On the Paralysis of the Insane called General Paralysis

Among the various diseases to which the general name of Insanity is applied, there is none so likely to excite the interest of those who make an especial study of mental diseases as the one to which the attention of the Profession in this country was first directed by Dr. Conolly, namely: General Paralysis.

It is extraordinary that no notice should have been taken of a description of Paralysis, so distinct, peculiar, and important in its characteristics until the commencement of the present century, when Physicians engaged in the treatment of Insanity especially in France, turned their attention to it.
Dr. Delage of Toulouse, and Dr. Camiel of the Charenton in 1826 were perhaps the first to distinctly describe the disease. Esquirol indeed had previously mentioned Paralysis as an occasional accompaniment or rather complication of Insanity, a complication which he had always observed to be fatal. In this country notwithstanding the deeply interesting nature of the disease, but little attention has been given, and still less written on this subject, excepting the able lectures of Dr. Conolly published in the Lancet and a monograph by Dr. Wun which appeared in the Psychological journal.

I purpose giving in this dissertation a general sketch of the disease, its predisposing causes, symptoms, complications, diagnosis, pathological alterations, and treatment. The first point, to which it will be necessary to dwell at some length, will be, the predisposing causes.
Predisposing causes
Condition of life, and the state of the system most conducive to General Paralysis.

The predisposing causes are those which have reference to the state of the constitution, the influence of the external world, and the action of some peculiar disease. All writers on this subject, among whom I may mention Dr. Calmette and Rodrigue in France, and Dr. Conolly and Wern, in this country, have come to the conclusion that men are more liable to this disease than women; and I think they might safely add, that the disease exists in the upper and middle classes to a greater extent than in the lower classes of the community although it is the reverse of being rare amongst them. Dr. Liguor states that of 169 patients at Charenton suffering from General Paralysis in three years 95 were males. Males suffering in a much greater proportion than females. The average proportion of insane patients who
suffer from General Paralysis appears to be larger in France than in England. In France the proportion would appear to be from 10 to 15 per cent whilst in England the proportion is from 5 to 7 per cent.

Dr. Rodrigues not only considers men more liable to this disease, but goes so far as to suppose them more predisposed to central affections than women— in consequence of their more active life, their greater intellectual exertions, anxieties, and disappointments, and finally their proneness to sensuality. It is stated by some authors that men leading a life of celibacy are particular liable to this disease, or rather that it seldom occurs to the married on account of the greater temptations to excess in company amongst the single than among the married. This opinion, as far as my own experience on the subject goes, I think unfounded and is supported by the observations of  Dr. Hector-mann. Still there can be no
doubt that one of the most probable causes of this disease is profligacy and intemperance, accompanied by continual bodily, and mental fatigue. Esquirol says that one-twentieth parts of the lunatics admitted into the National Asylum have been prostitutes, and Albemarl states that it is amongst these that general paralysis is found, when it occurs in that establishment. It is even amongst these it is comparatively rare, and the following statistics by Dr. Esquirol taken from the Charcoton and Bony, will show this.

Thus of

366 males — 96 were paralytic
233 females — 14

In the male sex to which this disease is chiefly confined; it spares no rank; it takes professional men from their duties, and on dropping pursuits, the merchant from his speculations, the tradesman from his work, the artisan from his tools; it is not a disease which prefers the rich to the poor, the learned to the unlettered, the noble to the mean, the healthy to the sick, the strong to the weak; it is not a disease which sets bounds to its victims, it extols no rank, it confounds no classes; it is equally piti

s.
Age at which General Paralysis is most frequently met with.
and although it more frequently attacks the Volatiles of Sensuality, and intemperate life it no less surely prostrates the prudent the intellectual, the temperate and laborious. However slight it may appear at first it rapidly carries to a fatal termination, however much the system may from time to time rally against it, and however much their rallying may revive the hopes of the friends they ought never to receive the practitioner. Good and bad symptoms may alternate for a time, and give fallacious hopes of recovery, but never more alas! will the patient recover his health or resume his position in this world.

As a celebrated author justly remarks, "They are written off the book of life."

The predisposition to general Paralysis varies with the age, according to most authors it is never seen before the twenty-fifth
year; although Dr. Rodrigues mentions two cases which occurred before the age of fifteen.
Dr. Conolly on the contrary states that in his practice he never saw this disease before the age of thirty. There can be no doubt that it is occasionally seen before the age of thirty between 20 and 30 however the prevalence of to it is at its height after 50 the tendency to it gradually diminishes. Dr. Conolly in the Hannover report gives a table of the ages of 143 cases of General Paralysis on which the age at the time of death was ascertained.

Thus 5 died between the age of 20 and 30

<table>
<thead>
<tr>
<th>Age</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>47</td>
</tr>
<tr>
<td>30-40</td>
<td>52</td>
</tr>
<tr>
<td>40-50</td>
<td>26</td>
</tr>
<tr>
<td>50-60</td>
<td>12</td>
</tr>
<tr>
<td>70-80</td>
<td>1</td>
</tr>
</tbody>
</table>

It would therefore appear that two thirds of the cases occur between the ages of 30 and 50.

General Paralysis attacks individuals of
all temperaments, but men of intelligent active minds, appear more subject to this than to any other form of mental malady. The more disturbing because the more fatal.

Professions, and trades, have no doubt much influence in predisposing to this disease. Military, men are said to be very subject to it, Mr. Rodrigues states that many of Napoleon's soldiers after the retreat from Moscow suffered from this form. Insanity caused by their intemperance in a great measure, and by the severe bodily and mental suffering they were obliged to endure. In the Asylum (Prizenger) to which I am attached a large proportion of the cases of General Paralysis occurs in military men. Mr. Colonel mentions as a class that revenue officers are very subject to this disease. We yet have never met with any case among the class above alluded to; although doubtless they are to be seen but not in sufficient numbers to attract especial attention in Lunatic Asylums.
Predisposing cause which may influence the disease.

Influence exerted by the shape of the head.
The predisposing causes, which only influence this disease, by deranging the nervous system, are venereal escapades, intemperance, and excessive intellectual labour to the last of which I ascribe many of the distressing cases of Paralysis, which it is the fate of the Physician who treats mental diseases in the letter clapes to meet with. In this country in which all professions, trades, and clapes are so overcrowded, that to acquire riches, or a name, requires men to commence earlier in life, to study harder and apply themselves more closely and continuously to their various occupations than formerly. An overstrained and premature use of the intellectual powers is a fault which greatly predisposes to this disease, as it does more or less to all diseases of the brain in general. According to some authors the heat in this, as in other forms of insanity, is frequently partly formed.
and ill developed. Dr. Rodrigues states there is frequently a want of symmetry between the two sides of the head; but according to De Canon, so far from a defective development of the head being found in General Paralysis, that well formed and proportioned head is the rule and he thinks this accounts for the patient retaining a larger amount of sense and understanding for a longer time than in the other forms of insanity. I have taken some pains to verify this fact and from some facts on this subject I find that out of 20 cases of General Paralysis 16 had decidedly well formed heads. I had a want of symmetry on one side, the other one possessed a taller formed, and erecting head. Therefore think the external shape of the head can have but little to do with predisposing causes to this disease. It is stated, but I think without sufficient foundation, that this type of insanity is rarer.
in southern latitudes than in more temperate climes, which may (if it be a fact) be partially explained in this way by the indolence of the natives, and the ease by which the more common necessities of life are to be obtained requiring scarcely any fatigue of body or mind. Dr. Buffier at the asylum of the poor near Naples states that out of 300 patients of both sexes, he had only observed two or three cases of General Paralytic. Dr. Burrowes thought this disease was rare in this country; but since it is now more generally known, and described, the reports of the various public asylums show it is by far more common. Mr. Rodrigues gives some statistics to show that the disease is more common in Lisbon than in France. I think it will appear doubtful from these statements whether climate has any great influence on causing this disease. Mr. Rodrigues considers that disease of the heart may occasionally be a predisposing
cause but this I believe does not exert any influence in producing general paralysis for many of the patients who suffer from it have no disease of the heart whatever; I have examined many patients suffering from General Paralysis at the Dept. County Asylum of which I had the temporary charge last year, and at other asylums which I visited, but have seldom found any disease of the heart in them. The affljective constitution has been enumerated amongst the predisposing causes but I am of the opinion that this predisposes the termination rather than predisposes the disease for one of the most frequent conclusions to this distressing complaint is an Epileptic or Apoplectic Fit. Of late years much attention has been taken of the State of the heart in various nervous diseases I must confess in the few opportunities I have had of examining the heart in these cases, as
Analysis of the Blood in General Paralysis.
Yet I have been unable to discover anything abnormal in that fluid, by the aid of the microscope alone. The following analyses of the blood in general paralysis by Dr. Michen of Paris will, I am afraid, not be deemed more satisfactory.

Case I: Cause of disease unknown, slight infection of the stomach.

- Dementia monomania general
- Incomplete paralysis
- Absence of involuntary excitations. The proportion of the principles of the blood do not deviate from their normal proportions.

The analysis of 1000 parts:

- Water: 795.00
- Globules: 120.18
- Globulin: 2.90
- Solid matter of the serum: 82.12

Case II: Cause of disease unknown. Dementia monomania, diminution of tactile sensibility. Imperfect.
general paralysis — Absence of motion.
Tary excitons — Considerable augmentation
of the globules and diminution of the
albumen

Water — — — 766.009
Globules — — — 160.484
Lipin — — — 1.872
Solid matters of serum — 31.688

Case III — Cause of disease unknown.
Paroxysm mania. Diminution
of tactile sensibility. Incomplete
general Paralysis voracious appetite.
Attack of cerebral congestion — Augmentation
of the globules.

