CLASSICS OF THE ALCOHOL LITERATURE

There are some "firsts" in the alcohol literature which are known to many students of alcoholism only by a few sentences handed down from one textbook to another. A few early descriptions of the complications of chronic alcoholism, first attempts at experimental solutions, first allusions to seemingly modern theories, may be read even today with definite profit. If nothing else, their perusal will show how little or how much we have progressed in certain fields of research in alcoholism.

In order to facilitate access to these writings, of which, in some instances, only one copy exists in this country, the Quarterly Journal of Studies on Alcohol, beginning with this issue, will reprint a selection of the most interesting "firsts." Brief papers will be reprinted in extenso, while larger ones will be culled for their most pertinent parts. The various selections will be annotated by authorities in the relevant field. Should interest warrant, the reprints will later be gathered into a small volume.

INTRODUCTORY REMARKS ON DR. THOMAS SUTTON'S DESCRIPTION OF DELIRIUM TREMENS

The English physician, Thomas Sutton, whose fundamental writing on delirium tremens is reprinted here, was born in 1767 in Staffordshire and died in 1835 in Greenwich. He obtained his medical degree at the University of Leyden in 1787 at the age of 20. He enjoyed the high esteem of his contemporaries, was elected a member of the Royal College of Physicians and appointed Physician to the Forces as well as Consulting Physician to the Kent Dispensary. He wrote variously on pulmonary consumption, but is best known for his description of delirium tremens, which is contained in a book entitled Tracts on Delirium Tremens, on Peritonitis, and on Some Other Internal Inflammatory Affections, and on the Gout, published in 1813 by J. Moyes, London. \(^1\)

\(^1\) For the biographical data we are indebted to Professor Arturo Castiglioni of Yale University.
There is general agreement that it was Sutton who gave the disease the name by which it is known today, but there are contentions that the disease had been described by one or two physicians previous to 1813.² Doubtless, there are some very early descriptions of the symptoms of what is known today as delirium tremens. Samuel Burton Pearson, who in 1801 wrote on brain fever, is usually mentioned as the forerunner of Sutton, and Romano has pointed out that John Coakley Lettsom (1744–1815) gave a brief description of delirant states in chronic alcoholics. One could go considerably farther. In his book on Epidemics, Hippocrates gave day by day descriptions of a condition which suggests delirium tremens, but for lack of detail cannot be definitely diagnosed as such. “Acreian who lay sick in the house of Demaenetus, was seized with fever after drinking.—Third day: Acute fever, trembling of the head, particularly of the lower lip, after a while convulsions, complete delirium; an uncomfortable night.”³

While these earlier descriptions exist, and while Pearson’s observations are particularly cogent and from a psychiatric standpoint more interesting than those of Sutton, the latter must be accorded more credit than merely the distinction of having named the disease. Sutton has sharply outlined delirium tremens as a disease entity and has, with the greatest definitiveness, related it to prolonged, habitual indulgence in alcoholic beverages.

The immediate reception of Sutton’s book was not exactly favorable but it gave rise to a considerable literature on delirium tremens in the 25 years following its publication. The interest which the medical profession took in this disease is largely due to Sutton’s writing.

In the following pages Sutton’s “tract” on delirium tremens is reprinted with the omission of 10 case histories. These omissions will be evident from the numbering of the histories. A few repetitious pages toward the end of the discussion are also omitted as indicated in footnotes.

Although we have made a few annotations (numbered footnotes), we have not attempted to edit the text.

Herman Wortis, M.D.

³ Epidemics, III, 5.
TRACTS
ON
DELIRIUM TREMENS,
ON
PERITONITIS,
AND OF
SOME OTHER INTERNAL INFLAMMATORY AFFECTIONS,
AND ON
The Gout.

BY

THOMAS SUTTON, M.D.
Of the Royal College of Physicians; late Physician to the Forces, and
Consulting Physician to the Kent Dispensary.

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1813.

Reproduction of original title page.
On Delirium Tremens

The term phrenitis' has, for a great number of years, been intended to convey the idea of a disease materially affecting the brain with continued delirium, and connected with violent morbid exertions. This disease has been divided into two species: the one, arising from a primary affection of the brain, accompanied with fever, has gained the name of idiopathic phrenitis: the other, as it was found to follow febrile affections, and was not immediately connected with these diseases in their commencement, has been called sympathetic phrenitis; and the cure of it has been recommended to be governed, in a great degree, by the nature of the affection which preceded it. But the disease termed idiopathic phrenitis, has been generally considered to be of inflammatory kind, and most frequently to consist of active inflammation of the brain, attended with fever, and therefore to require the most powerful antiphlogistic remedies such as copious blood-letting, active purgatives, vesicatories, &c. The investigations of anatomists have supplied us with numerous instances of the state of the brain under this disease, which have disposed the profession to entertain not only the most serious apprehensions for the event of such cases, but have stamped a confirmation on the practice which has been for many years pursued. Nevertheless, upon however strong a foundation this practice may appear to rest, it will be proper to point out, that misconceptions have prevailed respecting the nature and treatment of a disease which has generally gone under the name of phrenitis; and, with the name, has been conducted, in the cure, on the same principles.

