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THE
TREATMENT
OF
FITS
—
WATERS

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F I T S

DIAGNOSIS AND IMMEDIATE TREATMENT

OF CASES OF

INSENSIBILITY AND CONVULSIONS

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PREFACE

I HAVE been led to write the following pages, not with the idea of giving anything new to the profession, but to compile for my brother practitioners' and my own benefit the principal symptoms of most of those affections coming under the notice of police surgeons, in which insensibility or convulsions occur, and to assist us in forming an opinion of and treating these most difficult cases.

Ammonia is not brought forward as a novelty, but I simply remind medical men we have this means, by which most cases of insensibility can at once be treated without the risks that would follow the administration of other powerful drugs.

The remarks I have made respecting the

responsibility of drunkards are no doubt beyond my province, but I feel with every thinking man the incongruity of the present laws dealing with them and the crimes they perpetrate, and would gladly see a readjustment of their legal relations.

These are my reasons and excuses for sending forth this little volume, which I feel is very incomplete, but which I hope may be found useful.

101, JERMYN STREET,
S.W.

F I T S

THE importance of the subjects considered under this title is only equalled by the difficulties of their discussion, differentiation, and treatment; but as, unfortunately, so many cases are brought to our police stations, where these difficulties must be met, and where treatment is imperatively called for, I have ventured once more to bring them forward and, if possible, to gain some ray of additional light in the semi-darkness that surrounds them: from the policeman who finds them to the surgeon himself, there are none connected with these cases but dreads them. Take a common example; a man is brought into the station by the police, who have found him insensible. On the surgeon's arrival he sees the patient is comatose, and only learns he was lying on the pavement and supposed to be drunk, or that he has had a fit. The question arises, is it epilepsy? that is, does the attack depend on some brain or

systemic affection from which the patient will recover and again at some future time be attacked? or is the fit due to some organic disease by which life is threatened, as tumour, abscess, or aneurism of the brain, chronic meningitis, congestion of the brain, cerebral hæmorrhage, embolism of the middle cerebral artery, softening of the brain, concussion or contusion of the brain? is it due to injury, to poisoning either by alcohol, or any other poison? to Bright's disease, hysteria, insolation (sun-stroke), heart disease, &c., &c.? Having eliminated all these, we are accurate in thinking the fit is epileptiform, and that he will recover; but when we consider the difficulties that surround and almost prevent the possibility of diagnosis, we shall, I think, be justified in using any means that assist us, and in accepting all hints that shall simplify this Herculean task. The diagnosis would be sufficiently difficult were these straightforward, uncomplicated cases; but, unfortunately, with few exceptions, they have a halo of alcohol that surrounds them, masking or intensifying the symptoms upon which we rely to form our opinion; this, bad as it is, is not the greatest danger a patient runs. If we who have studied these cases fail to arrive at a just conclusion about them, still less is it

to be expected of a policeman ; he, or indeed any ordinary individual, will believe the person to be drunk, and, unless the inspector on duty at the police station has some doubt about the case, the poor man will be put into a cell unseen by the surgeon. The wonder is, not that some die there, but that a great many more escape without harm ; and it speaks very highly for the intelligent care these cases receive when in the cells. * The public make a great outcry, and justly so, if some poor person dies there, but could they see how even the most disgusting cases are treated they would be surprised, as I have been, at the care shown for them ; the tight dress is unfastened, the head raised on pillows kept on purpose, the boots taken off, even the hair of the women loosened, &c., &c., and all this done, not under the direction of the surgeon, but long before he can get there, by the ignorant (?) policeman.

EXAMINATION OF PATIENTS

For the sake of simplifying the examination of those cases brought before us, and of which we have no previous knowledge, I have sought for a word, the letters of which it is composed, representing the initial letter of another word, which is to remind us of the object we have in view ; thus, "Crests," if we take its letters separately, will give us—

- C. *Circulation*.—And we note its force, rhythm, and rapidity, the colour of the skin, modified by it, &c.
- R. *Respiration*.—The temperature and odour of the breath, its difficulty, feebleness, or otherwise, and if any noise is produced by the act of breathing.
- E. *Eyes*.—Their condition as to suffusion, restlessness, congestion, &c., the pupils if dilated, contracted, unequal, sensible to light, oscillating, &c., &c.
- S. *Sensibility*.—If the intelligence is impaired, if the sensibility is lost or injured, and to what extent, if equally on both sides of the body, state of tongue, &c., &c.

T. *Temperature*.—As to the colour, warmth, perspiration, or otherwise, of the surface of the body; if the heat varies on different parts, especially that of the head as compared with the extremities, &c.

S. *Spasm*.—As to movements, or absence of movement, convulsions, if any loss of muscular power, and to what extent, inability to stand erect, &c., vomiting, urination, defæcation, hiccup, frothy saliva on lips, &c., &c.

It will perhaps seem superfluous bringing in mnemonics to our aid, as this word “crests” only tells us what every medical man knows, and for what he would search; but when we consider that the cases are unexpectedly brought before us, and that most probably we can obtain no previous history of them, it will be at least advisable to have a system of examination which we may always follow, and that may be kept in our mind by so simple a means.

The professional consideration of these cases, which can here only be cursory, seems for our purpose to fall naturally into two divisions, the dangerous, and those from which no danger is expected to arise; the first of these is by far the larger, and requires most of our attention. We find the greatest difficulty on studying it with the

hope of arranging the diseases whose symptoms are to some extent alike; indeed, it is impossible to dogmatically classify them, no two patients suffering from the same cause have identical symptoms; we can only group them according to their prominent features.

FIRST DIVISION

FIRST DIVISION

TABLE I

<p>Premonitory symptoms: Intellect and senses dulled. Paralysis. Pupils of eyes, one or both, insensible and contracted. Heart, often vegetations on the valves.</p>		Rupture of cerebral aneurism.
<p>History of injury. Has the patient been in the way of injury? Any discharge of <div> <div>Blood,</div> <div>Watery fluid,</div> <div>Brain matter,</div> </div> from <div> <div>Ears,</div> <div>Nose,</div> <div>Eyes,</div> <div>Mouth,</div> </div> Wounds of skull? Palsy of facial muscles: "Portio dura nerve." Pupils, one or both, widely dilated according as the pressure is unilateral or bilateral. Wounds on the head. Thrust wounds in the thin parts of skull.</p>	<p><i>First Division.</i> Cases of coma in which danger to life is imminent.</p> <p><i>First Class.</i> Symptoms suddenly and severely developed. Intense coma, that is, entire loss of perception and volition, stertorous breathing, flaccid limbs, the heart's action very weak.</p>	Severe injuries.
<p>Great heat and dryness of skin. Pupils contracted, with conjunctivæ congested. "Pupils often dilate just before death."</p>		Cardiac insolation (sun stroke).

The first division of our subject may be divided into two classes of cases, for our easier consideration.

First Class.—The suddenly severe, where nothing, or next to nothing can be done.

Second Class.—Those where the symptoms are slower in their outset, though not necessarily less severe or less fatal in their termination, but where we try to do something for their relief.

FIRST CLASS

In this class it will be sufficient to enumerate some of those causes and symptoms which, although beyond our treatment, we should be able at once to recognise.

In *severe injuries* with laceration or concussion and contusion of the brain, we have cases with perhaps the most rapidly fatal issues, in some there is not time given even for symptoms to develop, but death at once occurs; in others, there is a clear history of injury, and the diagnosis is of course easy; but where there is not we must consider if the patient has been in the way of receiving any rough treatment, and examine the eyes, ears, nose, and mouth for discharges, either of a watery or bloody character, the face for palsy of the muscles, the scalp and skin for wounds, for discharges of brain substance, for bruises, &c. A simple wound of the scalp may lead to mischief in the bones of the skull (inflammation, ending in purulent infection, or suppuration of the diploë), a slight bruise may cause extravasation of blood between bone and dura mater, followed by compression of the brain, the symptoms from which are induced slowly or quickly as the blood is thrown out, and the brain has time or not to become accustomed to its presence. When suddenly extravasated, insensibility is quickly produced, breathing and pulse become laboured and slow, and the patient dies before we can notice any other symptom. Absence of external signs unfortunately does not negative

serious or even fatal injury to the brain; from a slight fall of a drunken man or person in a fit, hæmorrhage into the arachnoid cavity or laceration of the brain, &c., and, of course, the most fatal consequences may occur. Hemiplegia immediately following a fall is a very bad sign, if even there is no convulsion showing non-traumatic hæmorrhage, yet there may be laceration of the brain. Thrust wounds of the brain are especially of importance, and those parts of the skull where the bones are thin and brittle should be most carefully examined; the orbital plates, bones of the nose, parts of the occipital bone, and glenoid fossa (and the conjunctivæ and eyelids for effusion of blood), as these are the places where a fatal injury may be caused with very little outward sign, and are especially chosen by criminals to destroy children.