Water — — — 770.879
Globules — — — 155.000
Lipin — — — 2.476
Solid matters of serum — 71,685

Case IV — Insanity. Paralysis
of motion and speech; ambitions
monomania. Excretions voluntary.
Flight diminution of the globules and
great diminution of the albumen.
Water 840.100
Globules 108.970
Sediment 3.658

Solid matter of urine: Organic 49.000, Inorganic 6.677

Modern researches have shown that a morbid condition of the blood is frequently an exciting cause to disease. Dr. Briscoe Jones has found large quantities of the earthy and alkaline phosphates are deposited from the urine of patients suffering from cerebro-vascular diseases. Dr. Hitchman of the Deaf and Dumb Asylum, has mentioned an interesting case of Mania, excited almost instantaneously by the introduction of some poison into the blood. There can be no reasonable doubt that a diseased condition of the blood may be mentioned as a predisposing cause to this disease, as well as to many other of which we have more abundant proof. The deteriorated state of the blood in albuminuria frequently gives rise to a condition of the

brain which I have seen in several cases...
Exciting causes
to be closely analogous to that which is produced in the latter stage of General Paralysis. It is certain that a public position to disease of the brain and nervous system may and frequently is kept up by its sympathy with other organs of the body, which are either functionally or organically deranged. That Insanity is hereditary is now well established but as yet I have not found that this peculiar type is so; by which I mean that if the son of an individual who suffered from General Paralysis should become insane it does not follow that he should suffer from this form of mental disease.

The exciting causes of this disease are various and numerous amongst them may be enumerated impurities in perspiration which by exciting the papillae are unsettled the affections disturb the balance of the mind and derange the functions of the Brain.
Symptoms
Pre-disposing causes become exciting provided those causes be sufficiently powerful and long continued.

The symptoms at the commencement of this disease as observed by the patient, friends or by the medical man vary in nearly every case. In one the symptoms approach slowly and imperceptibly; the signs of the malady being slight and variable. In a second an epileptic seizure is related to have taken place from which time the mind of the patient has been observed to have become weakened or affected in some way differing from his former habits. In a third the character of the individual has become gradually changed. A love of ostentation, with useless purchases, extravagances, foolish speculations, accompanied by assertions of great wealth and rank were the earliest symptoms of the disease.
Division of General Paralysis
Stage I
Some cases although rarely occur in patients who may have been insane for years, suffering from mania or other types of insanity. Sometimes the commencement has been ascribed to blows or falls on the head, or other injuries to that important organ.

The first stage of General Paralysis claims the particular attention of the physician—this disease being so fatal insidious and destructive it becomes of much importance to discover it at its outset. That with a view of treatment remedies may be administered when there is most chance of success; and that we may be enabled to give a correct prognostic at the time when the patient’s friends from his healthy appearance are led too often to indulge in delusive dreams of recovery. It is in this stage that the medical practitioner, unaccustomed to see this disease derived by the shifting symptoms
Symptoms in the early stage of this disease
and by the happy and carefree manner of the patient is too apt to think lightly and diagnose incorrectly on these premonitory symptoms. In Lunatic Asylums this disease is now so well known as to be immediately recognised even by attendants who have been in the Asylum for any length of time. The early recognition of General Paralysis is of great importance, as individual to soon the qualitifies the subject of it from all sorts of lesions, the management of disease, or more probably indicate that life. Most Authors have divided the symptoms of General Paralysis into three stages. I propose in great measure to show this arrangement not that the disease is to distinctly divided into them or that these divisions can always be recognised, but it is a convenient arrangement which will tend to simplify the description of the symptoms. The first symptoms of this complicated malady are generally slight and often variable and it is difficult to ascertain...
in many cases when or in what manner the disease really commenced. Dr. Calmet thought that the Paralytic state often preceded the mental disease; this although rare sometimes takes place. I have observed that the friends of the patient more frequently consult their medical advice on the first instance for some mental peculiarity which caused them some anxiety. The bodily malady but having as yet attracted attention—something is observed in the manners and habits of the patient differing from his accustomed manner of life. In some of his usual habits or ways there may be a striking change in others merely an exaggeration of his natural character. In the upper classes the changes earliest noticed are a disposition to take a larger amount of stimulants, as some of them customary they are disposed to exaggerate the value of their rank and property they become more haughty, contradicting and irritable. speaking and arguing with...
The customed reverence and energy and taking an unceasing interest in trifles losing their habitual reserve and dignity of character. Merchants and traders become sanguine and speculative whilst their former habits might have been exactly the reverse. They shall largely of their riches and positions and neglect a prudent attention to the acquire of moderate profits; they buy foolishly goods which are quite unsuited for the market they intend to sell in, dispose of them inconsiderately and at a loss, whilst they stake their are making large fortunes. Sometimes they mistake the property of others for their own perhaps sending their way to the lunatic asylum through the hands of the Law. Soon after these preliminary symptoms of a diseased mind are observed, various signs of the disease extending itself over the body are noticed. The earliest of which are a peculiar tension about the angles of
The mouth, accompanied with a slight tardiness in the articulation, there is a slight trembling as if it were in the movements of the tongue, and a kind of the perfect obedience of the lips to the will, the words are pronounced with a peculiar hesitation which might be mistaken for stammering; some words the patient cannot pronounce another hesitation is manifest a degree of delay and lingering between the syllables being its chief characteristic. Articulation requires an effort and the intervals between the words are much increased, their imperfections are contrasted with an excited condition of the patient's mind and manners. If the patient is devoted to their tongue he will protract it without difficulty or deviation from the strict line, but if attention is observed it will be seen that it requires as it were a succession of slight efforts to keep it imposed even for a short time. Sometimes if protracted for a short
it becomes tremulous and their efforts will be distinctly seen. In early cases a slight hesitation about the muscles of the mouth is frequently observed, in taking food so that the patient inadvertently permits portion of it to escape from his mouth during mastication. The muscles of the face possess full power and have free play yet those accustomed to observe these cases notice even in this stage an incipient immobility in the features. The first sign of this immobility cannot be conveyed by words or expressions, it is only by attentive observation that it can be recognized. There is no paralysis of the face, yet to those who observe there is a want of the usual animation and expression of life in the countenance of the insane paralytic which gives an expression of dull and satiric look to them. Should the slight symptoms be once observed the worst and most fatal form of General Paralysis has already commenced. Perhaps these ineffectual symptoms may last for days together some days the patient is apparently so much improved that the anxiety and fear of the friends are allayed, so ridiculous
and delirious are the first attacks of this disease which prostrates alike the body and the mind. The mental
Malady with the Paralytic complication may be stayed at its onset for a short period especially in persons previously healthy. The mind becoming quieter and calmer by proper treatment but the
peculiar character of the disease its exaltation and weakness with the peculiar hesitating gait are never removed for any length of time. As the
disease progresses slowly the legs become implicated the patients walks a few steps and at each
step stumbles and shuffles the earth with his feet there is an imperfect movement of the legs an appearance
of awkwardness and heaviness; the feet appear to be placed further apart in walking and there was some difficulty in balancing the body on
the toes. Some patients can walk well in some
particular direction as round a circle but can
not walk in a straight line others again refuse
an imposing attitude in keeping with their ima-
ginary grandeur affecting a grave and slow-
carriage; during progression, but their muscles will
not obey their will. The most organs paralyzed are the
upper extremities; the arms are said by some writers to be affected earlier than the legs. Dr. Calmeil and he is supported by the authority of Deloroly state that the legs are first affected and it is surprising to see in some cases the amount of power which exists in the upper extremities when the lower limbs are suffering from the weight of the body. Dr. Rodrigues, who thinks that the upper extremities are first affected, says that the general incomplete Paralysis of the insane only appears to begin in the lower limbs because its progress is so slow and the weakening of them is more perceptible on account of the greater necessity for them to exercise those functions. He states that he has met with patients termed Paralytic because they could not walk or sit up right, but who when placed on their backs were able to raise their legs and exercise them in various ways but when a goblet of liquid was placed in their hands they generally spilled a portion of it in carrying it to their mouths. Dr. Pitchard in his Short Notice on this species of insanity says that the upper extremities display less evidently the effects of General Paralysis than the lower because the lower

are exercised more and have to carry the weight of the body. In the earlier stages of this malady, one of the circumstances to be noticed is the perfectly happy state of the patients. They continually speak of themselves as gaining strength, as long quite recovered and tell you in a joyful tone of the good arrangements they are making and have made for the future. Perhaps reduced to poverty they as yet speak of themselves as possessing great wealth. Their quiet happiness might be envied by the healthy. Others are more excited, impatient and titterous although always good humoured and easily persuaded to do anything which may be desired of them. They describe their houses as vast and magnificent, their horses and carriages as such as that they are people of untold wealth and power. When the disease as proposed still further when perhaps they are unable to walk without assistance or even rise from a chair they excel in their supposed strength and agility, their accomplishments are equally great and various; sometimes they are the most
successful of doctors men at another and perhaps it is one of the most frequent delusions paralytics have is that theyRowIndex: 3

top of a most beautiful voice or are great musicians they will tell you they have made up their minds to commence a public career at the time when they can scarcely articulate distinctly.