As the account I am about to give of this disease will be of some length, I am obliged to adopt some term which may express my allusion to this last affection. This will serve to avoid the necessity of frequent circumlocution, and the confusion which would otherwise result in the progress of the narrative. The name, therefore, which I have adopted, though possibly not the most appropriate, will serve to con-

1. This term was used indiscriminately for anything considered at that time as inflammation of the brain.
2. This principle is still operative in the treatment of psychoses contingent upon acute infections.
vey a notion of an essential symptom of the disease, and will be sufficiently explicit for my present purpose.

Delirium tremens, and likewise the treatment, which will be pointed out as we proceed, are known to some professional men to a certain extent; but to many they are wholly unknown: and the disease has not yet taken a station in medical writings.* So far as my observations and inquiries have gone on this point, its treatment is acknowledged by only a few, who have not collected any very ample information on the subject.

From the year 1798, to 1807, I resided on the eastern coast of Kent; first in quality of physician to the forces, and latterly in that of private practitioner in physic. During this abode, and early in my residence there, I was led to see the distinction between phrenitis and delirium tremens, at least in regard to the treatment. Hitherto I had considered the diseases to be the same, and to depend upon active inflammation of the brain, or its membranes, and to require copious depletion, vesicatories, purging, &c., as usually recommended in books of medicine for the cure of the former disease. I however found, that this latter disease was, in that quarter, treated by different practitioners in two very distinct ways. The one party, with myself, considering the disorder to be active inflammation of the brain, or its investing membranes, conducted the treatment according to this supposition; the other, without pretending to any precise notions of this affection, in so far as the con-

3. In the first few years after the publication of Sutton’s tracts numerous terms were suggested to replace the designation delirium tremens. Elliottson suggested delirium tremefaciens since, as he said, delirium cannot tremble. Mania a potu; mania a temulentia; encephalopathie crapuleuse are some of the other terms. Nevertheless the name given by Sutton still persists after more than a century of usage. In recent times there have been again some attempts at changing the nomenclature, e.g., Toulouse, Marchand and Courtois in 1933 proposed the name encephalite psychosique des alcoo- liques.

4. Indiscriminate dehydration based on the fact that cerebral edema is a frequent autopsy finding in delirium tremens may be regarded as a modern parallel of this treatment.

* Doctor William Saunders, late physician to St. Guy’s, and for many years lecturer on medicine at that hospital, whose opinion I had the advantage of obtaining on this tract, considered the assertions in this paragraph to be perfectly correct; but stated to me, that he had mentioned the disease alluded to in his lectures for many years, and had been in the habit of noticing and distinguishing it from phrenitis during forty years of his practice. It is a considerable gratification to me to be able to introduce the opinion of this respectable physician on some important points connected with this subject.
tents of the cranium might be concerned, were in the habit of using opium in large and repeated doses. I very soon perceived that the latter practice carried with it all the success. A respectable friend of mine, the late Mr. Boys, the historian of Sandwich, and long a practising surgeon and apothecary of that place, told me, that for many years he treated delirium tremens as phrenitis, and employed the remedies usually recommended in the latter disease, with such want of success, that he considered almost every patient to be lost, to whom he was called under that affection, which was a common complaint in that part of the kingdom. He further added, that, on this account, he felt great reluctance to giving his attendance in such cases; but, after he had begun the use of opium in the treatment of the disease, the prospect became so comparatively bright, that he experienced the utmost satisfaction from the success of the practice.

I have never been able to discover how a practice, so different from that which the general appearance of the symptoms seems to warrant, came to be adopted; neither through my inquiries in East Kent, nor in my intercourse with medical practitioners in the metropolis, who have employed opium in the cure of the disease. From one of the latter, a respectable physician, I received in substance the following answer.—

"I know, from experience, that opium is of great use in this disease, and that when sleep is procured, the patient most frequently gets better; but I have nothing to guide me to form an opinion from, as to what may be the state of the brain, nor in regard to the modus operandi of the remedy, than that the measure of its beneficial efficacy is by procuring sleep."—This, then, is the sum of what I have collected from others. I shall now proceed to communicate the information I have acquired, from my own experience, in regard to the history, treatment, and nature of the affection: and for which purpose, I shall commence by giving a history of the disease in as condensed a form as possible.

Frequently the attacks of this disease do not come on suddenly; but for some days previously, the patient complains of being unwell, with loathing of food, listlessness, debility, and want of comfortable rest.