January 3rd, 1878.—I was called in the early morning to see a woman, who had fallen from the front door of a large house down the area, which is two storeys deep.

On examination I found her

Circulation laboured, slow.

Respiration weak, slow, slight smell of drink.

Eyes. Left pupil widely dilated.

Sensibility entirely lost, could not be roused.

Temperature. Surface cool, head hot.

Spasm, none; slight rigidity of the arms (both) and the legs.

This woman had some blood, and what looked like brain matter, oozing from the left ear, and she had at least three broken ribs. The distance she fell was about thirty feet. She died about a quarter of an hour after the accident.

The more remote consequences of injuries will come under the second class of my subject; I pass on to those organic diseases, resembling severe injuries in their suddenly fatal termination.

The rupture of a cerebral aneurism may kill quickly, but to do this it requires a large amount of blood to be suddenly thrown out. If a patient has a general convulsion, followed by deep coma, and powerlessness, there is most likely large hæmorrhage on the cerebrum, in the lateral ventricles, or pons Varolii, and the ingravescence of these symptoms still more favours the conclusion. Drs J. Ogle, Church, and Murchison have shown that convulsions frequently occur with aneurism of large cerebral arteries in patients with vegetations on the heart's valves; if we find these vegetations, that the patient has been hemiplegic, that he has great stertor and powerlessness, and that he dies within half an hour of the fit, we may

conclude an aneurism has ruptured on his brain.

July, 1878.—I had been attending a gentleman who was suffering from heart disease, and was slightly hemiplegic, when I was suddenly called to see him this evening, as the servant said he was in a fit. When I arrived at his house I found him lying on the floor convulsed; his

Circulation laboured, full, and slow.

Respiration stertorous, puffing of the lips difficult.

Eyes insensible, pupils dilated unequally.

Sensibility lost everywhere.

Temperature. Extremities cold, head hot.

Spasm. Convulsive movements very slight, and soon stopped, stiffness of limbs well marked.

After struggling to draw his breath, of course unconsciously, for a few seconds after I saw him, the convulsive twitchings stopped; he lived about ten minutes after this.

Post-mortem examination showed extensive disease of the heart, with large aneurism on the arch of the aorta, and great quantity of blood thrown out on the brain.

Insolation (sun stroke): In this there are three varieties, the cardiac, cerebro-spinal, and the mixed. The cardiac, with which we have only now to do, may be rapidly fatal, with few or no symptoms; the patient falls, gasps once, or twice, and dies; or there may be a short time given us to note an irregular weak pulse, great heat, and dryness of the skin, the pupils congested, contracted, and quite insensible, hurried respiration, that is noisy and laboured, with a convulsion, often only occurring immediately before death.

FIRST DIVISION

SECOND CLASS

<p>Premontory symptoms: Severe headache, generally well marked.</p>	<p>"Tumour of the brain."</p>	<p>E. Congestion of the eyes. Sen. Maniacal excitement. Tem. Dry, ardent, stinging heat.</p>	<p>"Insolation cerebro-spinal."</p>
<p>Cn. Pulse slow, irregular, or intermitting.</p>	<p>These symptoms with "fracture" of the skull.</p>	<p>Respiration difficult. E. Pupils at first contracted, then dilated.</p>	<p>"Acute encephalitis."</p>
<p>Rn. Snoring and difficult.</p>	<p>"Depressed on the bone on the brain."</p>	<p>Sp. Convulsive movements regular, protracted, and limited to one side, paralysis advancing rapidly.</p>	<p>"Embolism."</p>
<p>Eyes. Great inequality and insensibility of pupils, optic neuritis, or atrophy.</p>	<p>These symptoms with wound of entrance or exit.</p>	<p>C. Valvular disease of the heart, cyanosis palpitation and low temperature.</p>	<p>"Hydrophobia (rabies)."</p>
<p>Sn. Lost in regions, generally cannot be roused, may be twitchings of limbs.</p>	<p>"Foreign body in the brain."</p>	<p>R. Dyspnoea, anasarca, ascites. Sp. Paralysis of one side.</p>	<p>"Tetanus."</p>
<p>Tem. Countenance flushed, or pale and clammy sweats.</p>	<p>These symptoms supplemented by</p>	<p>C. Pulse quick, sharp. R. Gasping with frothy saliva. S. Hypersensitive, horror of liquids and brilliant objects. Temp. High, thirst, difficult deglutition.</p>	<p>"Hydrophobia (rabies)."</p>
<p>Sp. Vomiting urgent.</p>		<p>Eyes. Bright, restless, very sensitive. Sp. Convulsions clonic if any, after uncertain time stiffness of head and neck.</p>	<p>"Tetanus."</p>
		<p>R. Difficult, especially if chest wall affected by spasm. Eyes. Fixed and prominent. Sen. Mind clear. Sp. Stiff neck, convulsions tonic, closure of jaws, "risus sardonicus," vomiting occasional, but not urgent.</p>	<p>"Tetanus."</p>

TABLE II.

advent; more or less loss of sensibility and general weakness.

<p>“Congestion of brain, convulsive form.”</p>	<p>“Softening of brain.”</p>	<p>“Poisoning by opium.”</p>	<p>“Bright’s disease.”</p>	<p>R. Stertorous, the sound produced in the mouth. Sen. Can be readily roused. Eyes. Eyelids and ankles puffy and oedematous. Spm. Some muscles relaxed, and some rigid, or clonic distributed spasm. Albumen in urine.</p>	<p>Contusion of the brain.</p>	<p>“Concussion of the brain.”</p>	<p>Cn. Weak, slow, or absent. Rn. Slow, easy, feeble. Eyes. Pupils generally unequal and insensible. Sn. Partially or utterly lost. Tem. Surface pale and cold. Sp. Vomiting often severe.</p>	<p>These symptoms continuing and getting more severe.</p>	<p>Premontory symptoms of general malaise sometimes present. Cn. Feeble. Rn. Feeble. Eyes. Pupils unequal. Sn. Partially or utterly lost, countenance has altered expression. Sp. Vomiting often.</p>	<p>Premontory symptoms nearly always present. C. Slow, full, and hard. Countenance flushed. Sen. Totally lost. Spm. Rigid muscles, perhaps convulsive movements.</p>	<p>Premontory symptoms nearly always present. C. Feeble, slow, soft, and intermittent. E. Pupils are generally both dilated. Snty. Insensibility not the first symptom. Tem. Surface cold and pallid, with cold sweats. Sp. Relaxed muscles, vomiting sometimes.</p>	<p>“Serious apoplexy.”</p>	<p>“San-guineous apoplexy.”</p>	<p>C. Weak, fluttering, or intermittent. Sen. Confusion of mental faculties, at first no loss of consciousness. Sp. Paralysis suddenly comes on, tonic spasm feeble, clonic spasm more violent on one side, and of long duration, vomiting often.</p>	<p>C. Weak, but full and strong in carotids, face at first congested. Sen. No confusion after the fit. Sp. Fall in fit, epileptic in character but no “cry,” loss of power limited. Age. Middle-aged, or old.</p>
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SECOND CLASS

In the second class the symptoms are slower in their advent, though not necessarily less severe or less fatal in their termination.

Injuries other than those mentioned in the first class are now to be considered more with reference to their consequences, as concussion, contusion, and the subsequent symptoms developed from inflammation, &c., than the wounds or bruises themselves, which would be treated in the ordinary manner.

Concussion of the brain, more or less severe, may result from even a slight injury or blow on the head; a man may be only stunned for a short time, or he may be insensible for hours; in the slighter cases there is some loss of

consciousness and muscular force, and the circulation is weakened or interfered with; but these symptoms soon pass off, and the patient regains his usual state of mental and bodily power. In more severe cases the insensibility is perfect, the pulse is imperceptible, the countenance pale, skin cold, the breathing slow, feeble, but easy, and the pupils are generally unequal; in this state the patient may remain a long time, and then rally; but the danger of inflammation of the brain should always be kept in mind; however slight the concussion has been the patient should be watched, even from the recovery of the first symptoms.

Contusion of the brain may be judged to have occurred if the after symptoms of concussion are severe, but there are no characteristic signs that enable us to differentiate the one from the other.