This state of complacency causes a complete indifference to all domestic and social relations and it appears to be partly the result of the physical condition of the body in the first stages of the disease it being free from uneasy sensations the appetite and digestion being good the bowels being regular and the ordinary senses not being impaired greatly the appearance of the tongue and the state of the respiration indicate little or no disorder of the general system the pulse is but little affected being as in most other forms of insanity quick and small the pupils are frequently irregularly contracted the left being generally the most dilated of the two the eye remains bright but the meaning and expression have left it. A restless activity
without however in effect alternate with a contented indolence and immobility the patient in this stage generally grows fat and wears a healthy appearance. In this stage when the patient is at rest he has lost the apparent stiffness and want of power over the limbs seems lost the patient being able to move and turn with ease the loss of motor power is also less perceptible in the morning or after meals the walk being then slower and the speech more distinct. I once saw a gentleman suffering from this disease who in the morning could walk and talk with comfort to himself but who in the evening required constant attention. His speech becoming indistinct and his limbs too feeble to support the weight of his body. Sexual power and desire appear in general Paralysis to be early and universally lost. Most of the half-patient thinks there are at least four varieties of general Paralysis which he as respectively named the Convulsive the expansive the Melancholic and the Paralytic. I enter fully into the arguments of Mr. Saltus would occupy
Too much space left. I think there can be no doubt that by a careful comparison of the symptoms of all these or similar varieties may be resolved into one set of almost universal symptoms, the symptoms of the mental disease. No doubt being slightly altered at first by the previous habits, natural dispositions, and condition of life of the patient; they may also vary in the natural course of the disease if they actually commence with Ambitious Maniacism and end in Dementia. The only variety which can be supposed to exist even for a short period in this disease is the Melancholic. Melancholic occasionally but rarely exists in the first stage before the symptoms of excitement—which usually take place in that stage—are developed after the occurrence of any of the usual Maniacal or hebephrenic attacks. The patient almost universally loses the Melancholic and Ambitious mononoma now becomes the leading mental symptom as in the majority of cases of General Paralysis. This Melancholic variety according to the table—but which I only allow to be a variety in the
Symptoms in the II stage
first stage from the almost universal change of the melancholic symptoms upon the upper ventition of the manicard symptoms when then it usually occurs in women.

The symptoms of the second stage are those of the former only much exaggerated. The power of the tongue in articulating is now imperfect, words are scarcely now pronounced distinctly and it is necessary to guess the meaning of many of them to comprehend what the patient is saying, as the difficulty of pronunication increase the patient has recourse to monosyllables or inarticulate sounds. The immobility of the features becomes more characteristic, the eyelids are raised with difficulty, the look is stupid, the eye glisten with a meanly stare. The lower limbs have now lost much of their power, if the patient wishes to rise from his chair, he is obliged to ask assistance or to have some contrivance by which to raise himself; when he as risen he does not immediately move away there is a feeling of insecurity, he appears to balance himself like a child when it first attempts to walk and when fairly started he takes from left to right going a greater or less distance.
According to his remaining strength. The upper ex-
tremities suffer less evidently the effects of General
Paralysis in this stage than the lower. There is how-
ever a stiffness about the arms and the hands lose
the power of retaining anything for any length of
time; they are with difficulty raised to the head and
they lose their dexterity and the writing of the patient
often considerably or as frequently lost. The muscles of the
front part of the body now suffer from the disease. The muscles of the
torso lose their strength and the body when letting itself
down as on the Pelvis, the patient usually leaning
backward or forward to take off from its weight. The head
hangs forward, and the chin has a tendency to rest on the
chest. As the disease advances, dysphonia becomes
more difficult and patients in this stage occasionally
suffocate. Food lodging opposite the larynx;
taken from the carelessness of the attendants, they
have been allowed to swallow too large quantities of it
without sufficient mastication. The sphincters fre-
guently lose their power, the patients now requiring
constant care and attention as their clothes are
continually being stained with their own excretions
which escape without notice or observation on their part.
They are now reduced to a state of dementia. All case of
persons and event memory of those nearest and dearest
from is lost, "Memoria Spiritum Fractus, memoria
aposquie amissa." The retina becomes gradually insensible
to light and the sense of hearing impaired. Strange to say
that common sensation remains normal up to this
period of the disease. Dr. Watson in his lectures on Hemi-
plegia has noticed a similar phenomenon. He says
the function of sensation is left frequently abolished
or prevented than that of voluntary motion. The remar-
kable fact that the sense of touch remains perfect long after
the senses of sight and hearing and taste and power of
voluntary motion are impaired. May perhaps be ac-
claimed by considering the great extent and surface of
the cuticle the numerous and varied points of the cerebro-
spinal axis towards which the nerves pass and the
greater simplicity and perfection of the sense of touch.
It is likewise probable that the sense of touch in
the cerebral matter possesses more influence upon
the special senses of light, hearing and taste and
smelling than it does on the skin. On the consequence
of the limited origination former senses. In all cases
of incomplete Paralyses, whether of the Insane or
A healthy mind, motion appears to be affected sooner
than sensation and remains in long after a paralyzed
saint, has recovered its sense of touch. It is highly
probable that the loss of motion is owing to some lesion
of that part of the brain which is connected with
sensation and that in the earlier stages of this lesion
the parts of the nervous system which governs
emotional movements and consistence of the impulses
on the senses, the sensory and motoric tracts are
not as yet implicated in the affection. There can be no
doubt that emotional movements are not seriously
disordered at first. And it is shown by the fact, that
the paralytic insane will occasionally suffer from
attacks of emotional excitement when they feel the
influence of some moral feeling. It is therefore probable
that the function of sensation is more simple than
that of motion; and the function of the nerves of organic
life may be seen more simple for they continue their
operations up to the last stage of the disease. In this
state of the disease the patient suffers from violent
attacks of excitement on the slightest contradiction
he becomes quite delirious and furious. The face becomes
red and furrowed, the eyes prominent and the
Symptoms of the 3rd stage
breathing trumpets; frequently during the paroxysm there is a temporary increase of muscular power, accompanied with maniacal violence. These paroxysms occasionally usher in an attack of epilepsy when the patient recovers from the excitement consequent on these attacks. The general symptoms of the disease are observed to be greatly aggravated, the malady now progressing with fearful rapidity. During this as well as the first stage of general Paralysis the functions of Physiological life continue to act with vigour and are in a tolerable healthy state. The circulation continues natural; the sleep undisturbed; food is taken in large quantities and digested both fast and the other functions of the digestive system are performed in a healthy manner. In this as in the previous stage these patients have the same ideas regarding wealth and grandeur, but it is more difficult to establish the exact delusion which they possessed at first; the insanity being now more general and the degree of Paralysis more intense.

In the third stage the disease has reached its
The patient is now in a wretched condition: being far advanced in the disease, breathing and speech are almost extinct. The speech is lost and indistinct. Presenting is all that remains when food is offered. The mouth is opened with ravine's eager warp, but little of it however being swallowed; the power of deglutition being nearly lost it becomes necessary to place the tube in the Pharynx to ensure its being swallowed. The head is drawn forward and retained on the chest by the contraction of the sternum clavi, that in muscles. This contraction is so marked that if the patient beon his back in bed his head does not rest on the pillow but is drawn down on the chest. The lower jaw acts slowly and without power. The tongue lies motionless and without power. The patient being quite unable to articulate it when asked to do so. The legs have by this time entirely lost their power; the patient cannot even draw them up. He consequently becomes too odd. The arms are powerless and nearly motionless. The breathing is short and performed with difficulty. Whilst respiration in most cases is nearly lost and in all greatly affected in some cases there is very superficial action but in this late period of the disease...
As in the most common the patient still remains unconscious of any dyspnoea, he cannot walk but he
never complains. Every function gradually gives way the point he never appears to imagine that he
is seriously ill and to all questions regarding his
health which are put to him, his almost uniform
answer is an indistinct “Quite well.” In some
cases emaciation takes place and death soon closes
the melancholy scene. In others the patient still
retains his somewhat plump appearance
and in these indications some on the back and
joins the cellular tissue which covers the coccyx,
Sacrum and Sciatic interosities are produced.
Adena takes place in all the depending parts
and large ulcers break out on glutis and on
the just commencing with inflammatory
swelling accompanied with considerable pain
after a few days a number of vesicular spots appear
which when they break are punctured discharge
a serum fluid large and called ulcerating rapidly
formed which seldom heal and are a source of
constant annoyance to the patient and Medical
Attendant. Ectopic fever now sets in and quickly
Period in the disease when death most frequently occurs.
prostrate the weakened powers of Physical life
in some of the cases where montmornd painful state of convulsions is observed and death immediately
followed by a series of convulsive attacks with suffocation
one side or the other of the body, sometimes of both
continuing for days.
Patients suffering from General Paralysis seldom
die during the first stage of the disease. In the second
stage death frequently takes place from Apoplectic or
Epileptic attacks and Asphyxia. In the third
stage the patient generally succumbs from wasting, worn out
by want of food, suffocating, not reaching the Stomach
and Pericardic fever consequent on the discharge from
the ears and tasting red sores. But by far the most
common termination of General Paralysis is an
Apoplectic fit which may happen in any stage
of the disease, but more frequently in the second
stage than in the third and which may or may
not be fatal. After a fit of this kind the patient
if he recovers finds all the symptoms increased
and aggravated. Mr. Rodrigues mentions an in-
teresting case in which a patient of his recovered
from two Apoplectic seizures accompanied also
Complications met with in General Paralysis
with partial paralysis whilst affected with general paralysis but who died from the effects of a third attack. This case also presented the following interesting physiological facts whilst being

for one of the apoplectic attacks his speech suddenly returned during the flow of blood but on closing the aperture in the vein the power of articulating as suddenly ceased; on reopening

the orifice the speech again returned. This experiment was tried several times with the like result.

