their progress, and past the period when recovery might be hoped for, the nature of which had not at all been understood by those practitioners who sent them in. The disease in a large majority of instances is confined to the male sex, and is found usually occurring about the middle period of life, when the mental and moral faculties are in

* Contributions to the Nat. History of Gen. Paralysis
D. Mac D. M. D.
their highest stage of development and most capable of appreciating moral and physical influences and impressions. Add to this that general Paralysis has hitherto proved fatal in almost every instance. I believe most people will agree with me in thinking that it is entitled to the most serious consideration of every Medical Practitioner.

That this ignorance should have continued so long is surprising, since the importance of the disease was nearly half a century ago clearly pointed out by Esquirol who appears from the following narrative to have clearly comprehended the nature of the malady. — A Gentleman had become irritable and easily excited at the slightest opposition had refused all medicines assenting that he was never so well or so happy. Dr. N. a Physician equally talented as esteemed took him to Paris and to Esquirol "I commit him to your treatment," said he. A most interesting patient who is suffering only from transient excitement. Your care and separation from scenes that
appear to augment his disorder will speedily restore him to health." Esquint conversed with this patient who told him of his projects for the future, of his present happiness, the acquaintances he and his family would acquire by their visit to Paris &c. &c. After half an hour Esquint was asked his opinion. It was that the patient would not recover; that he was incurable, and that he had not one year to live. At the termination of seven months that patient sank under a malady which at its commencement appeared trivial - insignificant in its character; even to be distinguished a physician as Dr. &c.

It is not (my wish) to occupy much time by discoursing upon points which are of much utility and matters of conjecture, but to write as concise and practical a description of General Paralysis as is consistent with the dimensions of this dissertation.

It is averred by many that general Paralysis is of much more frequent occurrence among civilized races.
Michael on Insanity
than it used to be. How far this statement is correct there has not been sufficient time for observing. It is however an established fact, that large and crowded towns send a much larger proportion of general Paralytics to Lunatic Asylums than rural districts, also that persons of excitable and lively temperaments are much more susceptible of it than those of an opposite nature. Hence probably is the reason why the disease is far more frequently met with in French than Italian Asylums in American than British.

Pursuant to a common custom in the profession, the Allenest Physicians are in the habit of dividing the progress of general Paralysis into three stages. This division of course is to a great extent arbitrary. The first stage is that which includes a period extending from the commencement of the disease—a period always of great obscurity—until an insane condition of the mental faculties.
The second stage extends over a period from the recognition of Insanity to the commencement of Fatuity and Dementia.

During this stage the patient generally enjoys good health and has often lucid moments, intervals.

The third stage includes a period from the commencement of dementia and fatuity to the inevitably fatal result.

In almost every case of general Paralysis there is observed a remarkable regularity in the succession of symptoms.

However it does occasionally happen that there is but slight mental disorder—beyond impairment of the memory. Still there is no doubting the character of the disease. Or death may take place during the first or second stage, owing to the accession of some other disease.

The causes of General Paralysis
May commonly be said to be powerful impressions on the mind usually of a painful character, such as appalling frights, death of relations or friends, loss of position in society, disappointment in marriage, domestic trials, commercial disasters, remorse for crimes. In addition to these, some cases have been attributed to exposure to wet and fatigue, cranial injuries, and opium eating.

The disposing causes are such as induce insanity and diseases generally. As regards intemperance and opium eating they may be looked upon as being the symptoms quite as frequently as the causes of general paralysis. But the unhappy oppressed victim, overwhelmed by anæsthetics is instinctively driven to drown his cares, though it be but for a short period, in intoxication or the dreamy delirium of narcoties. "It is a remarkable fact," writes Dr. Shaw, "that a disease which as we shall see depends upon well-marked changes in the brain and its membranes should
be produced by Moral Causes, yet it seems undoubted.

General Paralysis is eminently hereditary in its tendency.

Before proceeding to describe the various stages of general Paralysis, I shall here speak briefly of the most probable view of the pathology of the disease.

In general Paralysis there is no paralysis such as is met with in Paraplegia, but a want of power to direct and co-ordinate the movements. Its essential characteristic is this: Kind of Paralysis, as manifested in the walk, the speech, the contour of the face and irregularity of the pupils—gradually advancing—indicating its presence more and more distinctly.

In this state of Paralysis in most cases are added mental delusions of a characteristic nature. Paralysis however may and most unfrequently does run through all its stages without manifesting any marked mental disorder beyond a gradual impairment of the faculties.
the theory that the disease is essentially an insanity complicated with Paralysis, and not a Paralysis, as I have laid down complicated with insanity.

It would lead far away from the plan I have proposed to myself to discuss this question—since it is impossible for one to treat of general Paralysis at any length in a thesis, the dimensions of which must of necessity be within a certain limit. I prefer to enter at once into the consideration of the more practical aspect of the question.