Concussion of the Brain and Drunkenness

April 19th, 1878.—A man, Robert Nash, was brought in by a policeman, who had found him reeling about with a wound on face and bleeding.

Circulation. Pulse quick, but soft and compressible.

Respiration. Breathing quick and sighing; smells of drink, and he has “drunkard’s breath.”

Eyes congested and suffused; flushed face; pupils are unequal, left very large and quite insensible to light.

Sensibility. Can be roused to a certain extent; he is in a dull, muttering state of drunkenness, which is evidently increased by the fall.

Temperature. Extremities cold, but head hot and flushed.

Spasm. No muscular power, limbs lying useless. Hiccup, and has been vomiting.

Gave him three drops of the ammonia, which he swallowed readily, and which affected him very little, inhaled for a short time, when I gave him three more; this revived him considerably. He now struggled against the inhalation. After a time gave three more drops; this restored him to consciousness, when he gave his name and address. His wound, a deep cut

on the eyebrow, was dressed, and he was placed in a cell, to be watched by a policeman on reserve duty. He was quite well, except the wound, next morning, having slept all night.

April 10th, 1878. A cabman fell off his box and cut his head (small scalp wound). He was taken to the hospital and there certified by the surgeon as drunk. When I saw him at the police station at 6 o'clock, I noticed—

Circulation weak and irregular; rather quick. Respiration easy, weak; breath smells of drink, and he has the "drunkard's breath" fully developed.

Eyes suffused and congested, the right pupil very much dilated and insensible.

Sensibility. He was dazed and partially insensible; could be roused; unable to understand what was said to him.

Temperature. Head hot, but the rest of the body cold and clammy.

Spasm. He could not sit up without being held; was sick, but did not vomit.

He tried to put his hand to his head, as though he had pain there. Gave him three drops of the ammonia, which brightened him up at once, so that he replied to questions; but its effects rapidly subsided.

9 o'clock I visited him again; he is still dazed, and he requires an exertion of will to understand when spoken to; the pupils of the eyes are still unequal. He was bailed out at 11 o'clock. I saw this man the next morning in the police court, found him much better, but the pupils of the eyes were still unequal, and he complained of severe headache, referred to the left inferior posterior parietal region (Turner).

Compression of the brain is due to some force acting within the cranium, and more or less suddenly squeezing the brain; which may be from extravasation of blood or serum, from an abscess, tumour, or embolism, or from fracture of the skull, part of the bone being depressed on the brain; or from a bony excrescence, or foreign body, as bullet, &c., and the symptoms are essentially those of cerebral apoplexy. For our purpose they may be considered under this head.

In cerebral apoplexy there is insensibility and loss of power of voluntary motion, with much, often severe, disturbance of the respiration and circulation, making up a state of the system which can be described as comatose, and which may pass off in one of three ways—gradually leaving the patient uninjured in mind or body; or leaving him impaired in mind and body; or end in death. There are also three different modes of seizure. FIRST, the patient suddenly falls senseless and motionless, and he appears as though asleep; his pulse is

slow, sometimes very slow ; breathing stertorous, with puffing out of lips, face flushed and congested ; pupils, one or both dilated and insensible ; there is sometimes convulsive movements, or rigidity and contraction of the muscles of one side of the body.

The SECOND mode commences by sudden pain, referred to some part of the head, with nausea and often vomiting, faintness, amounting in some cases to syncope and great pallor of the face. In this form the insensibility gradually comes on, advancing to complete coma, from which there is seldom any recovery, as a large clot on the brain is usually found to be the cause.

The THIRD mode is generally due to cerebral hæmorrhage ; there is paralysis on one side of the body or loss of speech, with little or no loss of consciousness in a patient as a rule past the middle term of life ; the paralysis may remain or increase, or pass into insensibility and coma, or it may go off slowly, and the patient after a time recover his faculties and strength. Even if the patient is young and there is hemiplegia with deep and continuing coma, it is most likely due to hæmorrhage.

When the apoplectic has a hard full pulse, rigidity of muscles, and flushed congested face,

we have a case of "sanguineous apoplexy." When there is a feeble pulse, with limp, powerless limbs, and pale, cold countenance, we have "serous apoplexy."

In "nervous apoplexy," and that due to embolism, we have some or all the symptoms of the other forms, but during life it may be impossible to diagnose them.

Injury—Fracture of Base of Skull

November 16th, 1878.—A cabman was found by policeman, sitting on the ground leaning against a lamp-post, and was assisted to the station; the man who brought him in thought he was drunk, but that he was ill as well. On examination I found the

Circulation slow, full, and a little blood trickling from his left ear.

Respiration easy, slow, and feeble; smells of drink.

Eyes dull, the pupil of left eye more dilated than the right, though both were enlarged.

Sensibility. He could be roused to a semi-conscious state, but immediately relapsed on cessation of stimulants into a dazed state.

Temperature. Skin cold, countenance pale and expressionless.

Spasm. He had vomited, but no symptom of other spasm; limbs supine, motionless.

This man was sent to the infirmary on the ambulance stretcher, and three days after he was still there, but decidedly improving. A fortnight later he was sufficiently recovered to leave the workhouse.

Compression of Brain

October 9th, 1878.—Captain B— was found insensible in the street (roadway), covered with mud, as though he had rolled about (a wet night). He is a powerful man, tall, well nourished. On examination I find—

Circulation slow, feeble, but not irregular.

Respiration easy, but weak ; no smell of alcohol.

Eyes dull, the lids not held, though closed over the eyes ; pupils large, equal, but only slightly sensible.

Sensibility. Could be roused with difficulty, but quite unable to understand or articulate.

Temperature. Cold extremities ; head not so cold as the general surface of the skin.

Spasm. Evidently has a desire to vomit ; occasionally has paroxysms of violent clonic convulsions, which appear quite uncontrollable, and occur suddenly without any warning, requiring great care to prevent him injuring himself or others.

Gave the ammonia to inhale for a short time, some four minutes only, when he quite recovered consciousness, and the fits ceased. He explained to us, that when in India he had been thrown from his horse on his head, and was then ill

from concussion ; this was two years since ; that last January he again fell, breaking his leg and hurting his head ; does not remember how he fell to-night. Sent him to St. George's Hospital by his own desire.

Facial Paralysis—Complicated by Drink

December 3rd, 1878.—A man was brought into the station this evening, and charged with being drunk ; he was found lying in the street, but walked to the station with the assistance of two policemen. He was placed in a cell, where he is said to have slept. When I saw him at 1 o'clock a.m., I found—

Circulation very weak and intermitting, face flushed.

Respiration weak and difficult ; puffing of the lips ; smell of drink, and “ drunkard's breath.” Eyes suffused, drooping of left eyelid ; the left pupil dilated and insensible to light.

Sensibility. The left side of the face paralysed, tongue protruded to the left, speech affected, partially insensible.

Temperature. Surface cold, the face, although flushed, did not appear warmer.

Spasm. Limbs flaccid, general loss of power, but no noticeable difference in the two sides of the body.

After he had inhaled the ammonia, and had taken three drops, the fumes of the drink left him, and he became more conscious, enough so to answer questions, though with difficulty. He was sent to the infirmary, where he remained in the same state some days.

Hemiplegia—Masked by Drink

April 26th, 1878, midnight.—A tall man was brought into the station and charged as drunk, but the acting inspector not thinking him so, and not liking his looks, sent for a doctor, who, the sergeant reports, stated the man was drunk, and had congestion of the brain, but that he might remain in cell. The policeman declared the man, except being drunk, was all right when he brought him into the station.

I was sent for to see this case at half past seven the next morning, and found a large, heavy plethoric man, about fifty years of age, with white hair, suffering from hemiplegia of left side.

Circulation. Pulse feeble, but regular.

Respiration. Breathing slowly, and with puffing out of cheeks; breath smelling of digested alcohol; "drunkard's breath."

Eyes. Pupils slightly contracted and nearly equal.

Sensibility lost on left side, unable to move the limbs on this side. He is dazed and unable to answer questions; limbs paralysed, are not rigid.

Temperature. Surface cold.

Spasm. Entire absence of convulsive movements, can move his limbs, &c., except those mentioned as paralysed.

Sent the man at once to the infirmary.

I called on the doctor who saw this case, he stated he thought the man was suffering from some symptoms that might indicate danger, perhaps serous apoplexy, though he could find no evidence of paralysis, and he ordered a blister to be put on the back of his neck, and gave him a little medicine (containing chloric ether).