The instantaneous restoration of speech renders it probable that brainnuminous apoplectic attacks rather on stagnation than on congestion.

The complications of this disease are numerous amongst the most frequent are hemiplegia or paraplegia, Pithitis in this as in other forms of insanity is a very frequent complication and assists in hastening the death of the patient. That

there is some great connection between Scrofula and Insanity I think there can be no doubt.

Several instances have come under my observation in which families as it were divided between Pithitis and Insanity.
instance of which I heard of lately which occurred in a family residing in the South of England. All the females (three in number) died before thirty of consumption and all the males but one became insane. Dr. Sutherland relates another very interesting case; he states that a patient under his care who died of General Paralysis was the only one of two children—none of them of Phthisis. Patients suffering from General Paralysis are not exempt from acute disease or Cholera although they are seldom attacked by diseases of this character according to Dr. Winn.

The duration of General Paralysis varies from a few months to several years. I find that out of eighteen patients suffering from this disease—

2 died within 1 year
3—
7—
3—
1—

The greater number of Paralytic patients however die between the second and fourth years after the commencement of the disease although
Prognosis of General Paralysis
occasionally a case will drag on for five or even six years! Dr. Conolly mentions several cases which lived as long as six years. Dr. Bayle says that the length of the disease varies from two months to six, eight or even ten years but that its average duration is from one year to eighteen months. He states that out of 159 patients he found that 93 did not live longer than one year. It is probable that the mean duration of the disease in pauper lunatic asylums is shorter than in the well-managed asylums for the better classes; on account of the greater care and attention, which lunatics suffering from this form of insanity require and which a pauper lunatic asylum in consequence of the greater pressures can scarcely afford to give to each individual case.

The Prognosis of this disease is always unfavorable and nearly all authors have come to this conclusion. Eguinol does not hesitate to say that even in the first stage of the disease it is incurable. Dr. Conolly in this country as also come to the same conclusion.
Case of General Paralysis
Case I
Appears inclined to take a more favourable view of the case, he states that it is occasionally cured but the progress of care is slow and uncertain. Recurrences frequently taking place he mentions some cases of amendment or recovery one recovered partially of the insanity the paralysis remaining stationary. Three were perfectly cured one committed suicide. For other perfectly as regards the paralysis but only partially as regards the insanity. He suffered from epilepsy. This list cannot I think be considered satisfactory and it appears strange that no other author should have met with curable cases. de'Rozierre own countrymen Dr. Calmed and Roger Collard add their opinions to that of Esquirol and Conolly, that the disease is incurable.

I have thought it necessary to relate three cases to illustrate the course of the disease:

W.R. M. A gentleman formerly in the H.E.I.C. service. Age forty-five admitted June 18, 1837. Is of sanguineous temperament short stature and pugnacious well joined head with light hair
Any eyes. The maniacal attack under which W. M. suffers, came on gradually first showing itself by irritability of temper and utter change of feeling towards his wife and family, to whom he has been abusive and occasionally violent. He has delusions imagining that people are talking to him who are away and thinks that his family are conspiring against him. He has great difficulty in collecting his ideas and can not sustain a connected conversation. On attentively examining W. M. various symptoms of commencing general Paralysis are observed although masked to a slight extent by the maniacal attack under which he now labours. His walk is short and hurried and there is observed a slight unsteadiness in his gait with dragging and shuffling of the feet as if it were after him. The articulation is still yet sufficiently impaired to be noticeable although his brother states that his voice has changed of late. His eyes between the paroxysms are dull and heavy; the countenance being flushed and depressed.
Mr. was for upwards of twenty years in the Madras civil service in which he held high and valuable appointments. He is reported to have been a man of steady habits and very active mind and to have given himself up entirely to his profession at which he labored incessantly not taking advantage even of the free lunch which was granted to the company after a certain period of service. The causes producing this disease are not known but it is probable that intense application has been one of the chief. There is no hereditary tendency to insanity, but Phthisis has cut off several members of his family. W. M. complains much of headache and colic pain at night. He takes but little food and his bowels are confined; the pulse is small and weak about 95. The vascular and respiratory functions are healthy. The functions of the skin are healthy, sensation unimpaired. Urine loaded with phosphates but otherwise healthy. Ordered half a grain of Morphia every night to be increased to a grain if required. Trages to be administered occasionally to keep the bowels open. The diet nutritious but not
July 12. The maniacal attack under which W. M. laboured, when he was admitted has now subsided, leaving him calm and rational, but if the subject be led gradually around to the subject of his delusions they will be still found to exist. The walk is now affected in a noticeable manner, but the speech is as yet unaltered. The appetite has improved, the bowels are regular, and his rest is unbroken at night. Ordered an occasional light to be placed on the nape of the neck. The bowels are kept regular. The diet to be liberal and nutritious. January 1852. W. M. has become decidedly weaker in mind since the last report. The old delusions still remain and others have been added. He now considers himself for Governor General of India and looks upon his immense power and influence over the natives of that country. There is now a slight irritation about the speech articulation being for longer. His general health is good; he takes food well, and grows stronger. He rests well at night. Ordered an emulsion containing 1/2 an ounce of sulphate of lime for a dose and five grains of the
Phineas Bill every other night. June 1852.

Mr. M. still continues much in the same condition. He has lately suffered from several attacks of excitement which have now passed off. He is contented and happy amusing himself with the smallest trifles. He tells you that he will soon be well and promises you numerous rewards for his cure. His speech is now improved in a marked degree. If you ask him to put out his tongue it is done with a peculiar tremulous movement and he cannot keep it protruded without considerable difficulty which supports a jerking motion to it. His legs in walking is left from them it was September 1852. Mr. M. is now very feeble in mind and his bodily health is rapidly giving way. Speech is failing fast and the sensibility of the surface is now rather impaired; he is quite unable to walk the shortest distance without assistance and then only with difficulty.

February 1853. Mr. M. is now exceedingly weak; to speak or walk; he is obliged to be supported in a chair. The sensibility of the skin is now decidedly impaired. He can scarcely articulate. His
appetite is failing, the pulse is full and weak, the twitches are regular. Bedsores are appearing over the sacrum, little treatment can now be adopted. Stimulants are frequently administered in the course of the day, to be carefully fed. April 18, 1853. To what being fed yesterday W. M. appeared to faint away. Stimulants were administered to him, he was carried to bed in a senseless condition, there was little or no struggle or breathing at the mouth, the pupils were constricted and insensible to light, the pulse was slow, weak and uncomprehensible. There had been little or no previous excitement nor had there manifested any change in appearance. W. M. died this morning 9 hours after the fit.

Secize Cadaveris twenty hours after death
Body emaciated, head well formed. Bedsores over the sacrum and left foot, blisters with an inflamed condition of the skin over the left foot and ankle. Right eye corneous.
Head: Calvarium rather thicker than usual. The Dura Mater appearing tense and shrivelled.
the left longitudinal sinus containing a mid
convolution which had apparently been formed
for some time before death. The brain
presented generally a slight milky opacity to
several parts of it being also covered with a thin
layer of lymph, its sac contained more fluid
than natural, and as near as could be ascertained
about an oz and a half in quantity, clear in
colour; beneath the brain there was also
a slight effusion. The ventricles could be stripped
easily from the upper surface of the brain
but on the sides of the hemispheres they adhered
to the grey matter which was softened and
came away easily with them. In the base
of the skull of the softening the Pia Mater was
congested. Brain substance small and
atrophied natural, but the sulci shallow. The
grey matter was of a yellowish colour—
diffused in places. The white matter dull and
greater than normal, the vascular points
were numerous very large and extended with
post. The lateral ventricles healthy, slightly
distended with serum, half an oz in quantity
The fourth and fifth ventricles were also slightly distended. The choroid plexuses and the tela interpositum were foamed with froth of a opaque colour.

Pituitary body, healthy.

Cerebellum. Grey matter rather darker and more congested than usual, but not soft. The vessels of the brain were slightly dilated. Spinal cord.

The fluid in the ventricular canal larger in quantity and apparently of a darker colour than natural.

The blackened surrounding the cord was covered in several places with irregular shaped lamination and plates of foreign matter, which were lying imbedded in the membrane. This deposit extended more on left over the whole length of the posterior aspect of the spinal cord.

Viscera

Heart small but healthy. The left lung was filled with blood and spongy and had papery or was flashing in several places into a state of hydratization.