5. The only thing that may be said in favor of opium is that it induces sleep and reduces the total metabolism, thus preventing the development of other types of encephalopathy. The disadvantages are that it causes respiratory embarrassment, frequently obscures the signs of an associated intraabdominal or intracranial injury, and that it increases intracranial pressure. Although the use of morphine continues, its use is more and more frequently condemned in the literature. In view of Sutton's success with opium he must have been dealing with uncomplicated cases of delirium tremens.
He has pain in the head, and sometimes vomits, and appears to be dull and dejected. The pulse, in the commencement of the disease, in its ordinary occurrence, is by no means quick; but may frequently be observed with a sort of unsteady, nervous fluttering; there is not much heat on the skin; and the tongue is generally furred, but moist. In this stage of the disease the patient feels very little disposition to lie down for any length of time; but is ever uneasy, and desirous of a change of position; and there is a general agitation of the frame, with tremors of the hands. Associated with these, the mind is perceived to waver; and, if the disease proceeds, this becomes every day more manifest. In others, a state such as described, continues for some time, and wears off.

As the disease advances, the faculties do not, generally speaking, show themselves in disorder, by any extravagance of thought; but by fatiguing conversations on common affairs frequently repeated; and by broken discourses, caused evidently by forgetfulness and confusion of intellect. In the further progress of the disease, the patient discovers great anxiety of mind about his affairs, appears ever to be desirous to be where business is, and takes great, repeated, and violent efforts to liberate himself from those about him, if under restraint, in order to accomplish the objects that press most forcibly on his mind. These exertions are, however, not made in opposition to others, though violent, with either malignity or ill-nature: nor does the patient mark his restraint with the appearance of much anger or displeasure. He seems to be forgetful of what has immediately passed, and only to be propellled to action by those strong impressions in his mind respecting the objects above alluded to. In other respects he is tractable, and there is seldom any difficulty in administering medicine to him. In this situation he loses the sensations of pain, and complains of no bodily uneasiness; though, when in a considerable degree of this delirium, he knows momentarily those about him of his family and friends. The tremors of the hands, which constantly accompany this complaint, are now great, with unceasing workings and elevation of the tendons of the wrists; to which are very frequently associated subsultus tendonum, and often singultus. By the action of the tendons of the wrist, as above described, the hands are drawn inwards, sometimes to such extent, joined to the constant tremors, as to allow a very imperfect knowledge of the state of the pulse. When the patient is at all still, he is constantly picking the

6. Anxiety and occupational delirium are still regarded as outstanding factors of delirium tremens.
bedclothes, and in various motions with his hands. The evacuations are unconsciously rejected, in the height of the paroxysm. The pulse at this time becomes very rapid; but may occasionally appear to be more debilitated than it really is, on account of the tremors and subsultus tendonum in the manner above stated: and for these reasons, accuracy, in regard to the true condition of the pulse, cannot always be attained; and, though it seemed scarcely possible to be felt a short time before, on sleep being induced, and the workings of the tendons allayed, it will be found frequently to possess sufficient firmness and force. Accompanying the exertions at this time made, there is generally a most profuse sweat, which is sometimes clammy and cold; from which, occasionally, an offensive odor escapes. The heat of the skin varies much, but is seldom intense; and the tongue is not often inclined to be dry, or the patient thirsty. The general appearance of the countenance is dull, and the eye frequently suffused. The state of the bowels vary; but, during the violence of the disease, frequent stools are not common. In the height of the paroxysm, the patient is in an unremitting state of watchfulness, which continues until the disease is alleviated, or is succeeded by insensibility, which may partake of coma or apoplexy, ending in death.

This disease will continue, with great violence, from three days to a

7. This description vaguely suggests the possibility of a nicotinic acid deficiency encephalopathy, but as grasping and sucking reflexes are not mentioned specifically, no definite conclusions may be drawn.

8. Because of this symptom George Hayward in 1822 suggested the name delirium vigilans.

9. It is possible that these signs merged into the Wernicke syndrome or into nicotinic acid deficiency encephalopathy.
* The accurate history of a disease is always the most important part of information; but when it is necessary to distinguish one disease from another to which it bears great resemblance, and which may require opposite treatment, then an accurate view of the progress and symptoms of the disease becomes most essential. There are two disorders, phrenitis and mania, with which delirium tremens may be occasionally confounded, and from which it ought to be distinguished. This will, I trust, be accomplished by attention to the history of the disease now given; and I feel gratified by having the concurrence of Doctor Saunders in regard to the accuracy of my description of the disorder.

Doctor Saunders, however, thinks some observations, such as the following, might be given, on the occasional employment of the hands, in addition to what I have stated. He has often considered the motion of the hands in this state of disease, as if the patient might, with imperfect vision, be searching for things and occasionally rapidly catching, or avoiding them: such, for instance, as if in search for rats or mice, being things he wished partly to lay hold of, and partly to avoid.
week, and with moderate symptoms for a longer time, and is sometimes seen in the form of a chronic affection.