The first stage of the disease usually manifests itself in this manner: there is neither hammering nor hesitation of speech, but a certain thickness which may be observed in a normal man which depends upon the power over the coordinate action of the muscles of local articulation. In many instances the speech of the Paralytic is fluent and even clear except in the pronunciation of certain words which require the near and precise action of the muscles of speech. Words compounded of local sounds are distributed.
Consonants, are articulated with correctness, but words composed of numerous consonants with few vocal sounds are articulated in a shuffled manner which is perfectly characteristic. The patient may even possess the power of articulating these words correctly if he purposely attempts to do so. But if the examiner holds him in conversation for a few minutes the ear will infallibly detect the slight but fatal symptoms of incurable disease" (Dr. Baxende) — there is also frequently observed gradually increasing mental irregularities. The person is unusually liable to fits of excitement, or it is equally significant when he becomes unusually happy and contented.

He will often collect bits of glass or any rubbish and secretly them about his person or in his desk, under the belief that they are pearls, or that they contain gold. They can be detected by such a notion by either reason or ridicule.

As this state gradually progresses, there is observed slight tremors of the upper lip, usually more on one side than the other.
The mouth is broad, straight, unshelled, and devoid of its regular curve; the pupils become irregular, or they may be so from the very commencement, asymmetrical, or contracted, and insensitive to light. Sometimes the aperture is scarcely larger than a pin point: Nevertheless there is no diminution of the power of vision. The tongue becomes large and flabby, and is often protruded (not in the mesial line). The gait is fable, straddling, or devious. The patient instinctively widens the base of support.

In the majority of instances the symptoms which first attract attention is some mental or moral irregularity.

There is observed a wandering of the mind, slight at first and perfectly under the control of the patient. He can conceal it whenever he likes. After a time this wandering tendency will pass off and the person will move in society without indicating any irregularities, but sooner or later these will return and with a mind marked character. He is now unable to control them, and soon, that which at first was considered but a mere
whence becomes an established delusion: or he may appeal his friends by some extravagant act in which their comfort and happiness are involved. As occurred in the case of the late Sir Henry Moore, who after showing a series of slight mental and moral irregularities, suddenly altered his will, by which act he purposed to alienate from those who had the greatest claim upon him nearly the whole of his vast property.

Often does it happen, that a person who has been known as one very retired in his habits, of bashful modest demeanour becomes incoherent and seems to overshine with animal spirits, but whose memory when closely observed is seen to fail and diminish in power. His conduct and manner become boisterous. The individual himself will often avow that he is endowed with extraordinary strength both of body and mind. Thus it is constantly observed that as this stage advances, as the memory becomes more and more impaired, his estimate of himself increases in proportion. She one goes on
Paul Passew in the inverse ratio to the other, bringing the unfortunate victim to the verge of positive delusions.

Dr. Tuke states that general Paralysis is in many instances ushered in by epileptiform convulsions, which in many respects resemble the Petit Mal of French writers. If these fits do not occur at the commencement, they are sure to occur sometime during the progress of the disease and their occurrence makes the diagnosis at once decisive. Since no matter how slight the fits (they may be), they are generally followed by great mental excitement and fury, totally unlike the sequelae of the Petit Mal.

I have myself had opportunities of noting the occurrences of these attacks at all stages of the disease and they have so far as my experience goes been preceded by more or less excitement. It would not be safe to pronounce a man a subject of general Paralysis from any isolated symptoms, either Mental.

*Journal of Mental Science*
or physical: but a few of these occurring in a certain order would leave in the mind of a practised observer no doubt whatever about the nature of the case.

The second stage is essentially a further development of the first, and the distinct line can be drawn between them. The face wears a leader aspect very significant in its character. When the person laughs, the angles of the mouth are drawn directly backwards, while the upper lip flaps heavily against the lower one. At this period in those cases where general paralysis is accompanied by insanity, this last appears in a most characteristic form. The patient no longer hesitates to avow his delusions or perform any act that he may be compelled to however egregiously wrong it may be. He is insensible as well to the remonstrances as to the sympathies of his friends. If he be still allowed to have the charge of his own affairs, he is sure to squander them in rash speculations or bring them speedily to destruction.
The moral character of the man at this period assumes a painful aspect. Many a time has it happened that men known and esteemed for their charity and uprightness have while under the impulse of this malady turned their own families out of doors and openly entertained prostitutes and swindlers in their stead.

If the victim be a medical man as is not infrequently the case, he is captivated by every new theory of medicine that comes in his way, easily adopts and as easily abandons them. He is very apt to boast of his wonderful success in curing diseases which are generally regarded as incurable—when in reality he has been particularly unsuccessful and committed some disgraceful mistakes. And he talks loudly about great personages coming to consult him for which there is no foundation.