As there was a woman in the cell with him requiring watching, he thought the police would watch this man also, and he asked them so to do; he did not think the man would be taken in at the infirmary, so did not send him there.

This was a case in which unfortunately the ammonia was not used, but where had it been, the symptoms due to the alcohol would have been modified or removed, and where those caused by the brain mischief would have been most likely recognised.

Hemiplegia—Masked by Drink

April 3rd, 1878.—A man was brought into the police station by a policeman, who stated he found him in Leicester Square reeling about and thought him drunk.

He is a stout, plethoric, middle-sized, sanguineous man of thirty-five or so.

Circulation, sluggish and intermittent.

Respiration. Breathing stertorous, and breath smelling of drink; no “drunkard’s breath.”

Eyes suffused, pupils unequal, the left being much the larger, and insensible to light.

Sensibility can be slightly roused; coma increasing, seems to come on in waves, more or less severe.

Temperature very low on the surface.

Spasm. No movements, limbs flaccid.

Gave the ammonia to inhale, which revived him after a time; gave three drops in water, this enabled him, though with great difficulty, to say he felt ill somewhere in Leicester Square, and had taken some stimulant at a bar, after which he knew nothing. He gave his name and address, but his articulation was very bad; it was with great difficulty he was understood. When left alone he relapsed into an unconscious state. When assisted to walk his left leg gave way, and he staggered forward. Sent him home on ambulance, but no one being there he was taken to the infirmary.

4th.—This man is still at the infirmary, and still unconscious.

Paralysis

April 3rd, 1879.—A woman was found in the street by a policeman, lying on the pavement, and was brought by him to the station, supposed to be drunk; inspector on duty thought otherwise and sent for me. On examination, I find a poor, ill-fed little woman, badly clothed.

Circulation weak, irregular, and slow.

Respiration. Sighing, puffing of lips, and slightly stertorous.

Eyes suffused and dull, pupil on left side dilated and insensible.

Sensibility partially lost, cannot be roused; does not feel pinching on the right side, and only slightly on left.

Temperature very low, lips blue, and extremities cold and blue.

Spasm. Limbs flaccid and weak, no movements in response to tickling or pricking.

Gave the ammonia to inhale, but with little or no effect; gave two drops in water, which was very carefully placed on back of tongue; this restored a certain amount of consciousness, and she continued to improve but very slowly, until she was quite sensible to the

ammonia when held to her nose. Sent her home in a cab, under the care of a policeman.

August 6th, 1879.—I was called last night to see a gentleman at a theatre who had fainted, a very stout old gentleman; the temperature of the box was not high, nor was the play exciting; in fact, it had not long commenced.

Circulation slow, irregular, and feeble.

Respiration slow, difficult, sighing, but no stertor; there was slight puffing of the lips; smell of alcohol from some brandy just given, but no smell of digested alcohol.

Eyes suffused, tears, pupils dilated, but unequally so.

Sensibility. Intelligence masked, dazed; is aware who the people are around him; endeavours to speak, but articulation greatly affected; can squeeze my hand with both his own with equal force, but that not much; cannot feel if touched, even when his hand is pinched does not appear to know it.

Temperature. Surface cold, very pale, lips blue; he is yet in a profuse perspiration (cold sweat), especially on head.

Spasm. He endeavours to move his limbs as requested, but is very slow in so doing, and evidently has great difficulty. On removing him from the box he could stand, and with assistance (three people) he with great difficulty walked up stairs; when there he urinated and seemed greatly relieved.

The ammonia was not tried here, but he recovered to a certain extent and went home; the next morning he was no better, but the next day began to recover articulation and muscular power a little.

Bright's disease (*i. e.* all diseases of the kidneys productive of albuminuria), Traube considers, "may produce uræmic symptoms, and œdema of the brain." The convulsions of an uræmic patient resemble to a certain extent those of cerebral hæmorrhage, yet we may, I think, distinguish between them; those from uræmic poisoning come on slowly, as though the patient slept into coma, after being stupid and languid; with some limbs relapsed and others rigid, or in chronic contractions, not on one side only, but more generally distributed (most convulsions, to whatever due, affect one side, sooner and more powerfully than the other); with heavy stertorous breathing, but the stertorous sound is evidently here produced in the mouth; with apparent deep coma, but from which he may readily be roused to act, or speak, though when the stimulant is withdrawn he will again relapse directly into stupor; there is also generally noticed puffiness of the ankles and eyelids, with peculiar and marked pallor of the surface, and, the most characteristic symptoms of all, albumen in the urine. This has less value if the patient is past middle age, for his coma may be due to cerebral hæmorrhage, and those who have any predisposition to this have frequently disease

of the kidneys as well. Albumen may also be caused to appear in the urine by a convulsion due to heart disease, &c.; but an examination of this organ will enable us to decide. It is always advisable to inquire if the patient has recently had scarlet fever, as this disease is often followed by uræmia, and occasionally endocarditis, which may leave plugging of the arteries of the brain, and produce fits, paralysis, &c.

Bright's Disease

December 25th, 1878.—A poor old woman was found by the police in the street sitting on the kerb, cold and exhausted, with wound of the scalp. The men, noticing the wretched state she was in, got her some coffee and placed her near the fire, supporting her there until I arrived.

Circulation very weak, pulse could with difficulty be counted, irregular; skin a dull grey colour. Respiration weak, difficult, and a snoring sound produced no smell of alcohol.

Eyes dull, shrunken, and fishy-looking; eyelids puffy and swollen, pupils dilated; slightly sensible.

Sensibility. Could be roused, but immediately relapsed into coma when stimulation ceased.

Temperature. Surface very cold; skin has a glassy, smooth feel; hands and feet puffy.

Spasm. Limbs flaccid, no muscular power; even the head she cannot hold up.

Inhaled the ammonia, which revived her; she told her name and address, but immediately relapsed into insensibility. Sent her home to her sisters, where she slightly recovered when in bed. Next morning she was much worse,

and died before midday. "Post-mortem" examination revealed lardaceous degeneration of kidneys, and a large quantity of bloody fluid on the superior surface of the brain.

Poisoning by opium.—It is very difficult, as I have before said, to tell if a patient is suffering from disease, injury, intoxication, or from poisoning by some preparation of opium; there is a comatose state common to all, and if there is any complication, that is, if the patient is diseased and has taken opium, or, having taken the drug, has received an injury in falling, or has taken it in some alcoholic drink, the difficulty is enormously increased.

In a simple case of opium poisoning we have a series of symptoms coming on gradually; the patient, from being drowsy, giddy, and listless, becomes insensible; he lies in a profound sleep, breathing feebly and slowly; pulse frequent and soft, or full and slow; the pupils rapidly become minutely contracted and insensible, remaining so until just before death, when they once more dilate. At first we can rouse the patient easily, but as the effect of the drug increases there is greater difficulty, and he at length reaches a state of complete stupor, with stertorous, slow, and noisy breathing; pulse slow and full; the face, from being flushed, becomes pale; the skin, which at first was warm and clammy, is now pale and cold; lips and hands livid. Vomiting occurs some-

times, and is invariably a good sign; if there are any convulsive movements, they are equally developed, or nearly so, on both sides of the body.

Opium Poisoning—Complicated by Drink

June 1st, 1879.—I was called to a public-house at 5 o'clock p.m. to see a woman who was supposed to have taken laudanum two hours before in some gin. A gentleman had been also called, who found the door of her room fastened; on forcing it open, the woman was found in a deep sleep on her bed; this must have been about half an hour after she had been seen to drink the mixture. He reported he had great difficulty in rousing her, that the pupils of her eyes were not contracted; he gave her an emetic of sulphate of zinc, which she partly swallowed; from the time he forced the door until I arrived he had tried to keep her awake. When I saw her I found—

Circulation quick and throbbing.

Respiration hurried, gasping, smelling of drink, and has drunkard's breath.

Eyes suffused, hot-looking, tears; pupils normal size, slightly sensible.

Sensibility partially lost. Sensation and motor power diminished.

Temperature. Hot and perspiring.

Spasm. Had only vomited a little watery fluid; no convulsions, some spasmodic movements.

Gave the ammonia to inhale; she was at once

sensible to it; gave three drops in water, which she at first threw on the floor, but she was compelled to take three drops; this caused an improvement in her appearance, after a short time gave three more; she became at once quite sensible, and told her family troubles; she took two more drops herself, and except for some hysterical crying was now quite right. She had taken only a slight breakfast, but during the day a large quantity of drink (brandy, port wine, beer, and the gin with which the laudanum was mixed). Of this there was a clear history, but as it was Sunday, and her husband out, no doubt she had taken more drink than she admitted.