The following cases will give some further information respecting the history of this disease, and serve as an introduction to the treatment which has been found to be the most beneficial, and afford instances from which some general inferences may be drawn respecting the nature and causes of this disorder.

CASE 1

I attended a patient, with Doctor Michel of Woolwich, who was at first attacked with acute rheumatism, under which he had laboured for ten days; but, in the three days previous to my visiting him, he had become very delirious, and without sleep. When I saw him, he had a straight waistcoat on; of course might be considered to have been very ungovernable. He had been bled in the course of the day, and the blood was buffy; the bowels had been acted on freely, a stimulating composition had been applied to the head, and a blister between the shoulders: notwithstanding which, all the symptoms had become worse. The pulse was very quick: there were continual workings of the tendons, with considerable tremors and profuse sweats. After making inquiry respecting the habits of the patient, and collecting all the information I judged to be necessary, I proposed to administer 40 drops of laudanum in a draught every two hours, until sleep was procured. Three of these draughts were given in succession, when the patient fell asleep, and continued so for some hours. I saw him again at the interval of sixteen hours: he was then collected; and, after recommending forty drops of tincture of opium to be given morning and evening, for some few days, I took my leave; and was happy to find, on future inquiry, that the patient recovered rapidly from that period.

CASE 2

I was desired to see a patient with Messrs. Brown and Bungey, of Rotherhithe, who was reported to have been attacked, some time ago, with a fit; at present she was wandering and sleepless, had loss of appetite, vomiting, considerable debility, with quick and weak pulse, and tremors of the hands. I was given to understand, that the patient had been addicted to habits of indulgence in drinking. Some medicines were prescribed to relieve the pressing symptoms; and on calling the following day, the patient was found to be somewhat relieved. A plan was laid down to be pursued, and it was agreed that I should call again in three days. Among other medicines, a draught with thirty drops of tincture of opium was prescribed to be given every night at bed-time. When I next visited the patient, she was considerably worse: her nights had been passed very restlessly she had constant delirium, with quick pulse, and considerable tremors and workings of the tendons of the wrist. Under this state of things, forty drops of tincture of opium were directed to be given every two hours, until sleep was procured. Three draughts, with the above quantity of opium were successively ad-
ministered; the patient slept for some hours, and was, when I saw her the following morning, collected. The patient continued the use of opium for some short time, as occasion seemed to demand, and acquired such a state of health, as to be thought capable of undertaking a long journey. On the second day after leaving Rotherhithe, she was attacked with a fit at Bagshot, and died rapidly.

CASE 6

The patient was a robust young man and much given to drinking of spirits. Two days previous to my seeing him, he had been bled largely and blistered and the bowels had been freely opened. Afterwards, opium had been given with tolerable freedom; notwithstanding which, the delirium had continued unabated, with uninterrupted sleeplessness. On my visit, it was agreed to give two grains of opium every two hours until rest was procured. When I again saw the patient, he had in the course of twelve hours taken eight grains of opium; but as the friends were possessed with the idea of impossibility of his recovery, they had, for several hours, laid aside the administration of medicine. During the interval of my visits, blisters had been applied to the calves of the legs. I now found the patient, after having been much exhausted by exertion, exceedingly restless, in a profuse clammy sweat, with tremors, a very constant subsultus tendonum, a pulse scarcely to be perceived, the countenance fallen, and the eyes muddy; the urine had been discharged involuntarily, and the patient was constantly occupied in picking the bedclothes. Under such a state of things, the chances of recovery appeared to be little. But as we were assured of the nature and origin of the disease, and had seen much beneficial effects from opium, under some very unpromising circumstances of delirium tremens, it was determined still to advise its use, and to encourage the friends to hope that something favorable might yet ensue, by following the directions that would be given. It was then directed to give two grains of opium every hour, until rest was procured, which happened after the fourth dose; and the patient had a tranquil sleep of some hours. The next day I found him rational, his pulse free and not quick, the subsultus tendonum gone, the tremors much diminished, and he discovered some inclination for food. The patient took six grains of opium, in divided doses, for some days, and got, in a short time, into good health.

CASE 13

I attended the wife of a publican, 10 with Messrs. Butlers, of Woolwich, who, on the present occasion, was in a state of drowsiness nearly amounting to coma, with diminished action of one side of the body. The patient was bled twice and the blood was buffy; she was also cupped, and leeches were applied to the temples, and blisters were placed on the nape of the neck, and behind the ears; the bowels were kept open, and occasionally powerfully acted upon. Under this treatment, in about a week the comatose symptoms

wore off, and the side affected regained; in a great degree, its action: but the disorder now changed very materially; the pulse, which before was not at all accelerated, became quick, tremors of the hands came on, with considerable delirium; so much so, that the patient was, with difficulty, confined to her bed, and she passed her nights without rest. Under this situation it was agreed to try the effects of considerable doses of opium, which soon subdued these symptoms, and the patient became collected, passed her nights comfortably, and got into a state of convalescence. She lived many weeks after this period; but was so given to indulge in the use of fermented liquors, that she would suffer no restraint on this subject, and died a martyr to this baneful propensity.