Delusions of greatness are so common among general paralytics that the symptom is considered almost pathognomonic.
The individual believes that he is the best singer in the world, and constantly torments his friends by bawling matches of tunes in a most discordant manner. He rarely can sing any one tune from beginning to end. He buys musical instruments and books. He sets about to learn how to play but as might be expected with very indifferent success.

He is easily persuaded to purchase anything he ever sticks at the price for he will assure you that his wealth is unbounded. He is ready to offer thousand of pounds for any charitable purpose. He states that all the money in the Bank of Scotland belongs to him. He made the Bank. He made all the banks in the country. The world is his, he made it himself, and as his mental faculties are capable of conceiving yet a higher and a more glorious being he at last declares that he is God on high. He walks about his room with an air of high dignity, repeating in a solemn tone: "God on high! God on high!"

Notwithstanding these pretensions
Delusions, and out of which he cannot be 
reasoned; he will readily obey any simple 
command, and express his gratitude for 
any slight favor, and in many instances 
he does not hesitate to engage in the 
most menial employment. This willingness 
to obey orders is quite remarkable. Often has 
it happened that persons suffering from 
either acute mania or hypochondriasis were 
correctly suspected from this symptom to 
be subject of general Paralysis. Since in 
these Maladies uncomplicated with general 
Paralysis there is never manifested such 
a complying and docile Spirit.

He is full of schemes for the 
benefit of mankind; the feasibility of 
which he advocates most strenuously 
and back's them up with offers of an 
unlimited supply of money.

However feeble his health may be, he 
considers himself endowed with prodigious 
strength and capable of travelling like 

delightful with lightning-like velocity. 

No matter how he has been treated
he will say that he is and always has been so happy and comfortable. Every person is so kind to him and he fears on the best of every thing.

It never seems to him to enquire how those that were formerly dependent upon him are supported. Nor does he usually manifest any interest in their welfare.

Frequently during the second stage the Paralytic is seized with fits of Maniacal excitement generally following after a congestive attack. He does not rest either day or night for a week or more. Is constantly shouting or discussing some all important question in a violent manner with imaginary beings tearing his clothes to tatters. During this state he is utterly indifferent to cleanliness warm or cold. Although he does not express a wish for food yet when it is presented to him he eats it voraciously. When the Paralytic fever has passed off the patient is found in a very emaciated and exhausted condition requiring great attention to prevent his sinking under the intense reaction that usually follows. After a while he will rally.
pray attention to cleanliness, ask for his food and even grew fat; but the obesity has not a healthy firm consistency about it; on the contrary, it is flabby and soft. It seems that adipose tissue is deposited instead of muscular substance, owing probably to the low degree of vitality existing in the system. Upon this however, the patient (principally subsists during a Maniacal Paroxysm), as he usually becomes emaciated during such attacks.

Sometimes at the commencement of the second stage that patient so far recovers as to abandon his delusions, become quite coherent in conversation and indicate an ordinary strength of intellect when tried only by certain patent and upon certain topics. Often during this lucid interval the patient has been removed from an Asylum by his friends who firmly believed that he had been completely cured; but in almost every case the Malady has returned.

Dr. Shae mentions a very interesting case to the point. It was that of an officer who entertained the most extravagant delusion "Contributions to the Natural History of General Paralysis"
such as that he had been punished by the Queen of Spain, that he was an exquisite singer and popular novelist, and that he was possessed of enormous wealth. His speech, gait, and features presented all the distinctive characters of general Paralysis. After a few months treatment he appeared to have recovered his sanity completely. His wife and other friends were convinced that he was as well as he had ever been at any period of his life. Although warned by Dr. Hare that he would relapse and advised to sell out (the commission being then worth about £1,2000) they would not. On the contrary so confident were they of his recovery that they applied for an extension of his leave. The anxiety as to his getting his leave extended quite upset him. He became depressed and melancholy. He complained of formation of the stones. Soon after he received an extension of his leave he was seize with epileptiform convulsions which continued without almost any intermission till he died. It is highly probable that many of
the cases alleged to have recovered are neither the
more nor less than such as are just narrated—
going away during the interval of improvement
and are not again heard of or are suddenly
cut off by an epidemic disease.

The physical aspect of the disease during
the second stage is not always one of elation
and large delusions. Occasionally there is
met with a deep melancholic depressed
condition. Despondency takes the place of
hilarity. He contemplates every body with
an air of suspicious, and distrust—and
delivers that his relations have leagued
together to persecute him.

In some rare cases there is neither
the one nor the other of the above condition.
On the contrary the patient seems to be in
the wonted state of mental Religious and
social bearing with exception perhaps
of a slight degree of irritability and
impairment of the memory as above
stated.