Softening of the brain being due either to poverty of the blood, or some impediment to its circulation, may cause convulsions that have an epileptiform character, except that they in the first instance are not followed by stupidness or sleepiness; rather, the patient is restless, loquacious, or simply not quite himself for a time, but should there have been many fits, the later ones are followed by more serious effects, each fresh convulsion leaving the patient more comatose; towards the fatal termination of this disease the fits are intensified both in their severity and consequences. After some premonitory symptoms, such as dull headache, dulness of hearing and sight, embarrassment in answering questions, tendency to shed tears, numbness, indefinable pain, and general malaise, there is a convulsion marked by feeble spasm in the tonic stage, with no asphyxia, and the clonic spasms are more violent on one side of the body than the other; they continue for a long time, one fit often running into another, with no distinct intervening period of quiescence, so that the patient is never quite out of a fit; he soon becomes weaker, and lies in a semi-comatose state, making partially voluntary movements, with some spasmodic twitchings or tetanic spasms; his speech is

inarticulate, and paralysis almost invariably settles on one side of the body; he may partially recover, mentally and physically. The intervals between the fits may be weeks or months, but as a rule they recur rapidly, and he often dies within twenty-four hours of their first appearance.

*Hemiplegia and Spasms from Softening of
Brain*

March 24th, 1878.—A gentleman, Dr R—, about 45 years old, was found sitting on a doorstep; when asked to move on he complied, but soon after returned. He was brought to the police station by a sergeant, who charged him; he was put into a cell, where he remained all night. I was sent for by the magistrate next morning, and found him wandering in a purposeless manner up and down the yard of the police court. He is a small man, of sanguine temperament, with hair quite white, a meaningless expression; he drags his right foot and is weak on this side.

Circulation sluggish and weak.

Respiration easy and natural.

Eyes suffused, and pupils of unequal size, the left being the largest.

Sensibility dulled, can give no account of himself.

Temperature normal, as far as examined.

Spasm. Has jerking and twitching movements of limbs, more on the left, though there were distinctly some on the paralysed side.

Can give no account of himself or of his pro-

ceedings for the last few days; cannot remember where he has been, or where he has left his luggage, but knows that he came from the country some days ago. We find, from examination of letters, &c, in his pockets, he comes from Southampton, that he is an army surgeon under treatment for hemiplegia, that he has had two sunstrokes, one in India, the other in England. After some hours of quiet he is able to tell the street in which he has left his trunks, &c. The ammonia was only tried a short time before he left, and materially assisted in clearing his mental faculties. The magistrate sent him to the infirmary to wait there until his friends were found.

Congestion of the brain.—The symptoms of congestion may be confounded with those of softening of the brain, and there is often great difficulty in forming a diagnosis at the outset of the attack; after a few minutes, sometimes only after a much longer time, and by careful consideration, we are able to come to a conclusion as to the nature of the fit. The premonitory symptoms also resemble those of softening, and may exist for variable periods, may come and go, or gradually develop into a febrile form, generally seen in children, into delirium or apoplexy, or into a convulsive form, the paroxysms of which resemble those of epilepsy. The two first it is not necessary here to consider. There are two classes of individuals who are most subject to the apoplectiform fits. One example is a full-blooded, lax-fibred, middle-aged person; here cerebral congestion is constant, and any accident may bring one on. The other is a pale, thin, wiry old person, with rigid vessels, weak circulation, and locally increased resistance of the walls of the vessels to the blood-stream; in both there may be disturbance of the circulation and cerebral congestion in the worst form.

In the convulsive form the paroxysms may occur at any age, but are most frequently met

with in middle life, generally when making some sudden or unusual effort, though they may happen during sleep. When the patient is seen before the attack, we notice a general discomfort, which increases until he becomes confused; the face is congested, and turns from red to blue; he looks round in a wild, supplicating manner, and falls down in a convulsion which has the character of epilepsy, and from which he recovers to have dulled faculties, weakness of limbs, or even paralysis; or there may be occasionally maniacal excitement for some time afterwards; these pass into exhaustion and heavy sleep.

Epilepsy, being a chronic disease, contrasts with congestion of the brain, which is an acute malady; in the one there is the epileptic cry, in the other there is no sound, except, perhaps, a moaning; in the former the fits generally occur in the young, in the latter the patient is usually middle-aged. We may find, on examining the heart, some morbid condition, as dilatation of the right side; or the predisposing cause may be—exposure to the sun; blows; exertion unusually violent or prolonged; overloading the stomach; drunkenness; or violent, emotional, or mental efforts.

Disease of the Heart

January 15th.—Mr —, an emaciated, feeble old man, found by police constable lying in the roadway insensible; he was carried to the station. On examination I found him insensible; could not rouse him to consciousness; the heart's action feeble and intermittent; pulse only 40.

Breathing. Very slow, almost imperceptible, smelling of drink.

Temperature. Surface quite cold.

Eyes. The pupils contracted and insensible to light; arcus senilis.

I allowed him to inhale the ammonia for a time until he was sensible to some extent of the irritation; then I gave him three drops in water, carrying it in a spoon far back in the mouth, which he was able to swallow. Continuing the inhalation, he became more sensible, breathed stronger, and was warmer. After ten minutes I gave him two drops more, and still continued the inhalation intermittently. He began now to improve rapidly, and after two more drops he was sufficiently restored to give his name and address, &c. He was put in the cell, and the policeman who watched him said

he slept very quietly all night; in the morning he told us he felt quite well, no headache, and was very jocose about his "spree" the night before. He admitted, when questioned, he had suffered a long time from giddiness, great debility, and nervous exhaustion, with difficulty of breathing and "sinking feel in the chest," and from other symptoms, which left no doubt he had fatty degeneration of the heart.

January 23rd.—A poor woman, Mrs D—, was found sitting on a doorstep, cold, wet, and insensible, by police constable, who conveyed her to station on the ambulance stretcher. When I saw her she had a peculiar cachectic expression, and on examining the heart a hard, crisp sound was heard to accompany the second sound. Pulse feeble and very slow.

Breathing. Almost none, and the breath felt cool on the hand when placed against her mouth. No smell of drink.

Sensibility. She could with difficulty be roused.

Temperature. Surface cold and clammy.

Eyes. The pupils were dilated, nearly insensible. I gave her the ammonia to inhale; she became gradually sensible, and with the warmth of the fire and some coffee she sufficiently recovered to be sent to the infirmary, where they found she was suffering from "mitral obstruction." The night was very cold and she was evidently in need of food.

Collapse from Cold—Exhaustion

Dec. 18th, 1878.—Cold, wet night. An old woman, in a wretched condition, with no warm clothing, was found lying insensible in the street, and was brought to the station as drunk on the stretcher; when I arrived there I found her

Circulation very weak; pulse, a mere flutter.

Respiration very feeble, sighing, with smell of "drunkard's breath," not strong.

Eyes dry and wrinkled-looking; pupils equally dilated, though very little more than normal and insensible.

Sensibility quite lost; could not be roused.

Temperature. Body cold; extremities blue, cold and limp; face dusky.

Spasm. No movements; all the limbs flaccid, remaining in the position placed on the stretcher.

Gave the ammonia guardedly to inhale at first, more freely after a time, then three drops. She gradually became conscious, and after the dose quite revived. She told us she had been walking nearly all day without any food. She then bought half a pint of ale, when she staggered and fell. This was all she could remember. Gave her bread and butter and coffee. Sent her to the infirmary.

Collapse from Cold and Bronchitis

January 11th, 1879.—A very cold night. An old woman was found, at eight o'clock this evening, lying on a step cold and insensible. She was taken to the station and gradually warmed; when I saw her I found the

Circulation weak; pulse slow and feeble; felt with difficulty.

Respiration. A gentle sigh occasionally ; breath felt cold ; no smell of drink. Phlegm in nose and mouth.

Eyes pale, shrunken, and dry ; pupils dilated and insensible.

Sensibility lost ; could not be roused.

Temperature. Body cold, extremities blue, and face dusky.

Spasm. No movements of limbs ; limp and flaccid.

After warmth and rubbing, gave the ammonia to inhale, at first only slightly, but, being well borne, gave it more constantly. The breathing improved, caused slight cough ; she got up some phlegm, and warmth returned to the surface. Gave two drops, which brought up a large quantity of mucus ; she improved gradually and took some coffee, but could not eat the bread and butter she was offered. After a time she was sufficiently restored to be removed to the infirmary.