In its depths there was a tumour about the size of a bean. The right lung was adherent in
Case 2
Several places to the pleura, these adhesions were
the, this lung was generally surrounded with miliary
tubercle. All other organs of the body healthy.
B. P. aged forty, married a lawyer by profession
admitted Feb 16th 1848. B. P. was admitted
in a most excellent spirits and in fact he came by his
own wish. He looks stout and healthy is happy
and contented in mind and professes a fine
well mannered. The circulatory, respiratory
and digestive functions are healthy. The Pulse
95. The skin moist sensibility increased.
He speaks thickly and when desired to show his
feeling it is punctuated with a peculiar jerking
or tremulous motion. The pupil of the left
eye is also more dilated and dilatable than
the right. The mental disease is characterized
by great irritability and desire to distinguish
himself in any pursuit that may be the subject
of the conversation at the moment. He
imagines that he sings and writes to lean
fifthly that he tells you that he intends coming
out at the Opera where he has no doubt he will
make a large fortune, he is always most
ready to exhibit these imaginary accomplishments to any one who may desire it. He is
moderately vain and talks extravaganter on all subjects. The attacks is stated to have come
on about four months by a preceding fit most
notably epilepsy. He remained in a weak and
prostrated condition for some time when his
general health having gradually improved
his friends noticed that he had become capri-
cious and extravagant in his habits and
inattentive to his work. B.P. as a man of this
type was most attentive and altogether a
man of superior intellectual acquirements
and of temperate habits. The attacks is supposed
by the medical man in attendance to have been
brought on by hard work. It is difficult to
learn from the family history whether or no
insanity is prevalent in his family. One
of his sisters however died a few days after an
attack of epilepsy during the interval.
Between the fit and death she became insane
Ordered to be kept quiet active purgation of
means of calomel, with opiates at night were
ordered with a Mixture containing 20 drs of the finest Ferric lodi chloride for a dose only. The mind of the Patient is evidently becoming fresher, his general health is however good and his spirits continue as high as ever, the delusions remain the same as when first admitted; as he sleeps well, the operation is to be admitted.

To continue the Mixture and to take 20 drs of Phenomenon Pile every night. Robt. B. P. after appearing drowsy during the morning was seized with an epileptic fit which was materially weakened his mind, speech and motion are now much impaired. Sensibility of the three continues normal. He eats well at night. Respiration is good, the pulse rapid, and weak, bowels regular. Ordered Leeches to the temples and occasional listening to the nape of the neck to continue with the Pills.

Dec., B. P. has suffered from no return of the fits he continues much in the same condition. To discontinue the Pills but to continue the
January 1839. B. P. is weaker than at last report. His speech is now indistinct. The pupils of the eyes are both dilated but the left side continues more than the right. The appetite is still not good. August. B. P. again suffering from an attack of excitement. During the last few days which required his health. He has now lost his appetite and is scarcely able to walk. To allay the excitement Morphoria has been given in ½ doses. Leth. B. P. appears to have rallied a little. The excitement has passed off. The appetite has again improved but speech and motion are much enfeebled as he does not rest well at night. The Morphoria has been continued it has been gradually increased to a plain and a half every night.

January 1839. B. P. continues to grow weaker and weaker, the excitement has returned which makes it a difficult case to attend to. As he has been bedridden for some time past and although on a water bed several lesions have broken out on his legs and sacrum. To continue the Morphoria
March 9th B.P. During the night was seized with another fit similar to the former but continued insensible for two hours dying without any return of the fit.

Sectio Cadaveris 25 hours after death.

Body slightly emaciated. Bedsores over the iliacs and sacrum. Bijou mortis head.

Intercurrence over the scalp adenomatous.

And on removing the Calvarium it presented a more vascular appearance than usual on its inner surface, the grooves for the meningeal arteries being particularly deep and well marked. The external surface of the Dura Mater appeared vascular, but there was no thickening. One was not adherent to the Calvarium. The Dura Mater, lying cut through, the arachnoid was found loose parent and a considerable quantity of pericondial fluid was lying between it and the brain. It was judged to be about 1/32 in quantity. This effusion had threads of an opaque lymph floating in it. Beneath the arachnoid covering the superior and posterior part of the left cerebral
Hemisphere a layer of transparent lymph was observed; it was slightly organized but did not show in any point the slightest appearance of suppuration.

The Viscera. was more vascular than usual. The Brain itself appeared shrunk and seemed to cost firmer than natural; the grey matter being slightly altered in colour, appearing of a yellowish grey colour. There was no oozing in any part.

On cutting into the Hemispheres even with the Corpus Callosum both the white and grey matter appeared to be more injected than usual. The Corpus Callosum was firm and the parts entering into the formation of the Lateral Ventricles were healthy, but the Ventricles themselves contained more fluid than natural. The choroid Plexus’s and Venous interposition were much congested and the Venæ Galeni charged with blood.

The cerebellum and spinal cord appeared healthy. Viscera. Heart, healthy. Lungs, the left one sudded with tubercles but which were not tuberculating.
All the other visceræ appeared healthy.

Case 3


H. D. is of middle height of light complexion, languid temperament and possesses a fine well formed head. He is reported to have been an excellent officer much attached to his profession, and to have always been of temperate and regular habits. The assignable cause of the present illness is supposed to have been an attack of fever which happened five years ago, whilst quartered in the West Indies, during which fever he suffered much from head symptoms. The present attack commenced insidiously so much so that his friends cannot give any history of the earlier symptoms merely stating that for some time past they had observed a gradual change in his habits which was followed by restlessness and elevation of spirits. This restlessness and slight excitement appears to have preceded a maniacal attack which has been the more immediate cause of his being sent to the asylum.
Dr. on admission looked pale and out of health and is still slightly excited especially when inquiries are made after his health which he declares has never been better than at the present time. On conversing with him it is found that he believes in several extravagant delusions viz. that he is a Fieldmarshal a few minutes after he declares himself to be a Bishop and that he has just married the most beautiful Woman in the World who had brought him millions of money for a fortune. Sometimes he states that he is confounded by the greatest tyranny and at other times believes that the Asylum is a Palace which belongs to him. There is a slight hesitation in his speech which does not seem natural and when asked to put out his tongue a slight twitching motion is observed in that organ when protruded. The hands appear to be slightly tremulous and he complains that they are not so steady when he writes as they used to be. Walking is as yet not affected, or if it is it is hidden by the slight excitement which is the remains of the maniacal
attack from which he is now recovering.

The circulatory, respiratory and digestive
functions are healthy. The Pulse 80 weak.

The skin is dry and parched to the fact, sensation
is not impaired. The pupils are slightly dilated
especially the right and it is not so sensitive
to light as the left. They have a dull expression
up look and an unmeaning stare. The tongue
are rather tired and he rests badly at night

Ordered Acetate of Morphine in half grain doses
every night with a mixture containing

1/2 oz of Zinco Ferri Phosphor Chlor. Three times a
day with an occasional mercureal purge.

July, with the exception of occasional paroxysms of violence and excitement. P.D. has
been cheerful and contented. Having much
exercise he has grown stouter and looks
healthier than when first admitted. The
delusions however still continue and there
is now a slight hesitation or dragging of his
left leg which has been observed for some days
past the restless movements at night with continuing
he was ordered an increase in the dose
Of the Morphia to be given every night
the other medicine to be continued
until it continues comfortable
although the symptoms are progressively appearing with greater rapidity than usual.
The left legs are now affected by the paralysis, and there is a marked alteration in his articulation. The mental symptoms are the same as before.
N.D. has been excitable with paroxysms of violence which have continued for a longer time than usual.
His general health suffers much from these. He looks thinner and suffers greatly from night at night accompanied with frequent attacks of diarrhea. The paralytic symptoms are much increased and he now walks with difficulty and the hesitation in his speech is considerable. The sensation of the skin is also slightly impaired. The use of morphia was increased to a pain the former medicines to be abandoned and a stimulant.
Medicine combined with electrocution to be given in read. N.D. case which is declining.
October.
A course of unusual rapidity accompanied with increased severity in the symptoms as appears likely, to terminate rapidly. During the last week he has suffered from several epileptic seizures which have reduced him to a most stretched condition. He is now quite unable to walk, and can scarcely speak. Sensation also being greatly impaired the pulse is very feeble. Two days after the last report, it D. after suffering for some hours from convulsive twitches of the muscles of the extremities, had a fit of a epileptic character from which he continued insensible for six hours and died without any return of the convulsive movements, the pupils of the eyes were dilated and insensible to light, the pulse before the fit was about 92 after it about 50 and still feeble.

Sectio Cadaveris 39 hours after death
Body emaciated
Pijon Mortis slight

On removing the Calvarium it was found to be thinner and more brittle than natural
The Dura Mater on its external surface was healthy but on cutting through it an opaque, dawny coloured membrane was observed between it and the Arachnoid. This false membrane was soft, vascular and tough. It was more adherent to the Dura Mater than to the Arachnoid, but could without difficulty be detached from it. The Arachnoid and Pia Mater were slightly opaque, vascular and adherent over both the lateral lobes and about 5 drams of serum were contained in the sac of the Arachnoid. The lateral ventricles contained about the usual quantity of fluid. The Brain being removed a much larger quantity of fluid escaped from the spinal canal. It appeared of a darker colour than usual but under the microscope but few globules of blood could be detected in it. The quantity of fluid which could be detected amounted to about 4 oz. The grey and white matter of the brain presented both on the external surface and in section a normal appearance. The Thalamus and Optic Thalami however were soft and...
Slightly vascular. The cerebellum and other parts of the brain presented no appearance of disease.

The spinal cord appeared softer than usual throughout its whole extent, and at the lower part of the medulla oblongata there was a portion of the anterior column about the size of a nut of a yellowish hue, very soft in fact, different blood could be detected in it under the microscope.

Viscera

Heart small but healthy.

Lungs. The pleural cavities contained more fluid than usual, the lungs however were healthy.

Liver

Rather enlarged but healthy in structure.

All the other organs of the body were apparently quite healthy.
Remarks on the Pathological alterations found in General Paralysis

It will be seen from the Post Mortems of the several cases just related, that the Pathological appearances in this as in other diseases varies considerably. It is unfortunate for science that when examinations of cases of Insanity are obtained they are generally of long standing, the difficulty being, if any change is observed (and frequently it happens that no changes are observed) to ascertain whether appearances seen are the causes, or the effects of the symptoms during life.