As illustrating the mental aspect in
both cases taken post o s eminately I submit tabular
form of M. D'Herme de Boismonet

1st Variety - expansive form - mania of riches and grandeur - predominance and persistence of these ideas - 20

2nd - exaggeration of the ego - contentment with every thing - satisfaction - exhibiting now and then ideas of riches and grandeur - 22

3rd - mania of grandeur and riches - with long intervals of apparent lucidity - 10

4th - double form expansive and oppressive with ideas of riches and grandeur - 12

Nevertheless let the physical symptoms be what they may, the physical indications are decided and unquestionable and sooner or later the insidious disease progresses towards helplessness and idiocy a condition during which ...
is difficult to say whether the person is more to be loathed or pitied.

III Stage. I now come to the consideration of the third stage which like the second runs insensibly into the one preceding it. Having followed the unhappy victim of general paralysis from his inconstant eccentricities through his fits of excitement to his present unenviable condition. It will still be seen that the same great character runs on through the whole course as long as his strength will enable him to stagger about, muttering his words or muttering them monotonically with great energy. His delusions are more firmly rooted and over the same and partly a clear interval can be observed.

In the midst of all this he will assure you in a muffled babble that his health is excellent, his strength extraordinary, his intellectual powers surpassing those of the greatest philosophers. His political views and strategical knowledge such that kingdoms tumble at his behest, while his feeble body shows symptoms contrasting
Sadly with these pretensions. He is particular
badly with these pretensions. He is particularly apt to sink under a slight attack of bodily ailments at this period. Moreover extensive eruptions are produced by slight means, so that persons not acquainted with the fact that Paralytics have a very low state of vitality and are consequently very liable to bruised appearances from trifling accidents, would naturally suppose upon observing them that gross violence had been used towards them.

Unless suddenly intercepted by an accessory disease the general Paralytic passes most of his time in bed during this stage. He lies almost in any position he may be placed.

The contour of the face has a very characteristic appearance. Lips hanging heavily opposite one another, angles of the mouth running directly backwards, tongue flabby and thick, rolling about in the mouth and cannot be extended forwards. Speech seldom intelligible. Papils either very much...
Contracted or dilated and insensible to light. Yet when the patient attempts to smile, the eyes seem to sympathize. More than any other feature with the emotion. So extensive are these over the face, and the chamois and trachon, and other parts, on which he may be resting, ulcerating down even to the very bones. Wounds on any part of the body are very slow in healing. Sensibility is very much diminished all over the body. No matter how extensive these sores may be, it is almost certain that the patient suffers no pain or at least very little. In fact, he appears indifferent to both pleasure and pain and indifferent to all consequences. Often there remains not a trace of intelligence and the individual can be looked on only as a vegetating mass. There is also presently noticed at this period a very characteristic symptom—namely, grinding of the teeth. It resembles most of all the grating of a steel file or the cry of a crow or raven. The patient is seldom aware...
of what he is doing, and if charged with it, he will pretend he has any intelligence left; deny the act or acknowledge his inability to stop it: The long monostony of this sound is particularly distressing to listen to.

There is toward the latter part of this stage an inordinate tenacity and contraction of the diaphragm muscles of the body—contrasting remarkably with the flaccid character of other muscles. The head seldom rests on the pillow but is bent forwards and the arms are nearly doubled upon the abdomen. The hands grasp somewhat, pull the bed clothes about the head after chewing them into the mouth. The patient seldom becomes much emaciated as he takes his food well and occasionally to even to the last hour of his life. It is seldom that he expresses himself satisfied no matter what quantity of food has been administered to him. He is very liable however to be choked by large morsels of food and great care must always be had in administering
A real cataleptic condition sometimes accom-
panies these convulsions.

I have noticed repeatedly that as the

disease is approaching its termination the

patient shouts and screams loudly especially

at night, but he seems to be quite unconscious

of it.
The immediate cause of death in most cases is either a slight attack of diarrhoea or bronchitis or a series of congestive attacks which keep the patient in a constant state of coma. In some instances these convulsions are so intense that the nasal apertures are closed by muscular contraction and if very speedy relief be not afforded death by suffocation will ensue. The lips are also closed but the saliva is not worked into foam as in epilepsy. Respiration is very spasmodical—occasionally during the fits the pupils dilate and contract irrespective of light and assume various forms. When the congestive attack has passed off, they again become susceptible of light.

Pathology. The Pathology of general Analyses is perhaps better understood than that of any other Psychological Disease although much remains yet to be cleared up connected with it.
No doubt the brain becomes affected before the mind becomes affected and before the physical irregularities take place. It is evident also that the paralysis affects those points of the brain which are subservient to sensation as well as those which belong to locomotion, since the individual feels, sees, hears, and perceives odours and appreciates different tastes, but all in an imperfect manner; every individual organ seeming to share in the general ruin.