Exhaustion—Congestion of Brain

May 20th, 1879.—John A—, a tall, emaciated man, was found in the street. At first he was

seen by the policeman staggering about from the pavement to roadway; then, lying on the pavement nearly insensible, he was brought to the station, assisted to walk there. When I saw him, noticed —

Circulation very weak; pulse fluttering and scarcely perceptible.

Respiration feeble; breath felt cold; no smell of drink.

Eyes suffused, fishy-looking; pupils normal, but nearly insensible to stimulation.

Sensibility. Could, but with great difficulty, be roused; could not articulate, though he tried.

Temperature. Cold; extremities blue, and skin generally dusky-looking.

Spasm. None; limbs flaccid.

Gave the ammonia to inhale until the breathing was stronger and more certain; then gave two drops. He improved very much; the skin lost its dusky hue, and he looked about him; gave three drops more. He at once became quite sensible and told his name, and how he had nothing to do or eat. Sent him to the infirmary, where he remained two days, the first night and day, in a semi-comatose state, but he was very much better when he left.

Gross Organic Disease of the Brain

Abscess of the brain may be caused by depressed bone in some part of the cranial wall, the vertex, bones of the ears, or nose, from severe blows or inflammatory process, and the symptoms caused by its presence will be the same as those from other gross organic diseases, as tumour, syphiloma, &c. They are severe localised headache, dyspnœa, giddiness, a sense of weight on the top of the head, urgent bilious vomiting, both purposeless and capricious, impairment of vision, with double optic neuritis or atrophy of the optic nerve, twitching of the limbs or some form of paralysis; we may find the patient has shivering, and perhaps a puffy tumour of the scalp may be detected. We have primary hemiplegia if any of the cells or fibres of the corpus striatum are destroyed; secondary or general if the surrounding parts of the brain are irritated by the presence, in or near them, of gross organic disease; but should it be in the anterior convolutions of the cerebrum (*i. e.* anterior to the coronal suture) or in the cerebellum, there are often no symptoms of hemiplegia or obvious mental defect developed, until general inflammation of the brain (encephalitis) is set up. Dr Jackson says when a

patient has double optic neuritis, with headache, vomiting, and convulsions, there is almost certainly cerebral tumour; and, according to Dr Bright, absence of insensibility in convulsive seizures is some evidence of organic lesion. Certainly, if there is great and persistent inequality in the pupils of the eyes after a convulsion, we may conclude the patient is suffering from organic disease of the brain. In fracture of skull, where some portion of the bone is depressed, or where a bony excrescence or foreign body, as a bullet, &c., presses mechanically on the brain, we have symptoms similar to those described as caused by tumour of the brain; here also it is, where the injury is situated in that part of the brain lying posterior to the coronal, and above and anterior to the lambdoidal sutures, that we have the most severe and rapidly fatal symptoms; those injuries that occur in the frontal and occipital areas may, as before stated, cause no immediate distress. For an explanation of this and kindred subjects I would refer to Dr Ferrier's elaborate work on the 'Functions of the Brain' and to the clinical and pathological remarks of Dr Hughlings Jackson, &c., &c.

Bone pressing on Brain

March 25th, 1878.—A stout woman, about 40 years of age, fell down in a large restaurant when going upstairs, apparently from a fit; before she could be moved she died. On inquiry I find she had been attending a hospital for sciatica and bronchitis, always complained of a difficulty in lifting her feet going upstairs. She had been in the Indian mutiny, and when in Lucknow had received a severe blow on the head with a stone.

Post-mortem examination showed death from suffocation, caused by the rupture of an aneurism on the right pulmonary artery, which has burst into the right lung.

On opening the head, I found a piece of bone the size of half a hazel nut, pressing on the brain at the upper extremity of the fissure of Rolando, the exact position said by Ferrier to include “centres of various complex movements of the arms and legs, such as are concerned in climbing, swimming, &c.”

The exact position where the bone pressed on the brain was the right postero-parietal lobule. In this position, as I have said, Ferrier has shown, by his experiments on monkeys, is situated the centre of movement of the opposite

hind leg, and the difficulty this woman experienced in going upstairs was no doubt due to the pressure of the bone causing partial paralysis of the legs.

The piece of bone was part of the skull cap (parietal bone), which, being of a wedge shape, had been squeezed out of the internal plate, and had left a depression in the bone; this depression and the bone forced out had both become smooth and covered with a membrane.

Epileptiform Convulsions

July 27th, 1878.—I was called in the night to see a watchman who had been found lying on his face insensible in the doorway. He was partially recovered when I arrived, but in a dazed state.

Circulation weak, with ecchymosis on face.

Respiration gasping, difficult; no smell of drink.

Eyes suffused; pupils equal and natural in size. Sensibility. Drowsy and dazed, but no loss of power.

Temperature. Cold; extremities cold and blue.
Spasm. None.

Gave him the ammonia, after which he explained he had been to the gateway, not feeling well, and fell down. No history of former fits. Whilst I waited he had another attack, which was a very bad fit (epileptiform in character), bad in the sense that the tonic spasm was so long as almost to kill him; had it not been for the ammonia I think he would have died. He had another fit at 6 o'clock in the morning, only a slight one. When I got to him he was out of it; very sensible then to the ammonia.

July 28th.—Had three fits to-day, in the last of which he died. This man was excessively sensitive to the ammonia; he was not long "coming round," and his speech was slightly affected. I was in doubt, as he had never had fits before, and they followed so quickly after the first, if it was epilepsy, and thought there might be gross organic disease of the brain.

Insolation, fortunately, is not often met with in its severest forms in this country. The cerebro-spinal variety of sunstroke, though less dangerous than the cardiac, is sufficiently so to cause us great uneasiness, and necessitates energetic treatment. The symptoms resemble those of organic disease of the brain, but we have one distinctive feature that is never absent—a dry, ardent, stinging heat of the skin, sometimes even a temperature of 107° F. There is also congestion of the eyes, a frequent desire to micturate, and often maniacal excitement; should these symptoms increase in severity we must regard the case with great anxiety; nothing but the most prompt means will save the patient, and even they will sometimes fail.

We occasionally see some of the sequelæ of sunstroke in this country, in those invalided home from India; and if these are complicated by alcoholism we may have examples of brain disease, ranging from simple nervousness to violent mania, which it is almost impossible to diagnose.

*Sunstroke, after-effects of—Complicated by
Drink*

November, 1878.—A gentlemanly, tall, well-made man, was found maniacal in the street, having been turned out of a club, where he suddenly attacked the people in the reading room and smashed the furniture. When I saw him at the station he was sitting down ; but as I entered he started up in a violent passion, as though an uncontrollable impulse suddenly seized him; his Circulation was excited, quick, but the pulse was thin and weak.

Respiration hurried, sometimes gasping or held; smelling of drink.

Eyes congested and suffused, pupils unequal.

Sensibility. At one moment quiet, almost rational, complaining of pain in head; at another so violent, it required three or four men to hold him.

Temperature. Head hot, rest of body below normal temperature.

Spasm. When quiet there is twitching of the limbs and the forehead contracted, and eyebrows raised from the pain in head; the periods of violence marked by a desire to inflict injury on those around, and, when restrained, on himself.

Gave him three drops of the ammonia in water, which, with a little inhalation during the violent stage, was sufficient to partially restore him to himself; it at least stopped the maniacal symptoms. As he had no friends in town, and his acquaintances declined to take charge of him, he was sent to the infirmary. He explained he had suffered from two sunstrokes in India and Malta.

February 22nd, 1879.—I was called to police station in the night to see a gentleman with a cut over his eye. He was charged with drunkenness and violence, but the excitement was not that of drink, not being constant. At one time he was quiet and rational, at another altogether lost and maniacal. I found on examination—

Circulation weak and intermittent; the blood issuing from the cut on the forehead was pale and watery-looking.

Respiration quick and sighing; smells of drink, though not much.

Eyes congested, ferrety-looking; pupils both dilated, though not equally so.

Sensibility. The excitement came in paroxysms, in waves lasting some few seconds; no loss of power; when quiet he appeared rational.

Temperature. Surface cool, but his head was hot and flushed.

Spasm. No twitching, but a disquietude of the limbs between fits of excitement. During the paroxysms he shows a desire to injure people.

Gave him three drops of the ammonia in water, with little or no effect; the inhaling shortened the periods of excitement, and soon stopped them; he was put in a cell with a policeman to watch him; he soon slept. Seven days afterwards this man called on me to have the stitch removed from the wound on forehead, which had healed. He gave me a history of sunstroke some three years since.