The most frequent pathological appearances which are found in cases of General Paralysis are an injected thickened state of the Dura Mater, which is frequently adherent to the Calvarium. The Arachnoid is generally much injected and is oftened thickened and opaque, but rarely to throughout its whole extent being most commonly
alterations in the parts which cover the superior and anterior portions of the brain, and granulations are often met with on its surface. I have seen a case in which this membrane was studded with minute prominences, as to feel to the finger like fine sand and which when attentively examined by the aid of a flat turned out to be minute granulations. The vessels of the Pia Mater are generally much injected and the membrane itself distended with serous infiltration. In the greater number of cases serous fluid is found in the cavity of the Arachnoid, this serum being either of its usual colour or occasionally dark coloured as if mixed with blood. There is sometimes an albuminous effusion between the Arachnoid and Pia Mater which often takes a gelatinous consistency.

Sometimes between the two layers of the Arachnoid there is found a thick false membrane. I have seen this appearance in several cases. In one case this membrane was large.
enough to cover completely the left hemisphere of the Brain—it was of a
fibrinous character: reddish color: very vascular
but without any appearance of softening
and it was evidently of old standing. In
the individual from which this was taken
there was no history of any flow of or the
patient having had fits of any kind:
Fibrous membranes are more frequently
found over the anterior part of one, in both
sides of the Brain. Mr. Calmett has stated
that in his cases the membranes were generally
very cartilaginous sometimes however
they were not unlike a semi-transparent
pulverized glass in character and appearance.
The Brain itself may be atrophied and fill
the cavity of the Cranium. The Medullary
portion being changed to a firm cotton
and being harder than natural when this
change takes place in the Brain substance
it appears as if the gray matter alone of
the Brain underwent a change it went
through and wasted while the white matter
In many cases quite unchanged. On the other hand the Brain may be softer than natural, and it is yet a doubtful question which of the two most frequently takes place in general paralysis. A soft or hard condition of the Brain. The largest proportion of cases mentioned by M. Calmeil appear to have occurred in conjunction with a more firm condition of the Brain and Dr. Delage who is frequently quoted by Calmeil states that he found induration in the greater proportion of his cases. Dr. Kinn however differs that softening of the Brain occurs as frequently as hardening. Dr. Connolly who originally thought that the Brain in this disease was more frequently hardened than softened has of late altered his opinions respecting their comparative frequency, and now thinks that softening of that organ in general Paralysis is most frequent.

Alteration in consistency of the Brain.
In twelve cases of General Paralysis out of 17 in which there was an alteration in the consistency of the Brain examined at Hanwell, seven gave decided evidence of softening; the other five were cases in which more or less induration had taken place. There was but little difference in the ages or habits of the patients to account for the respective changes. It is exceedingly difficult to give any explanation for these or different degrees of consistency of the Brain in cases which generally presented the same characters were under the same circumstances and whose symptoms differed but little during life and either softening or hardening of the Brain as modification in the symptoms or in the duration of the disease take place. In cases of General Paralysis in which induration of the Brain is found it is frequently accompanied with Atrophy or deminution in the bulk of that organ. The Dura Mater often appearing folded and wrinkled in a transverse manner
from the shrinking of the Brain and liquor is
generally exhaled in sufficient quantities
to disturb that meniscus to its normal extent.
Sir Rodrigues thinks that the hardening and
atrophy of the Brain may be merely the effect
of sleep or may be simply owing to a deficiency
of water in its fibres which may according
to the same author diminish to so great
an extent as to leave the nervous matter
quite dry. That this is not the cause of the
hardening in General Paralysis I think
answered by these facts. In many cases
the cortical portions of the brain are indurated
whilst the interior is in its natural
condition. In a case which I observed the
grey matter was softened whilst the white
matter in the interior of the Hemispheres
appeared hardened. In either of these cases
there could not be any deficiency in the
watery parts of the Brain, yet more in
all these cases of hardening there is usually
found more serious effusion than there
is in cases of softening. We can have
little or nothing to do with causing induration of the Brain in General Paralysis and have before stated usually occur in the prime of life.

Induration of the Brain is no doubt the effect of various causes; it may arise from irritation of the brain substance producing inflammation, or from an altered state of the fluid which is to nourish the tissues. Dr. Calwell thinks that induration, and atrophy in protracted cases of this disease may be produced by the gradual effusion of Serum. Dr. Rodrigues however doubts the possibility of effusion causing such effects. I think it cannot be doubted that after a protracted interval, (these teatious always occurring in old cases) thecelebrum may gradually shrink from the contiuual pressure of the chronic effusion. Dr. Delage who observed this induration, and atrophy of the brain substance in the greater number of his cases, ascribes great
importance to that hardening of the cerebral mass, considering it to be the most frequent cause of the General Paralysis of the Insane. Forbush also considers this hardening of the cortical structure of the brain capable of causing this disease. That this induration, and atrophy of the brain may have some share in producing Paralysis, I doubt doubt, but that it is the cause of it I think is problematical in as much as this lesion is seldom if ever found alone. Other lesions, as thickening of the Aqueduct, Traumatic, sufficient to cause this disease being generally noticed at the same time.

The colour of the indurated brain varies from a light coffee colour on the outside, to a reddish tint on the inside, the brain substance being much injected. In some cases however I have observed the colour of of the altered Grey Matter to be of a light fawn colour: the brain substance presenting more vascula
points than usual, and the white matter being otherwise unaltered.

Softening of the Brain

Softening of the brain which is now considered to be more frequently found in cases of general paralysis, than ulceration, is met with in numerous forms; either penetrating locally to some depth, or extending over the greater part of the cerebral mass. The degree of softening may vary considerably: sometimes there may be only a diminution of consistence; in others the brain structure may be completely different. In some cases softening may take place without change of colour. In others the grey matter may be found of different shades of red, or brown; sometimes it is of a lighter colour than natural. Softening of the brain may depend on various causes, generally following an attack of inflammation.
of the membranes, or of the brain itself. Some authors are in doubt whether this softening takes place at the commencement of the paralytic symptoms, or towards the termination of the disease. Some of the opinion that the symptoms of the paralysis commence with the softening, or rather with the active disease of the brain. The paralytic symptoms being generally noticed soon after those of the mental disease, they doubtless would be noticed at the same time with the mental symptoms were they not so slight, and insidious in their approach. Whereas any peculiarity in the patient's conversation, or change in his habits are soon observed by his friends.

M. Kaye, and Edgeworth thought that general paralysis may, in some cases be dependent on meningitis, from the frequent occurrence of second effusions, and from the vascular and softened condition of the brain, and its membranes. Although it would at first sight appear improbable that a patient
could exist for any length of time with extensive softening of the Brain. Yet Abercrombie gives several examples from which it would not appear unlikely that patients may live for a year, or two, whilst labouring under such an extensive and fatal disease. But it is doubtful if Meningitis alone can produce General Paralyzy; for effusions beneath the Arachnoid which occasionally separates the Sulci of the Brain; together with thickening of the Pia Mater, or of the Arachnoid itself, are lesions which are equally common in Insanity, whether accompanied with General Paralyzy or not. It is in cases of General Paralyzy accompanied by, or depending upon, softening of the Brain that the termination of the life of the patient by an Apoplectic fit is most frequently observed. The Apoplectic either depending upon an engorged state of the vessels of the Brain, or by actual rupture, which may either take place in the Intracrales, or at the Base of the Brain.
Hemorrhage rarely taking place between the layers of the arachnoid. If the latter should happen, the effusion is generally found making its way towards the base of the brain. Calmeil relates a case in which there was extensive effusion of blood over the upper and lateral part of the right hemisphere, which had made its way down, and was batheing, and compressing the peduncles, and thalami optici. The remains of old clot from formal haemorrhages are by no means an unusual occurrence in the Post Mortems of cases of General Paralysis.

Other lesions of the brain, and spinal cord are frequently seen in these cases, occasionally tumours are found. M'Rodriguez mentions a case in which he found a tumour growing from, and compressing, the spinal cord reducing its size considerably, unfortunately he gives no history of the case, or even mentions on what portion of the cord it was situated.

An oedipic condition of the membrane of the spinal cord is frequently observed,
specific matter being deposited in layers between them, in some the dusty, earthly matter is in long flakes, in others it is of a plate-like character, whilst in some few the membranes are studded with minute points of it. I am surprised to find, that such an acute and intelligent observer as Mr. Rodriquez stating it is his decided opinion that the General Paralysis of the Insane is only found to differ from common Paralysis in its progress, which is slow, and not marked by the sudden commencement of the symptoms, as in the Paraplegic unaccompanied with disease of the mind. A very slight comparison however of the symptoms, and progress of the two diseases will I think immediately show there is a great fallacy in this opinion.

Differences observed between Ordinary Paralysis and the General Paralysis of the Insane.

The common, or ordinary Paralysis which
is met with every day in Practice, usually commences with an Apoplectic fit, which paralyses in a moment all the Voluntary fast movements of a part, or the whole of the body. It may be met with as a sequel to Spinal disease in which case it is found that all the muscles which derive their nervous supply from the Medulla Oblongata, and Brain are not implicated, unless the disease should afterwards extend up to them whilst all the remainder of the body which is below the seat of the disease in the Spinal Cord is Paralysed.

The Paralysis of the Tongue, usually called General Paralysed, on the contrary commences slowly and insidiously, and the earliest symptom which is observed is the loss of control over the muscles supplied by the Lingual, and Facial nerves, the Tongue being generally the first organ which is affected.