The immediate pathological appearances found by dissecting the brain of a general Paralytic are so well described by Dr. M'Kee that I have no hesitation in again quoting his words, especially as they are just what I myself have observed on several occasions. "In a very large proportion of cases there is found," he writes, "the evidence of a chronic inflammatory action in the membranes of the brain, consisting of thickening and milky opacity of the arachnoid membrane, a gelatinous thickening of the pia mater in porous effusion into the
subarachnoid cellular tissue or pia mater. In old cases this effusion is often very great, so as to cause obvious diminution in the size of the cerebral convolutions, and increased depth and width of the sulci; in short a general atrophy of the brain.

The membranes very frequently adhere firmly to the grey matter; but in those cases where there is a large amount of chronic effusion they can be readily stripped off.

The grey matter of the convolutions appears to be softer than usual in most cases, and can be readily stripped, shredded off, and washed away by a stream of water which will not affect a healthy brain. It is also more or less congested and in those cases where it is adherent to the membranes, a granular layer of the grey substance is generally stripped off along with them. The white matter of the cerebral is generally tougher and harder than usual; in some cases remarkably so. Whether it is soft and sometimes the fornix, septum lucidum and commissures are quite difficult.

The ventricles commonly contain a considerable
Sometimes a large amount of fluid; and their lining membrane is not infrequently studded with minute points which give the surfaces of the thalami and corpora striata a spotted and crystalline appearance. This morbid condition is occasionally observed on the arachnoid covering of the brain.

In microscopic examination, the nucleated cells of the grey matter seem to be much enlarged and of irregular form as compared with similar cells from a healthy brain. From this it will be seen that the principal seat of the disease is in the cortical layer. It is in this portion that alterations characteristic of inflammation, action are almost in all cases observed and in many cases there is no apparent indication of morbid condition in the brain. Perhaps, considers the disease to be essentially a disease of the cortical layer, extending in many cases to the meninges; since in matter whether there be adhesions of the meninges to the grey matter or not, there is sure to be softening of the grey substance.
Mr. Austin in his work on "general Paralysis," a work entitled to some consideration on account of its propriety of style and general accuracy of observation states that the optic thalamus are among the first portions of the brain affected, and the principal seat of the disease. Moreover he lays down a rather fanciful theory upon this statement. He states and believe correctly that among the earliest indications of general Paralysis are irregularities of the pupils; but he goes further and states that when the left pupil is contracted you have the corresponding optic thalamus diseased, and the character of the mental phenomena is fanciful and happy, with grandiose ideas. When the right pupil is contracted, the right thalamus is the primary seat of the disease, and the delusions are of the melancholic depressed kind; but when both pupils wax affected you have no delusions.

The cases adduced in support of his theory prove, upon Mr. Austin's own showing, the exception as frequently as
they do the law proposed. In those cases which I have examined I could not observe any difference in the size or character of the optic thalami except perhaps on one occasion when the right optic thalamus was a little larger than the left, but the character of the delusion was that of happy elation not depression. In all of them the mental phenomena were very well marked. In the few cases I have examined the spinal cord seemed to be perfectly healthy as were also its membranes.

Dr. Roberts states that in wasting paralysis the muscles do not contract under galvanism, but in general paralysis they do so perfectly. It is maintained by many that reflex action is diminished in general paralysis and in some cases even completely abolished. Whatever way this conclusion has been arrived at, I cannot but consider it a mistake both from actual observation and physiological reasoning. I have tried stimulation of the toes and soles of the feet in several cases while the patients were

*An essay on wasting paralysis by W. Roberts, B.A. and M.D. 191-2*
Adelep or in a comatose state, and in every one of them the reflex phenomena appeared not to be in the least diminished. In some instances not only did the arrested leg start, but the other also, showing that there was rather an increase than a diminution of the function. On physiological grounds that is just what we should expect, since all anatomists agree in attributing reflex action to the Spinal Cord, which is not commonly affected in general paralysis of the insane.

If reflex action were really increased although I am not yet fully prepared to say that it is, it would not be a phenomenon without a parallel in physiology, since such a thing has been observed and well marked in character in cases of hemiplegia and paraplegia resulting from cerebral hemorrhages into one or both sides of the brain. I do not wish that this retention of the reflex action should be confounded with the power of controlling the muscles of \_\_movement\_ action which may be entirely lost.
Having given in the foregoing pages a
brief, but in many respects a meagre and
an imperfect description of general Paralysis
I shall now submit to consideration the leading
details of a few cases that have been under my
notice during the last few months. For
nothing can be less satisfactory than a
long string of abstract statements without
any facts to illustrate them.

The first case is that of a Commercial
traveller aged 35 who had always been an
industrious and sober man, but had latterly
been accustomed to take opium and drink
rather freely. He had no hereditary tendency
to insanity. He was brought to the Royal
Edinburgh Asylum in June last, in a
state of furious excitement labouring
under the delusion that he had received
some injury at the hands of one of the
Professors of the University. This excitement
continued for some ten days. He talked
almost incessantly during the whole
Period and believed he had a number of
white horses ready for the races, which could
leap over trees and even fly into the air. He kept frequently breathing as the door of his room to let out his breath. He should be too late for the races. He imagined himself possessed of great wealth and large estates and that he was Sir T. H. Bart. He also believed that he had several spare heads on his shoulders, which were to take the place of his usual one when circumstances required it.