August 7th, 1879.—Major C—, small, dark man, about forty-seven years old, was taken with what seemed a faint in the railway omnibus at

11 o'clock this morning. I was travelling in the same carriage, in fact, sat next to him and loosened his clothes. I noticed—

Circulation depressed, low and weak, intermitting.

Respiration easy ; no smell of drink.

Eyes fixed, excited-looking ; pupils unequally dilated.

Sensibility lost, could not be roused ; muscular power gone, could not judge if equally so on both sides.

Temperature. Cold surface, hands very cold ; skin a pale yellow (sallow).

Spasm. No convulsions, but slight twitching movements.

He recovered partially, and began to button his clothes, which had been loosened ; he then took off his boot and sock, and endeavoured to put his glove on his foot ; would not be prevented. He was taken to the police station, where I again saw him ; he was now quite recovered, and explained he had been much better for a fortnight, but had been in India a long time, and there he had sunstroke. He thinks it is the sudden change from cold to heat which has occurred within the last few days that brought on the attack. He was allowed to go to his club.

Acute encephalitis may cause convulsions like those from gross organic disease of the brain. The convulsive movements are regular in development, protracted in duration, and often limited to one side, or extremity, according to the position and extent of the disease, which, if acute and marked by premonitory nausea and vomiting, "Watson" thinks have their origin in the cerebral pulp; there is often twitching of the muscles, the eyes are dull, the pupils from having been very much contracted, become dilated; there is often paralysis of some, or all the muscles of the eye; and the sphincters of the anus, &c., which may extend to general paralysis, coma, and death; inflammation of the brain, or its membranes, may result from injuries, insolation or disease, and perhaps prolonged mental exertion, or moral excitement. It is very doubtful if there is ever a simple case of inflammation of the brain; that is, we generally, if not always have meningitis associated with it, and the symptoms produced may be divided into three stages.

First stage.—High fever, hurried breathing, hyperæsthesia, cephalalgia, fierce delirium, vomiting and constipation, extreme restlessness, often violent twitchings, or frequent convulsions.

Second stage.—A thin wiry pulse, sometimes intermittent, respiration difficult, sighing; eyes ferrety, rolling of the eye ball; general prostration, gradually increasing coma, and paralysis, convulsive movements are erratic.

Third stage.—The pulse is now rapid again, but small and uncertain, stertorous breathing; eyelids half closed, pupils dilated and insensible, coma complete, skin pale, cold, and clammy, relaxation of the muscles, fæces and urine passed involuntarily.

These “*stages*” have no line of demarcation, but merge one into the other, as the disease advances. The prognosis is very bad; these cases generally end in death at the end of the first week.

If we compare this disease with epilepsy, we notice the acuteness of the symptoms, which though less sudden in their invasion are more protracted; the age of the patient is more advanced, intercranial disease generally occurs later in life than epilepsy; there is less loss of consciousness; the asphyxial phenomena are absent, and there is no stupor, unless in the most severe forms.

*Drunkenness—Contusion of Brain, resulting in
Inflammation*

July 25th, 1879. A man was brought to the station by a policeman, who had been knocked down by a soldier. At the time he did not seem much hurt; but, as he was bleeding slightly from the nose and mouth, he was taken to the hospital, the surgeon there sending him away as only drunk. On his way to the station he suddenly fell down, and when lifted up slipped down again. When I saw him in the station I found

Circulation quick, sharp, thready, the carotids beating strongly; face flushed.

Respiration easy, though quick, occasionally stertorous, with working of the alæ nasi.

Smells of drink and drunkard's breath.

Eyes closed, ferrety and suffused, the right pupil larger than the left; both look retracted.

Sensibility entirely lost; cannot be roused.

Temperature. Extremities cold; scalp hot, and flushed red.

Spasm. No movements of limbs; quite flaccid.

Gave the ammonia to inhale. He was a long time before he became conscious of it; then gave two drops, continued the inhalation. He made

some movements, and now resisted the opening of his eyelids. Gave three more drops and continued the occasional inhalation. He responded to stimulation now; a pinch on the left leg or arm is felt, but not on the right unless severe, and the skin held a long time. After twenty minutes gave three drops more. He began to rub his head with his left hand—does not attempt to use his right. He seems to know if spoken sharply to, but cannot articulate, although he momentarily tries so to do. He was sent to the infirmary on the ambulance; the next morning, on inquiring, the sergeant reports the man is still insensible.

July 31st. This man is still at the Infirmary, insensible and expected not to live.

August 9th. He is now maniacal, in strait waistcoat, and has to be fed by injections.

Aug. 16th. He is improving.

Aug. 27th. Up to this date he has continued to improve. He is now quite sensible, and does not complain of any pain. He declares he remembers nothing of what has occurred. Discharged from the infirmary.

Chronic encephalitis may be the consequence of the acute disease, but is more frequently a primary independent disorder, marked by bad or even savage temper, grinding of the teeth, a vacant look, pupils often of unusual size, and a general resemblance to commencing insanity, alternating with depression and delusions. There is difficulty of movement and speech from stiffness of the muscles; irregularity of the pulse, general weakness, and these symptoms advance in their severity until the senses are impaired, the patient becomes paralysed, in which state he may linger months or even years.

Embolism of the middle cerebral artery, Sylvian artery, or plugging of the small arteries in the Sylvian region may cause similar symptoms to those from gross organic disease of the brain, *i. e.* "seizures" with hemiplegia, which are here due to destruction of nerve fibres or altered nutrition beyond the plug from increased or diminished blood supply, giving rise to instability of the grey matter of the brain; generally we have other symptoms superadded to aid us in forming a diagnosis. An examination of the heart will often reveal valvular disease, or perhaps we shall find malformations or imperfect development, producing great weakness and cyanosis, low temperature, weak blood supply, palpitation, dyspnœa, aching or lancinating pains in the precordial region, anasarca, or ascites. The paralysis due to hæmorrhage is mostly confined to one side of the body, and is slowly or quickly developed as the blood is thrown out, in small or in large quantities. We are most likely to meet with this affection in young subjects with cyanosis and heart disease; and our prognosis will always be unfavourable.

Embolus

A gentleman was taken with a peculiar sensation whilst writing in his office, referred to the head and chest. On recovering the shock he noticed he had lost the sight of his right eye. Once before he had suffered a similar sensation, and after this his left arm became discoloured; it is now much redder than the other.

Circulation. The general circulation normal; the pulse in the left radial jerky.

Respiration. Hurried at first, afterwards normal; no smell of drink.

Eyes. Loss of sight of right eye, not quite complete; two or three patches of bleeding over region of the macula; some turbidity of the retina; optic nerve is getting atrophied through the arteries being reduced in calibre.

Sensibility. Excitability; business, &c., excites him; no loss of sensation anywhere, or, if so, very slight in left arm and right side of the face.

Temperature normal, except in the left arm, which is colder than rest of body; when excited the head is hotter.

Spasm. Decided paralysis of the muscles on the right side of the face, and has difficulty in articulating the words with the liquids in them (l, m, n, r).

The state of the eye and face is no doubt due to an embolus in an artery of the brain, and the affection of the left arm points to a similar cause there.

The ammonia was scarcely needed in this case; at first it restored consciousness, but after that was not used.

Hydrophobia (Rabies).—This term is applied to the aggregate of those symptoms consequent on the bite of a mad animal, of the dog (wolf, fox), or cat species, which may come on immediately after receiving the injury, or after an uncertain period. The chief symptoms are great thirst, with dryness and constriction of the throat, yet with the greatest fear of liquids; difficult deglutition, gasping breathing, with frothy saliva in the mouth, the struggles to eject which give rise to the sound of “barking;” grinding of the teeth, a flushed startled countenance, great irritability, horror of brilliant objects, colours, and light; vomiting, with gastric pain; the mind subject to rabid impulses, passing on to delirium; the convulsions, if any, are of a clonic character; death generally occurs before the fifth day.

Tetanus, a disease in which the convulsions are tonic, and consist of a rigid contraction or strain of certain muscles, without relaxation, and may produce either Emprosthotonus (bending forwards), Opisthotonus (backwards), Pleurothotonus (sideways), or it may be only in the jaws, Trismus; there is great difficulty in deglutition; the eyes are fixed and prominent; there is an expression of great agony in the face, and it is frightfully drawn into the contraction known as the "risus sardonicus;" the mind remaining clear though the suffering is intense.

SECOND DIVISION

Second Division.—Cases of coma not intense, in which no danger to life is expected to arise.

TABLE III.