Again the Symptoms of ordinary Paralysis reach their greatest intensity soon after the
first seizure, and if there is any change it is more frequently marked by a gradual amelioration in the symptoms; than by any increase in their severity, a portion only of the body being usually affected by the disease, as is seen in Hemiplegia or Paraplegia. In General Paralysis however the symptoms progress slowly, but surely, if there is any change it is for the worse, the whole of the body being implicated in the disease.

Begin of the Disease.

With regard to the origin of the disease, it has been supposed by some authors that it may be due to meningitis, the symptoms commencing with dangerous congestion, arising in the first instance from a blow, or other cause; the congestion giving rise to chronic inflammation of the membranes, and cerebral disturbance, which is indicated in the first stages of General Paralysis; by the delirious and excitement from which these patients
frequently suffer. The inflamed membrane forms out swell upon the surface of the brain, into the Ventricles, and Pericalcal, and which swell is supposed to produce paralysis by its pressure. I may observe that the pathological appearances which are supposed to support this opinion are very similar in their characters, to those which are found in cases of Insanity unaccompanied with General Paralysis, and should these pathological appearances be found in General Paralysis, they always in cases of long standing. From these facts, I think but little confidence can be placed in the opinions that Mencapiti are frequently seen in which there are no complications with either Insanity, or Paralysis: should any of such cases die, and a Post Mortem Examination be obtained, thickening of the membrane, and effusion of blood will be found; the recent pathological appearances in fact, as are described to general Paralyses. But I consider it is probable, when further investigations have
been made, that the seat of this interesting disease is in the Psychologist will be found in those portions of the Brain, which govern voluntary motion; and Meningitis would then be looked upon as one of the most frequent complications, if not as one of the early causes of General Paralysis.

Similarity between Paralysis Agitans and General Paralysis.

There are few diseases which are likely to be mistaken for General Paralysis, but there is one however which I think in many of its leading symptoms bears a great resemblance to it, namely, Paralysis Agitans.

A disease which has been but little noticed, or investigated; but by the study of which I think much light will ultimately be thrown on the disease which is the subject of this treatise, Mr. Parkinson, who was the first to take special notice of Paralysis Agitans, and who is quoted by Walton in
his practice of medicine, mentions several symptoms which are strikingly like those of the Paralysis. He states that the approach is slow and insidious, being so imperceptible that the patient often does not recollect when, or in what manner, it first commenced.

A sense of weakness patters on some particular part of the body, as the middle of the hand, or arm which may remain affected with a slight trembling, and weakness for years; after a while the Paralysis extends to the lower limbs which also gradually become weakened, and tremulous, and finally unable to keep the eyelid. In the more advanced stages, the power of speaking, and eating is lost; the head hangs forward on the chest; the patient cannot walk; or even retain the secretions. Cough at length ensues, and terminals in death. Mr Parkinson conjectures that Paralysis Agitans may depend on defects of the Medulla Oblongata; but proves no proof.
Mothers to support or refute these conjectures Mr. Marshall Hall observes that the symptoms bear much resemblance to those produced by diseases of the Cerebral Quadricepsmus.

Effects of Metals on the Voluntary Muscles

Various metals have a peculiar effect on the voluntary muscles producing various symptoms, which in many respects much resemble the early symptoms of General Paralysis or Paralysis Agitans. Amongst them may be mentioned Lead, Mercury, and Arsenic.

Treatment

Physicians, and those engaged in the treatment of the Paralytic Indane, in consequence of the prevalent notion that this disease is incurable, being either cured, or arrested for any length of time in its progress are apt to neglect the active medical treatment of these patients adopting
the expectant method instead, and paying
and perhaps partly more attention to their
deal, and comfort- than to their treatment
by medicine. The great difficulty also with
which Paralytics are persuaded to take, and
the general dislike to medicine which they
all more, or less possess render the task of
administering it tiresome, making the patient
uncomfortable, and giving him a dislike
to his attendants which should be avoided if
possible, in all cases of Insanity; frequently
(paying this much of the practitioners in favor
after less troublesome and perhaps safer lines
of practice. But as the cure or alleviation of the
symptoms of any disease which he may be called
upon to treat is the office of the Physician, it behoves
him not to rely solely on the fact that a disease
uniformly now unfortunately considered incurable; only
by his diligent attention to the symptoms, and
careful investigation of the references he may
draw from them, and his, not only to a
great knowledge of the disease, but also causes
him to adopt a cure of treatment, which may
at least enable him to arrest its course for a time, and perhaps eventually to control it entirely.

Some of the French authors are of the opinion that this disease is, in its earlier stages, an acute charnelor, and believe that more active measures are indicated by the symptoms than are usually applied in this country.

Balme, in advocating large and continual blood-letting, as a line of treatment which should be early adopted in this disease, Dr. Rodiguez, who appears to follow him also recommends in the early stages the most decided treatment with the lancet, he thinks, and advises that the venesection should be used freely and frequently, stating that neither advanced age, nor any essential weakness of the blood, either contra-indicated, or prevent the use of it.

This heroic line of treatment which I believe originated in an error has been lost sight of in this country, if it ever was to great extent; for there can be no doubt that active measures of any kind, which tend to improve the blood and
Weaken the system are quite unneeded to any stage of general Paralysis; although a patient might be found, who would bear their frequent bleedings. It cannot be sufficiently remembered that Insanity generally sets in labouring under active disease of the Brain, or not, as a rule does not bear defleeting measures being frequently much injured by them.

Mr. Rodrigues has mentioned a case that became Paralytic immediately after convulsions produced by resection. He observes in his work that blood is on no account to be drawn from the Insane stating that by so doing many patients are hurried into a state of dementia. Unless we are in this subject strictly, however, were carried extreme for there can be no doubt that both local, and general bleeding may in cases of severe Insanity as in other cases be of occasional benefit. Great judgment, and experience being required with its use. For we are aware does the strength become so rapidly prostrated from the insane.
Usually however the symptoms at the commencement of General Paralysis, do not indicate the presence of any acute or active disease; the actual type of acute disease being absent, the fever seldom indicating any great disturbance of the systems; the functions of digestion remaining intact, accompanied with the sensations, and lingering nature of the disease, either show that it is of a chronic nature.

In the latter stages the condition of the patient renders it quite impossible to look towards active measures; and I am confident that deflating measures would, if used at any stage, in the majority of the Paralytic, instead only加速 the downward progress of the patient, and hasten his death; his health being placed earlier than it otherwise would. The only instances of General Paralysis in which I ever knew bleeding to be adopted: contain a case of insensible and life, the dying of it is true was covered off by it, but the patient appeared to fall into a state
of complete insensibility from which he never
recove. Dr. Connolly observes that in a
continuous, and excited manner must not
lead us to suppose that blood letting is
necessary; and mentions two instances
in which bleeding was practiced in consequence
of the hemorrhage of violent epileptic paroxysms.

Stating that the results were most serious,
the patient being reduced to an extreme
degree of mental, and bodily insensibility from
which they never recovered.

Patients suffering from general paralysis do
not bear violent impressions with any degree
of safety, whether they are lowering or stimulating
in their characters. Whatever agitates the mind
or acts with force on the body appears alike hurtful
to them, extremes of heat, and cold are also very
unfavorable to them, even the alteration of a
few degrees in the temperature will make their
symptoms suddenly more intense; and as a sudden
and rapid decline on the strength of these patients
is of frequent occurrence, I should not even be
inclined to administer powerful, or exciting
drugs during the prevalence of cold, or uncertain weather. When General Paralysis is produced from the effect of disease of the brain, or is induced by excess of various kinds. Belladonna, may be used with benefit, among them may be mentioned the Lachar Pierre, Oxique Chloride (HC1) from which in one case I observed the most remarkable benefit. It is highly speaks highly of its beneficial use in this disease, and mentions the case of a female patient at Bannewell for whom the tincture was prescribed, and who recovered whilst under its use sufficiently to leave the asylum for a time. Triptali is a remedy which is a remedy has been much used, and commended on the Continent it is there administered in considerable doses and is stated with some success it has been however tried on an extensive scale in one or two of the large public Asylums in this country without the benefit being derived from it the Continental writers would with us to believe. For my part I do not see the necessity or the advantage gained by administering this remedy its action has it is well known being to depress the heart's action and diminish the
force of the circulation, but in this disease the heart's action is seldom so great as to require depressing the pulse being generally rapid and feeble. So much so that I think in the majority of cases Digitalis would be contra-indicated.

Mercury is a remedy which at present holds a prominent place in the treatment of this disease in this country. On the Continent Mercury has never been in much favour, Continental practitioners being usually prejudiced against its employment; it is seldom used there in the treatment of General Paralysis. But it is the prevalent opinion of Physicians in this country, that mercurial medicines can be used with great benefit in cases in which meniscal, or cerebral diseases are supposed to exist, and in which serous effusions, or alterations in the tissues of the membranes of the Brain are to be removed or suspended.