The physical signs of general paralysis were not very well marked in him when he was admitted into the asylum. He presented however, marked irregularities of the pupils. The left was much more dilated than the right. The upper lip quivered and appeared hollow and pinched. He had a slight difficulty in articulating at times halted in the middle of a sentence or even a long word. His walk was not appreciably affected.

During the maniacal paroxysms his habits were very destructive, as well as uncleannly. He tore his bed clothes to tatters repeatedly and even the padding of
his room was torn and destroyed. He used frequently to search under his bed for treasures which he fancied he had concealed there. Pottery, his chief delusion has been about his money which he says he keeps in the Bank of Scotland. He maintains that the bank belongs to him that all the banks in Edinburgh are his— he made them all. He says to use his own words 'I made the world. It all belongs to me. Oam God on high! Almighty God!' 

He has been amusing the last five months tolerably quiet and cleanly in his habits and is apparently enjoying good bodily health and has become quite stout, while the physical indications of his disease are becoming more and more marked. The next case is that of a tailor aged 30 who was admitted into the Edinburgh Asylum in February 1810. Some of his friends assigned the cause of his malady to an ill-assorted marriage, which he contracted about a year before his admission. His marriage was one not altogether devoid of a degree of peculiarity
It was a very sudden one, and with a person to whom he was almost a complete stranger, and it took Place, Moreover, immediately after he had broken off—without any rational excuse—an engagement of 5 years duration with a young female in his own neighbourhood. It is also stated, as might be expected, that he was always very hasty and passionate in his temper. He was never of robust health. He attended steadily to his business. It had been noticed that he was getting very irritable some months prior to his admission. One day while engaged in a dispute with his wife he suddenly fell in an insensible state, and remained so for a considerable time. After which it was observed that his memory was impaired and that he was indifferent to his business. He no longer was anxious about advancing his position in the world. Nor was he in the least assassaged at acts of extravagance on the part of his wife—which acts constituted him exceedingly before. He fancied himself 'the owner of large estates,' and offered...
fine situations with high salaries to all his friends. While all attempts at reasoning with him succeeded only in aggravating his temper and rendering his delusions all the more absurd. He gradually became restless, sleepy, and negligent, and constantly fumbling and twitching his limbs saying that he had a machine in his inside which was perpetuated at work. At this stage of his disease he was brought into the asylum. He was in a weak state of body, health, and very sensitised. Pupils of equal size. The expression of his face was interesting and melancholy. It was of a heavy, leaden character. Upper lip guivered even when he made no attempt at speaking. His speech was very tremulous and halting and his arms being awkwardly by his sides and his body was slightly bent. The gait was very uncertain and devion. He felt great difficulty in descending steps but not as much in ascending. When sitting and attempting to walk, he would raise himself slowly by giving his hands upon the arms of his chair, then as if measuring
his steps he would go forward tottering from side to side. He continued in this condition until November last, when he was seized with what are usually termed epilepsiform or congestive attacks. A little before their accession he used to shof and scream at the top of his voice, especially at night. These congestive attacks continued for three days. During which the patient was no sooner out of one than he was seized by another attack. When they ceased I observed that his right side was completely paralyzed and had a slight tendency to rigidity. These attacks occurred repeatedly during the period between this and his death on the 9th of January of the present year. For many weeks prior to his death he was unable to stand and was scarcely able to manifest a trace of intelligence and was alike indifferent to all unconscious of every thing around him. His body emitted a distinct odour even during life.

At the Post Mortem examination which I made three days after his death there
was nothing remarkable observed in the organs of the chest and abdomen beyond what might be noticed at ordinary post-mortem examinations. But in the head there was an appearance by the means of frequent occurrence. The dura mater was uniformly thickened and adhered to the Calvarium at several points beneath the dura mater and between the two layers (if there be such) of the arachnoid. A thick membrane, layer of brownish yellow colour and nearly a quarter of an inch thick at some points. It covered the whole of the cerebrum, but was not so thick at the base of the brain. It did not reach on to the cerebellum. A similar layer was thrown out on the outer surface of the dura mater in the middle section of the left side. When this adventitious membrane was removed, which was fairly done, as its adherions were very slender, the pia mater and arachnoid membrane were observed to be much thickened, had a milky appearance and adhered firmly to the grey substance of the brain and on being peeled off brought a quantity of the grey matter along with them.
The grey substance was divided into two well-marked layers by a whitish band. There was also considerable softening of the substance. The ventricles were much distended with fluid. Indeed the whole cranial fluid was very much increased in quantity. The fornix and septum lucidum were also very much thickened, but soft and almost inapparent in character. The grey matter of the cerebellum seemed much softer than that of the cerebrum.