CASE 15

The delirium tremens, however, appears sometimes, to ordinary observation to be a species of madness. I had an example of this kind when I resided in East Kent. I was desired to visit a patient, who had just arrived from London to be with his friends, and who was considered to be in a deranged state. On visiting him, his disease appeared to me to indicate the affection which is our present subject, more than mania. On making inquiries respecting his habits, I was informed by the person, who accompanied him from London, that he had latterly given himself up to inebriety, and chiefly by drinking spirits. A free use of opium was therefore recommended, by which he became tranquil; and, though he never regained his health, he went about without the necessity of being watched; and lived for many months afterwards, under no restraint, though in a low and uncomfortable state.

CASE 16

After I had written thus far, I was called to a patient in delirium tremens, whose case I am desirous of communicating, on two accounts. The one, because the patient was first taken with a fit, which lasted some time, and on account of which he was bled largely. After he came out of the fit, which was considered to be apoplectic, he complained of violent shooting pains in his head, and was blistered and purged. It was the sixth day after his fit when I was called to see him. He had been so delicious for two nights, that it became necessary for a person of some strength to be constantly with him. My second reason for wishing to communicate this case is, that there was an appearance of mental derangement about this man, mixed with the usual symptoms of delirium tremens, that caused me not to be sanguine in curing the disease. The patient was directed to take forty drops of tincture of opium, in a draught, every three hours, for three times. My first visit was in the afternoon. The next morning, when I saw him with Mr. Alstone, of Deptford, the apothecary who attended him, I found the patient had not slept during the night; but he had not so much tremor, nor were the pulse so quick as on the preceding day. The plan was, therefore, recommended to be

11. Delirium tremens is now universally classified as a mental disorder, but does not seem to have been regarded as such in Sutton's time.
continued, with this difference, that two grains of extract of opium were
directed to be taken every two hours, until sleep was procured. The patient
passed the following night tranquilly; and, in a few days, was attending to
his business in the shop, which is that of a little grocer at New Cross.

It has been remarked, in several of the above instances, that the
parties attacked with delirium tremens have been given to drinking;
and I feel firmly persuaded, that all cases of this disease are connected
with indulgences of that nature. Such indulgences must, I presume,
generally have gone beyond moderation and propriety, and have been
continued for some time, before the peculiar circumstances which fit
the constitution for an attack of this disease, have become fixed in the
habit.\textsuperscript{12} It might, however, happen, that no great excess in them, owing
to some peculiarity in constitution, may, in some, induce this morbid
disposition to the disease,\textsuperscript{13} which, however, I never found to occur in a
truly abstemious character. When the constitution has been so pre-
pared for the disease, I cannot go so far as to say, that this peculiar dis-
position will be immediately, or, after some time, eradicated, upon a
change of conduct; and therefore it would not be in contradiction to
the opinion I have given of its cause, if persons should have this dis-
order, who have been known for some time previous to the attack, not
to have indulged in fermented liquors beyond what, according to the
present feelings and manners, may be considered to be reasonable. Of
this I have seen some instances, in so far as my information has carried
me: but it is to be remarked, that when habits of intemperance in this
way, and especially in the use of spirits, are once established, it is diffi-
cult to break away from such indulgences; and it not unfrequently
happens, if there should be reasons strong enough to induce a party to
desist publicly, that there will exist a private supply for this gratifica-
tion in some way or other. It may also sometimes happen, that parties
unwarily get into these habits, to the great detriment of their health,
and without suspecting what they are about; of which the following
case may serve as an instance. Some years ago, I attended a lady with a
disease that bore a strong resemblance to delirium tremens, and I en-
tertained no doubt that it had been caused by the indulgences that are
the immediate subject of our discourse. I however, for a few days, was

\textsuperscript{12} This opinion has stood the test of time. As a matter of fact, the etiology of
delirium tremens has not progressed much beyond this point.

\textsuperscript{13} A specific constitutional liability for delirium tremens has been postulated in
recent times by some investigators (e.g., Brugger) but has been conclusively disproved
by Pohlisch as well as by others.
not able to discover any other strong ground for my suspicions, than the symptoms of the disease. When my inquiries were nearly given up, a discovery was made by a domestic, which completely confirmed the opinion I had entertained. The patient frequently purchased large quantities of tincture of lavender, which she took by day, under observation, on a lump of sugar; but at night, and in her bed-room, it was evident she was in the habit of taking much larger quantities, as a liqueur glass was discovered, with the stains of the tincture upon it, which, with other things, proved that the habit had gone much beyond what had been observed by the family. Disquietudes had induced restless nights; and there can be no doubt the patient had then frequent recourse to this, for a time exhilarating, but pernicious dram, when she would probably have been shocked to have taken the same quantity of brandy. The disease, in this instance, was subdued by large doses of opium; and the patient’s future conduct placed her in possession of health, which she has, for some years, uninterruptedly enjoyed. But, that fermented liquors, and more especially spirits, are the general causes of this disease, is rendered certain, by the frequency of it in situations where the indulgence of them can be had at a reasonable rate. On the coast of East Kent, where I was first led to distinguish this affection, and at the time alluded to, spirits brought in by smugglers might be had in great abundance at a cheap rate; and such as laboured under delirium tremens in that quarter, were mostly those who confessedly indulged in the use of spirits to excess.