Dr. Connolly however states that notwithstanding these indications for the use of Mercury,
he has not met with much success in its administration, although he thinks that fresh trials are necessary, especially in the early stages of the disease, to prove whether or no it really possesses the power ascribed to it. For my own part I do not believe mercury possesses any power either to cure the disease or allay its symptoms but think it is exceedingly valuable and useful as a simple alternative. It is then best administered in form of Rheumors. All many and various other remedies have been used in General Paralysis but with little or no success amongst the members are one or two which might be supposed useful from their action on the nervous system as Arachina and Cantharides. I have been neither of them administered Dr. Condolly however states that he has no faith in them and makes the following remark on the use of Arachina. He says that Arachina will excite irregular muscular movements and shams in this or on any of other forms of Paralysis it drives the disordered machine into movement.
does not repair the machinery it stimulates to action, but communicates no permanent power. Mothas, Setons and Issues have been used to some extent in General Paralysis especially on the continent. Dr. Talley of the Salpêtrière especially recommend them he states that he has observed much benefit derived from their application. I think that a seton applied in some cases to the back of the neck in the early stages of the disease may be of service but it is doubtful whether the slight benefit derived from them is sufficient to compensate for the annoyance and irritation they may occasion the patient. But of all reme|es the most useful perhaps is Opium and its preparations without it would be almost impossible to allay the restless and irritable fits which in the first stage of the disease so frequently occur. It enables the physician to grant to the excite, excited, and sleepless patient the inestimable boon of quiet and grateful rest its best form for administration to these patients is in that of the Acetate or the hydrochlorate of Morphins.
The cold bath and douche are remedies of great power and efficacy if given at the proper time, but they require great judgment in their administration so as to prevent any great amount of reaction taking place which would increase the disease of the brain. I am inclined to think the reaction which follows the application of cold to the head has been too much dreaded in General Paralysis and I believe it is those cases in which the reaction is either too great or on the contrary does not come on at all that the patient suffers from the application of the douche etc. We had a gentleman at Moorcroft who whilst suffering from General Paralysis invariably took a shower bath every morning (in the winter the temperature of the water being slightly raised) at 7 a.m. with the greatest benefit and to far from producing any bad effects. I believe was the means of prolonging his life for some time. I also have observed the greatest benefit to be occasionally derived from the judicious application of the shower bath, in this disease
whilst I had the temporary charge of the Derby County Asylum and elsewhere. I should not advocate its employment indiscriminately in all cases of General Paralysis but believe that there are cases where in the early stage, especially, would be much benefited by the occasional administration of baths accompanied or not with the douche. Great care must however be taken that the temperature of the water is not too low in winter or temperature must be varied and the patient whilst dressing should have the benefit of a good fire to assist in restoring the healthy circulation of the body. The preservation of the bodily health in these patients is however by far the most important both as a means of alleviating the disease and of rendering the patients more comfortable. Every thing that can tend to amuse them should as far as possible be granted whilst anything that may have a tendency to excite or irritate the mind should be carefully avoided. Mental labour and excessive bodily fatigue should be forbidden and family affairs
or losses with which they may be connected and which are likely to result in a cause them from should be withheld from their knowledge. Every want their feebleness and mental helplessness may require should be immediately attended to and in all asylums, whether for the rich or for the poor, whether public or private every attention must be given so as to regulate their clothing by the state of the temperature and they should be kept most scrupulously clean and dry. The apartments of general paralytics should be large, warm, cheerful and if possible commanding a view over the country and great attention must be paid to the cleanliness, warmth and ventilation of these sleeping rooms. If the weather is fine and warm these patients should as much as possible be in the open air. Supported if necessary by the arm of a kind attendant, but should the day be cold they must be kept in doors, their wards or apartments being warmed. Books and periodicals should be supplied them and the food of these patients should be plain,
wholesome and sufficient, but care must be taken not to allow them to gorge themselves if their hands are too feeble to divide food for themselves. It must be done for them and if necessary, they must be fed. If they have been accustomed to stimulants, they should be allowed them in moderate proportions. As last as the disease progresses, they become bedridden and attention must then be given to the bed on which they will probably pass the remainder of their short span of life and it will save the physician much anxiety if he immediately places the patient on one of S. Arnott's hydrastatic beds. I have seen a patient live for upwards of four years on one of these admirable beds without the appearance of a single bed sore. In public asylums the air bed is more often used and generally is the means of preventing those terrible ulcerations from which Paralytic patients used formerly to sink so frequently and which are even now too often seen in the Union workhouses where these unfortunate are still occasionally retained and their continued
coercion and restraint are still employed and the affliction increased by the control of coarse, coarse and ignorant attendants who often consult their own ease endeavouring to subdue the excitement of the patients by substituting the coercion chain and straight waistcoat for kind attention and care. In my decided opinion that not only all coercion chains and straight waistcoats to be never employed or even kept in Lunatic Asylums but that the principle of non-restraint should be carried out, which does not consist merely in the disease of these instruments of torture, which may indeed confine the body, and limbs, but leave the mental anguish, and excitement not only uncontrolled, but greatly increased by it. In the eloquent words of Dr. Conolly, "it comprehends the relief of the mind from the restraint of severity, and unkindness, a perfect protection from all neglect, and a never failing attention to every particular that can remove mental excitement and prevents its return, whilst nothing is so soon remedied that can better
The bodily sufferings, and disease or make life.

Shee amidst great afflictions, comfortable in
the majority of such cases, and endurable to all.

Sometimes, however in state of all appearances, and
every attention gangrenous ulcerations break
out over the back, and lower limbs; continual
care is then required to make the patients
condition endurable, and to allow the chamber
in which he is lying, to be entered without disgust,
and loathing. In cases in which the Skin
is becoming inflamed over prominent parts.
Great care should be taken to prevent it possible
the actual rubefaction of it by means of various kinds,
as the use of a Spirit lotion, or by a lotion composed
of Sulphate of Lime to the surface of the skin should
be carefully dried, and gently rubbed after their
application. When ulceration has actually
commenced various stimulants should be
applied to give if possible an healthy tone to these
ulcers; and if their secretions are offensive, or
acid, anti septic should be applied, and one of
the best is a weak dilution of Sir Benj. Burnett's
fluid. It is seldom however that ulcers when
once formed in Paralytic cases ever heal.

In the first stage of General Paralysis if accompanied with Maniacal excitement, and restlessness, the pulse being good, and the patient robust, I should be inclined to apply a few leeches over the temples, or counter irontarts to the nape of the neck such as multiple cataplasmia dry cupping; even an issue might be found beneficial. Mild Tonics with an occasional Mercurial Purge will in most cases be advisable. Entire abstinence from mental exertion being required, and only a moderate amount of bodily exercise permitted. If there be restlessness and want of sleep at night, small doses ofmorphine, or Hyposygnum should be given, the dose being increased when found requisite from the Brain becoming accustomed to the drug. In some cases, the early cases symptoms not being so strongly marked, the patient being locate, and irritable, and the pulse feeble, I should be inclined to allay any
irritation that may exist by Opium.
Baths in this stage will be found useful
if exhibited with care and attention to the
directions elsewhere given. But it is in this
stage that Dr. Conolly believes that the
Tincture of Belladonna C. is so useful, and most likely
to be found of service, it should be
commenced with in small doses, which
are to be gradually increased.

In the second stage, the strength of the patient
has decreased considerably, local bleedings
and counter irritation would now be
useless if not injurious. Bleeds in cases
where there is a tendency to Aplasia. If the
digestive organs are healthy a course of
Injunctive may be tried, but care must
be taken not to damage those important
organs. Stones, as Gummine or Iron are required,
with Quotas if necessary.
In the third stage, the disease has proceeded
so far as to be stayed with any remedies; care
must now be taken to render the condition
of the patient as comfortable, and happy as possible; every attention being paid to his personal cleanliness. If delirious he should be removed to a fresh apartment for a few hours every day. His linen should be changed daily, and bedsores if they exist attended to at least twice a day. The prostrate and dependent condition of paralytic patients, more perhaps than any class of the insane, calls for incessant, and careful attention. For their ruined minds, degraded morals, faculties, and their delusions of recovery which appear to cling to them to the last; the difficulty which they have in making their wants known; their heaviness, and helplessness accompanied with their bodily ailments, and isolation from friends, and home. Shut out all cares, but that which is derived from the continual, and compassionate care of the Physician and the Attendants, to whom their care isentrusted entrusted. It is therefore of vast importance that the attendants on the insane should be of a kind
and compassionate disposition, possessing some slight education; for it is my decided opinion that no one should be employed as an attendant on insane patients of any kind, who is so ignorant that he cannot read or write. "For Ignorance, and Brutality are nearly allied." On the character, and disposition of the attendant much indeed of the comfort, and habitude of these unfortunate depend. For what diseases can be compared with the uncertain continuance of reason? Men may indeed lose one, or more of their especial senses, and yet there may be circumstances which may mitigate the affliction. He may like Milton be blind, or like Titus be deaf, and yet they may enrich the literature of their country and leave names which will not readily be forgotten. A man may even like Nelson lose an eye, and a limb, and yet be magnanimous, and gain the fleets of his country to Victory, and leave a name of which that country will ever
be proud.

But if the mind is diseased, then farewell to the greatness of man. His useful no more. He is buried away by his kindest friends from the rude state of the unsympathising world, and his abilities and virtues are alike forgotten.

Truly, then the mission of the Physician is high, and proud enough for the greatest of men to aspire to. What Profession presents a nobler aim, than that of curing diseases and what more noble than to call back a diseased mind to health, peace, and happiness. To give back as it may be, to a suffering and heart-broken family their sole comfort, and support. To a mother perhaps the stay and hope of her old age.

Truly it may be said that the kind and humane Physician is by the blessing of God without whom the best of man's works are but vain and imperfect. A noble benefactor! But he must live a life of earnest.
professional industry strong to advance, and benefit his art and show that the conduct of the True Physician is not influenced by the desire of worldly gain, or honour and that he is not governed over by "Worldly Opinions."

How happy is he born, and taught who serveth not another's will, whose armour is his honest thought and simple truth his highest skill.