The microscopic structure of the adventitious membrane referred to was simply fibrous with a few number of oily globules interspersed. Most of the external layers of the grey substance of the cerebrum was a collection of compound granular cells - of irregular form and various sizes - the smaller being the most numerous. The capillaries presented a series of only granules in their walls.

Remark. I am of opinion that the growth of the abnormal structure above described was a gradual process. For it must have caused no inconsiderable amount
of Compression of the cerebral substance, and of the Atrophic matter for its formation, was once at one time, and was not a gradual process; then we are at a loss to comprehend how such an occurrence did not prove fatal at once.

The complete dementia which characterized the latter part of the patient's life was doubtless due to the degenerated condition of the cortical substance of the encephalon.

It would be an interesting fact to know though a difficult one to explain what relation this adventitious formation bore to the twitchings and joltings manifest by the patient during the progress of his disease. These symptoms are by no means frequent in general Paralysis and equally rare in the Presence of such a Membrane.

Two such cases are mentioned in the Edinburgh Asylum reports. Bayle, in his "Treatise on Diseases of the Brain and its Membranes" gives a Society elaborate account of such a condition.

The third case is being nearly interesting on many accounts. It is that...
of a fleet bagman who is described as always rather short in his temper and liable to fits of exaltation. He lived in London for about eleven years. Five years ago he was suddenly called upon to identify the bodies of his brother-in-law and his brother-in-law's wife and child who were killed by a railroad accident in New York. The sight of the mutilated bodies deeply affected him. It was allotted to him to wound up their unfortunate relations affairs and it is stated that he set about it in a very business-like manner.

While at the same time his own work of steel-engraving was unsatisfactorily performed. He would often break out into fits of passion when the Row to upon the subject. In a few months he became quite incapable of working. His hands trembled so that he could not hold the needle. His conduct to his wife and children also altered. He treated them with harshness and often with cruelty. He took particular dislike to his wife relations and accused that they were the cause of his ruin. After a while his employers discharged.
him seeing that all attempts at improvement were unsuccessful. Three years ago he came home to Edinburgh leaving his wife and children in London in distressful circumstances—owing to his incapacity for work. His brother informed me that at this period he looked a—Markably young, and was boisterous in his manner—although he was 39 years of age. He was very irritable and suspicious. His speech was thick, often unintelligible. He was particular irritable on all money matters and imagined that every body was trying to take the advantage of him. Nevertheless on certain occasions he would be extravagant liberal—for instance—when a former made him a small table and charged 6/- for it. He said that that was not half enough, and at once gave him 18/-: He remained about 18 months with his relations in this neighbourhood and instead of getting better he gradually became worse. He never showed any feeling of happiness or contentment. He was tolerably free from all religious delusions until a short time before his admission.
On one occasion, he told his brother that he was "the God Jesus Christ" come to save the world and that he was among the elect. On another occasion he said that he had received a visit during the night from the "Saviour" who on leaving gave him a religious tract. He showed the tract to two friends, but it was only one that had been lying about the house for a long time. This of course he did not believe. He constantly carried this tract with him, keeping it in his hand when he took his food and sleeping with it under his pillow. One night, however, he started from his bed-shouted "Keep that paper out, he is an impostor. It is not Christ at all"—then seized his trunk, tore it, and tossed it away from him. Shortly before his admission into the asylum he offered some of his friends "five notes and plenty of money", as he had abundance of it in the Bank of England. When sent to the asylum in June 1857 he was certified to have meditated suicide, and threatened the life of his mother. To whom, ordinarily, he was much attached. On admission it was found that his memory...
was very much impaire. He believed that it was the year 1831 and that he was engaged in preparing prize articles for the exhibition. He was quiet and bedridden, but very uncleanly in his habits. The physical signs of general Paralysis were very well marked in him. In about six months after admission he became irritable and full of delusions. Gradually, patience, attention, and helplessness succeeded. Still, while in this condition of increasing debility, extravagant ideas held sway in his mind, for as long as he was able to crawl out into the garden from which the Blackford, Braid, and Pentland hills are seen he would presently one after another. He had been all round the hills "in heaven's favour" "heard heavenly music." During the last twelve months his appetite was most voracious and seldom could be satisfied. Latterly he was quite incapable of standing or even supporting a walk. Then he lay on his bed with the Bones drawn up to his chin; it made no difference to him whether he
was clean or dirty, wet or dry, cold or warm. He
remained unmindful and insensible to all
sensations. However occasionally when I asked
him how he was he replied that he was "fine,
quite well, all right," speaking with much
effort and after several attempts. A week before
his death he was seized with several epileptiform
convulsions but the palsy followed them as
happened in the case of the tailor. He lived
several days in a comatose state till death
supervened.