The histories which have now been given, show, by inference, some strongly, and others in a more remote degree, that delirium tremens is an affection of the brain, in which some morbid change might be expected to be found, upon an investigation of the contents of the cranium. The only direct evidence I can give of what this may occasionally be, is from what was detected, on inspection of the brain, in Case 10, which will by some, perhaps, be received with suspicion. Independent, however, of the injury the person was supposed to sustain, this appeared to me to be a true case of the disease; and I suspect the violence which was suffered, was not the cause either of the disease, or of the appearances upon opening the head; no rupture of vessels, no appearance of violence on the inner part of the skull, nor on the dura mater, was found; and the circumstances that were discovered, might have been expected to occur after death, from diseases of the head, not

14. High proof liquor is regarded also at present as the more likely producer of delirium tremens.
necessarily arising from violence. It may next be observed, that we have three instances, in which delirium tremens appeared after fits of the apoplectic kind (Cases 11, 12, and 16), one of which was succeeded by paralysis, and two in which sudden death happened at no great distance of time from the attacks (Cases 2 and 7), and a case of the disease succeeding coma (Case 13); all which concur to induce strong presumptive proofs, that the disease may, in its fatal termination, be connected with some of those consequences which attend some other affections of the head; and it would have excited no surprise, to have detected water between the membranes, with fulness of the veins of the brain, in any of these latter cases alluded to, had death happened to ensue.

In regard to the similarity of this disease to idiopathic phrenitis, it may be remarked, that delirium tremens is an idiopathic affection of the head, that it begins ordinarily without any previous febrile attack, that in a violent paroxysm it is attended with considerable insensibility and wandering, with much restlessness and exertion. In these respects, in the height of the disorder, the diseases appear to be similar. This delirium, however, will not generally commence with an exacerbation of fever, nor so suddenly as in idiopathic phrenitis; but it may often be learnt, on inquiry, that the disease has been coming on for some days, and even for a longer time occasionally. In this delirium there is no great intolerance of light, though the parties attending such a person will cause the windows to be closed, because light increases the desire for exertion. The disease is constantly associated with considerable tremors from its very commencement, and in its least violent state, which are not considered as necessary attendants of phrenitis. These tremors are not noticed by Sauvages, Cullen or Hoffman, nor by Van Swieten, as a symptom in phrenitis; but only in so far as the latter details the opinions of Hippocrates and of Galen. It must, therefore be evident, that tremors occurring in phrenitis, which, in the ordinary acceptance of the term, they have been frequently observed to do, were considered as an accidental, not as a necessary, symptom of the disease. Hippocrates often mentions tremors, and after him Galen, as highly to be feared in phrenitis. Lieutaud also particularly notices them; nor, however, as necessarily connected with phrenitis, but, when they occur as foreboding much danger. This symptom is likewise introduced into the history of phrenitis, under that article, in the Edinburgh Practice of Physic; afterwards, however, in the prognosis, it is placed with the symptoms indicating a fatal termination of the disease, which, because the disease is not described as always being so, shows
that tremors were not considered to be necessarily present in all cases of this affection. The truth however is, that tremors are rather a symptom of a peculiar disease, which has been hitherto generally considered to be phrenitis, and, when treated as such, has proved to be very fatal. There cannot therefore, I presume, be any proofs more strong of the importance of the practice stated through the Cases to have been pursued, than the generally successful termination of a disease under its use, which has been considered to be the most fatal form of phrenitis, while treated as such.

It has been said, that delirium tremens was not necessarily connected with fever, though four instances have been related, in which the disease followed acute rheumatism, scarlatina, and typhus fever, and might have been supposed to be connected with those affections as a cause. In so far this may be allowed, or supposed, that the delirium tremens would not have then occurred, if the previous diseases had not taken place; but it does not therefore follow that they were the essential causes of this affection. It has been before stated, that this is a disease depending on a state of habit brought on by certain indulgences, which renders it the precise disease it is. These fevers, therefore, must be considered to be incidental, not necessary and essential, causes of the attack of this delirium. In like manner, fatigue, inordinate indulgences, inducing fever, inquietudes of mind, &c. may be the occasional, though not the essential, causes of this affection, which consists in a previous state of the brain, that, under circumstances, is capable of producing the peculiar disease treated of.

It has been likewise perceived, that delirium tremens has happened in the same subject with mania; and one case has been related, in which this disease, in a chronic form, was considered to be mental derangement: hence it may be inferred that a similarity exists between the complaints. But to me the distinction appears generally easily to be made, and no less usefully to be observed. The mind, in delirium tremens, is occupied and worried about private affairs; and in this there must be necessarily some confusion of ideas; but this is the burthen of what the patients talk of in the exacerbation of the disease. The exertions they make have all the tendency to accomplish this end, to be where their affairs are going on. To effect their purposes, however, they use no artifice, nor are passionate or malignant, though violent in their efforts to accomplish their wishes. In other things they are easily per-

15. It is now recognized that delirium tremens frequently follows acute infections in the chronic alcoholic.
suaded; as, for instance, to take their medicine, about which no difficulty in general arises: in addition to which, the memory of what has immediately happened, appears to be obliterated, and, on recovery, their illness seems to them an illusion.

The tendency to sweating has been, by some authors (Lieutaud, &c.), considered to be a favourable sign in phrenitis; but in delirium tremens it is neither favorable nor otherwise. It is a very constant symptom of this disease; and though not so uniformly accompanying it as tremors, yet it may be considered to be the next in constancy of attendance to that symptom.*

Some authors have described phrenitis to be accompanied by a dry, brown, black, and rough tongue; and an instance has above been stated, in which delirium tremens has been found with the tongue covered with black sordes; but this occurred after typhus fever. In the greater part of patients, however, under this delirium, the tongue is moist, though coated with a white fur. Patients under this affection are frequently not inclined to thirst, which appears to indicate nothing respecting the event of the disease, though, from very ancient times, the want of thirst has been handed down as a very unfavourable symptom in phrenitis.

The account now given shows, in a conspicuous manner, the beneficial effects of opium in delirium tremens. A very sparing notice, however, has been taken of those remedies, which were exhibited with it. This has been advisedly done, that the salutary powers of opium should distinctly appear; the attention not being diverted from the chief remedy, by detailing a compound prescription; and to place the cases in as little compass as possible. The other medicines, however, that were at the same time prescribed, were, with the exception of purgatives, more to be considered as given for the sake of form, than as depended upon to produce any material effect. When the bowels had previously been attended to, camphor mixture, or peppermint water, coloured with conf. aromat. or syr. croci, were given with the opium, and in two instances a small quantity of tincture of castor with pepper-

* Doctor Saunders entertains an opinion, that profuse sweating is an unfavourable symptom in this species of delirium, and it certainly continues to the point of dissolution very frequently. But, from the observation I have made, many cases recover under the most profuse and continued perspirations, and even when they have appeared of the most unfavourable qualities, such as being clammy, cold, and offensive. I have therefore considered profuse sweats in the ordinary way as forming no precise indication of recovery or otherwise, and have certainly never judged them to have any favourable tendency.
mint water. When the bowels were in a confused state, opium was
given in conjunction with opening and purging medicines; but, so
given, the purgative seldom operated before material relief was pro-
cured, and could not therefore be judged to be a considerable cause of
the cessation of the disease. In my account of the remedies which were
employed, previous to giving large doses of opium, I have been more
particular, because it was proper to show, that the remedies usually
resorted to in cases of affection of the brain had been employed by
others in their endeavours to cure the disease, and also that they have
not been neglected by me, and had been relied upon so long, in some
instances, as could be done without great risk to the patient.

A question may be here introduced in regard to the proper time of
administering opium, and whether, by a more speedy recourse to it,
success might not be more completely insured, and the most dangerous
part of the disease prevented? To this I cannot reply so distinctly as I
could wish. Considering the remedy as an unusual one for a disease of
this kind, though highly efficacious, I have been cautious not to
exhibit opium in the manner stated, except in such cases as appeared
to me to be decidedly delirium tremens; and, until the general con-
course of symptoms are established, this cannot be clear and definite.
An extension of the practice, therefore, if it should admit of this, as
above hinted at, must depend upon future observation. It may have
been remarked, that in a few of the cases small doses of opium were
exhibited, but without any such effect as might perhaps have been
expected, considering that large doses of this medicine are so highly
advantageous. In these cases, the smaller dose of opium did not tend
to arrest the disease. The quantity of this medicine that may be em-
ployed, may be better collected from the cases, than from any general
rule which can be laid down: but it is worthy to be remarked, that
under circumstances of this and of other diseases, patients unused to
the remedy will bear a quantity of opium to be administered with
benefit, which under other circumstances and in health, would prob-
ably occasion death. It cannot therefore be certain, in any of the stages
proceeding towards a complete paroxysm of delirium tremens, that the
state of the disease or powers of the habit under it, would be such as to
allow opium to be administered in such large quantities as have been
observed to be borne under the complete paroxysm of the disease. This
consideration should, of course, have some weight in laying a restraint
upon its use in any other circumstances of this disorder, than those of
strong and decided proofs of its existence.
It is evident, from what has been before stated, that this delirium has been usually attempted to be cured by those methods which have commonly been resorted to in serious diseases of the head. These have for their object, to remove the causes of the disease, which are generally considered to be fulness of the head, effusion, or extravasation of blood. The two latter of which, however, from what we know of the anatomy of the brain and its functions, can hardly be expected to be quickly removed by any means in our power, as we are not able to detect any vessels of the absorbent kind in the brain. The immediate aid, therefore, which might be supposed to be effectual in relieving the head, under such affections, would be, in so far as the influx of blood to that organ could be hindered, diminished, or diverted. This has been, in such diseases, endeavoured to be effected by blood-letting, blistering, and by purging, which may be supposed to have the effect of removing the fulness of the vessels in the head. I shall therefore make a few remarks upon the efficacy of these remedies, in so far as delirium tremens is concerned. In some cases of this disease, the most proper remedy might appear to be blood-letting, more especially as the brain seems to be considerably affected; and I have drawn the conclusion, that it is probably palpably so upon inspection, in many cases of this disorder. But whatever might appear on dissection, cannot alter the facts which tend to establish the efficacy of opium in the cure of the disease.\[16\]