The pathological appearance of the
case were very characteristic. The body was
greatly emaciated and had several extensive bed
sores on the hips and posterior. Calvarium very
much thinned, and atrophied. Nearly
obliterated. Duræ Mater unusually thick
and adhering to the Calvarium at several
points. Four ounces of opaque fluid lay
between Duræ Mater and Arachnoid. The
Arachnoid over the upper portion of the brain
was excessively thick and gelatinous in
appearance, and the Viræ Mater completely
adhered to the grey Matter of the Brain.
The thickening of the arachnoid was not so well marked at the base of the brain. The gray matter had also a very characteristic appearance, softened and presented two distinct layers, the outer being the most degenerated of the two and paler in appearance. The ventricles were very much distended containing fluid of an opaque character to the extent of four ounces. Their lining membrane was also very much thickened and studded with fine granulations.

...these granulations were much better seen on the lining of the fourth ventricle. Optic thalami were both softened so much so that water washed away their substance readily. There was no apparent difference in their size. Septum lucidum was thickened and tough and firm enough to sustain a large portion of the brain. The soft commissure was also firm like a band and required a good deal of stretching to tear it. White matter was considerably congested and of flinty consistence.

The spinal cord presented the...
Apparent Mortal appearance. It contained
five ounces of opaque fluid

The fourth and last case I shall
mention is that of a man aged 58 who was
a Cooper by trade, married and had a family.
He was always very active and industrious
but rather reserved in his manner, and
massimous in his habits. The cause of his
disease is attributed to over exertion and
Anxiety. There was no hereditary tendency to
insanity in his case. He was brought to the
Asylum in August 1859.

It was noticed that about
a year before his admission he set about
his work in a very curious manner, was
forgetful and improvident, anxious about
his business, but too depressed to attend to it.
His whole character seemed infused with
an inexplicable amount of procrastination.
One might be thrust his family out of
doors under the idea that they were getting
him, and was suspicious of his wife. He
laboured under the delusion that he had
a valuable garden destroyed and was
Preparing to go to law about it, with some 
party, whom he could not either name or 
describe in order that he might obtain 
damage. He laid the damages at an enormous sum, 
and estimated his own wealth equally highly. 
On admission the physical signs of 
general paralysis were very marked and a 
short interview conversation disclosed the 
characteristic mental phenomena. His bodily 
health was good. He continued in a happy 
condition until August last, when he 
could no longer walk about, and bye and bye 
became unable to give a rational answer 
to the simplest questions. From that period until 
his death on the 25th of last November he 
laid on his bed regardless of every body and 
perfectly unconscious of his own condition. 
This appetite, as in all Paralytics, was however 
ever good. He would eat any thing and 
almost any quantity if allowed. Before 
long his legs began to swell and were 
formed on his shoes and he looked 
extremely lean, so to the very bones. A slight 
sore on his leg remained for some
weeks without healing. The flexor muscles of
the neck and arms seemed to retain an
inordinate amount of contractility. The head
rarely rested on the pillow except when it was
rather high, the arms were constantly folded
upon the chest, while his hands pulled the
bedclothes about his head. He tore them with
his teeth or thrust them into his mouth nearly
to suffocation. A very peculiar symptom of the
case was grinding of the teeth. It is difficult to
describe the enormal paresthesia of the face in
the case. The patient himself was quite
unconscious of the practice. An illustration
of the annoyances is sometimes causes I may
mention that a patient usually quiet and
unrestful who slept in the same room with
him, got out of his bed one night considerably
wraged and dealt the poor paralytic a
stiff blow on the face and requested him
to "Stop the noise."

Death in this case, as in the previous
one was attended in by epileptiform convulsions;
respiration becoming slower and the heart
action more and more feeble. So gradual was
its approach, that for some time it was suspected among the attendants whether the man was dead or not.

A Post-Mortem examination showed no appreciable thickness of the Calvarium, but the Diploe was completely obliterated except at two spots in the frontal bone. The Aurea Mater was thickened and adherent to the Calvarium, and Arachnoid opposite the orbital fissure. The Arachnoid and Pia Mater were very much thickened; but not gelatinous in character, nor adherent to the grey matter except at a few points. The grey matter was not much softened, but very pale and at some points it seemed to merge into the Medullary substance. In sectioning the brain from above downwards the Ventricles appeared rather prominent, but on examination contained only two ounces of fluid. Their living Membrane was very much thickened and studded with festoon-looking granulations. These were remarkably well seen on the living Membrane of the fourth Ventricile, Septum lucidum was in this case also very much thickened and opaquely
form convulsions. The spinal cord as well as its membranes seemed perfectly healthy.

The average weight of the brain in the 10 cases that I examined was 45 ounces; the

lightest being 31 lb., the lightest 41 oz.

As regards the treatment of general

encephalitis there is but little unhappily to

say. When the convulsive attacks occur the

bowels are generally found in a consti-
tuated state consequent their free con-

stipation tends greatly to shorten the duration

of the attacks.