On the employment of purgatives I must first remark, that they are not a cure for the disease, though the use of them in this disorder may aid the effects of opium, and a pertinacious state of costiveness may retard its salutary operation. The bowels should therefore be attended to in every proceeding, in the cure of this disease. But it is not of so much consequence to wait for the operation of the bowels, as to delay the use of opium. Purgatives, therefore, may be given in conjunction with this remedy: and when the symptoms remit considerably, and the bowels have not become open, the use of opium may be suspended for a little time, to favor the operation of cathartics, and again resumed, as occasion may require. Sometimes the bowels, after taking considerable quantities of opium, will require large and repeated doses of purgatives; but I have never seen a case in which this state of costiveness has not been overcome; nor is it attended with trouble in regard to pain or sickness: but the doses of purgative require to be carried occasionally

16. From here on 627 words are omitted (pages 65 to 69 of the original).
to a considerable extent, which the practitioner would be better satisfied not to be obliged to do. By large and repeated doses of these medicines, however, under these circumstances, I have not observed an instance, in which distress has been occasioned from hypercatharsis. Injections, by way of oyster, are useful in aid of purgatives taken by the mouth, under great pertinacity of the bowels brought on in the manner above stated, and may be very properly employed at all times.

Though the cases above related may claim attention as insulated facts, yet it is proper to offer reference, as decisive as can be gained, by which the success of the practice may be compared. It cannot be expected that a disorder so connected with serious affection of the brain, or at least great disorder of its functions, can by any method of cure be universally conducted to a favourable termination; and therefore in such a disease the estimate of the success of the practice may not only rest upon the celerity with which a disease is conducted to a successful issue, but also on the comparative mortality accompanying it. Within the last three years twenty-two cases of delirium tremens have fallen under my care, which will show that this is not a very infrequent disease; four of whom have died. 17

It may, in this place, not be improper to remark, that opium proves a cure for the ravages of a disease which is brought on by the inordinate use of fermented liquors. Yet it may be observed, that for many years, in theory and in practice, the effects of opium have been acknowledged to be analogous and similar to them. If, however, no other reason did occur, surely the very facts that have just been related should bring this opinion into suspicion. Let it be supposed that spirits were substituted for opium, in violent paroxysms of delirium tremens, until sleep was induced, what would be the conclusion of every medical man respecting the result of such a treatment? But let him go on and suppose that death did not happen from their employment, would he not expect every thing except comfortable feeling, from the result? and that the pulse would be irritated and quick, and headache and nausea, with disposition to vomit, and loss of appetite would occur? Let him suppose it possible, that he goes on from day to day in the use of spirits as a remedy, in the way that opium has been employed in delirium tremens, has there not been sufficient experience of their effects, to be able to conclude, that the morning would never be ushered in with tranquil feelings, but rather accompanied with the horrors which

17. From here on 416 words are omitted (pages 72 to 74 of the original).
follow a disgusting debauch? The reverse, however, of these takes place from the use of opium in this disease. The patient begins to lose the urgent symptoms of the disorder, he passes comfortable nights, his tremors vanish, his faculties of mind are restored to him; his pulse, from being quick, becomes tranquil and calm; his appetite returns, and in a few days he begins to feel himself a being to whom death appears not to have made any near approaches. If, then, such discordances exist, it may be worth while to reconsider these opinions, and at least to doubt them, unless the effects of these substances can be made more unequivocally to approach, on stronger and more decided grounds. In the mean time, that which cannot be so well supplied by theoretical views of their operation, may be learnt by an observation of the effects of each, and will better qualify the practitioner for their advantageous employment, than all the speculations in the world.

18. Although rarely, the administration of alcoholic drinks as a treatment of delirium tremens is still encountered.