Sensibility is suddenly lost. Cannot be roused.	Premonitory symptoms—General depression, "aura epileptica." C. Pulse weak at wrist, full and throbbing in carotids. Rn. Breath held in first stage, "let go" commencement of second stage, difficult throughout. Eyes. Pupils dilated and insensible. Sn. Lost, with "cry," stupor after the fit. Tr. Face cold, pale, becoming dusky; extremities cold. Sp. First stage, "tonic spasm," lasts a few seconds. Second stage, "clonic spasm," lasts seconds or minutes. Tongue often bitten.	Sensibility is not suddenly lost. Can be roused.	"Epilepsy." Paralysis and insensibility increasing after the fit.	Less sudden in advent, consciousness not lost until second stage of fit. Some fever, irritation in mucous or serous membranes.	"Excentric." "Convulsions."	Catalepsy.	Intoxication.
	Premonitory symptoms— General weakness, ill-health. C. Pulse feeble. R. Breathing low and feeble. Eyes. Pupils often dilated, insensible. Sn. Recovery without stupor. Tr. Extremities cold, face pale. Sp. No spasms, limbs flaccid.		"Syncope." Thesesymptoms supplemented by	C. Pulse slow and weak. R. Breathing often only just perceptible. E. The lids when lifted gradually close as if by their own gravity. Sn. Some, or entire loss of, often cannot be roused. Tr. Surface cold, face pale. Sp. Rigidity or fixedness of body, taken at invasion of fit and not voluntarily altered. Age, young adults.			
	Premonitory symptoms— Laughing, crying, and excitement. C. Pulse quick and full. R. Breathing constrained, but no asphyxia. Eyes. Congested. Sn. Sensibility gradually lost. Tr. Face hot and flushed. Sp. Convulsive movements, but no distinct stages, often lasts a long time. No stupor after the fit.		Hysteria. Thesesymptoms supplemented by	C. Pulse abnormally quick. R. Breathing no loud stertor, smell of drink and "drunkard's breath." E. Pupils mostly dilated. Sn. Slowly lost, can be roused. Tr. Hot head, face at first flushed. Sp. Violent movements, frequent			

The "second division" of this subject contains diseases which are far less severe in their character, and from which no danger to life is expected to arise; as epilepsy, alcoholism, hysteria, catalepsy, convulsions occurring in commencing insanity, in pregnancy, from ovarian irritation, or the irritation of worms, teeth, &c.

Taking epilepsy (the "Haut mal" of the French) as the most typical affection, we find in it a series of symptoms, to a certain extent resembling those of the diseases mentioned in the first division, but unlike them, in seldom having a fatal termination. With the remote causes of this malady, although a most interesting subject, I have little at present to do, and pass on to that immediately under our consideration. The proximate cause, is some nutrition change beyond our power at present to determine; producing in the medulla oblongata, upper portion of the spinal column, and vaso-motor nerves, an increased, and perverted

readiness of action ; an unstable equilibrium, and high tension (*i. e.* instability) of the grey cells, and their discharge of force on any slight provocation. The result being, the induction of spasm in the contractile fibres of the vessels of the brain, the muscles of the face, pharynx, larynx, respiratory apparatus and limbs. By the contraction of the vessels, the brain is deprived of its proper amount of blood, consciousness is arrested, and the face becomes pale ; from contraction of the muscles and fixing of the chest wall, asphyxia is produced ; and the subsequent phenomena from poisoned blood, that is, blood in which carbonic acid is retained. This "starting point" of epilepsy, this primary nutrition change, may be hereditary ; it may exist alone, or be complicated ; or it may be induced by conditions acting on the nervous centres directly ; as mechanical injury, over work, Coup-de-soleil, emotional disturbance, excessive venery, &c. "Or nutrition change may be due to the cachexiæ, gout, rheumatism, syphilis, or scrofula," "and may be associated with change in the cortical substance of the hemispheres."—Dr. Wilks.

The convulsions do not constitute the disease, they are to be considered as symptoms only. We most frequently meet with epilepsy

in the young adult, or at the age of puberty, dentition, pregnancy, &c., it comes on during sleep, or at any time in the day or night; but generally after a period of depression, and general "malaise," with perhaps premonitory symptoms, and "epileptic aura" due to change in the central nervous system, which, like the paroxysm that immediately follows, is a peripheral expression of the disease, not its cause. In this paroxysm, we have a malady presenting the prominent symptoms of sudden loss of consciousness and sensibility, tonic spasm lasting a few seconds, and followed by convulsions of a clonic character in the voluntary muscles, which are succeeded by a period of stupor and exhaustion.

These symptoms may be divided into three stages; in the first of which the patient is seized, as it were, by the fit, utters a peculiar cry, either a yell or a sighing groan, due, perhaps, to the stifling feeling caused by the spasm in the muscles of the chest; there is loss of consciousness; tonic spasm generally stronger on one side than the other, especially marked in the chest walls, and thus arresting the breathing; great pallor of the face, which often gradually becomes dusky; the pupils are dilated; the pulse is generally weak at the wrist, but in

the carotids full and throbbing, with distended veins. This stage is short, lasting a few seconds, and ends by the patient gasping from the sudden relief of spasm in the chest; he seems as though he had been holding his breath to this point, and had suddenly "let go." This "letting go" marks the commencement of the *second* stage; the breathing is still difficult, often laborious, with foam issuing from the mouth; the face and skin are of a dusky hue, and often covered with cold sweat; the pulse is stronger now, and there is sometimes palpitation; the unconsciousness continues; there is violent universal clonic spasm, generally more marked on one side of the body than the other, and in it the tongue is bitten; this lasts some seconds or minutes, passing gradually into the *third* stage, which is marked by slow improvement in all the symptoms; there is less unconsciousness and more power under the control of the will; the eyes regain their natural look, and the pupils contract. The patient, as a rule, is stupid and sleepy for a long period afterwards, but, being allowed to sleep, he entirely recovers, or the recovery may be more rapid; this depends in a great measure on the severity of the fit. In all cases he is altogether unconscious of having had anything the matter with him.

Epilepsy

April 26th, 1878.—William M—, a young man, found in a fit on the pavement by a policeman, and was brought by him to the station on the stretcher. When I saw him I found—

Circulation still rapid and excited.

Respiration easy, with an occasional sigh.

Eyes regaining their natural look ; pupils contract to stimulant.

Sensibility. There is some power of control over the will and muscles ; appears sleepy, dazed.

Temperature normal.

Spasm. Slight muscular twitchings, otherwise now quite natural. He has bitten his tongue, though not severely.

Gave the ammonia, three drops. He rapidly recovered consciousness. He had a prescription in his pocket containing bromide of potassium, which had been increased from time to time for at least a year. He explained he was subject to these fits. Sent him home under the care of a policeman.

May 22nd, 1878.—A man found insensible near a public house. He had not been in or had any drink there; was brought to the station, where he had a violent fit. When I arrived he was recovering.

Circulation quick and excited.

Respiration hurried and sighing; slight smell of drink.

Eyes suffused; pupils still dilated.

Sensibility. Was gradually recovering consciousness, but was dazed and sleepy.

Temperature cold, but was getting warmer.

Spasm. Slight spasmodic movements, which rapidly left him.

Gave him three drops of the ammonia, when he told his name and address, which we also found pinned inside his waistcoat. Sent him home in the care of a policeman.

January 3rd, 1879.—A young lady was driving in a hansom cab, down Regent Street, with her head rolling about over the doors; a

policeman stopped the cab, and brought it to the station, the lady was still convulsed when removed from the cab. When I arrived I found her—

Circulation excited and hurried.

Respiration gasping, sighing; no smell of drink.

Eyes. The eyeball twitched occasionally, pupils dilated and insensible.

Sensibility lost, did not respond to stimulation.

Temperature. Cold surface, face dusky.

Spasm. There was still some clonic spasm going on, though evidently diminishing.

Gave the ammonia to inhale, which was felt at once, and consciousness returned after two drops had been administered. She gave her name and address, her friends were communicated with, and removed her from the station.

Insanity.—The convulsions that we see in the different forms of unsoundness of mind, resemble most intimately those of epilepsy, nor need they be here specially considered. Those that occur in the progressive paralysis of the insane, must be looked upon as the most dangerous symptom of the rapid advance of the disease to its fatal termination, for after the fit the paralysis will be found to have increased, and there will be a marked loss of mental power. Except that the age of the patient is generally over thirty there is no way during the fit to distinguish these attacks from those of epilepsy. The after symptoms in most cases will, perhaps, enable us to diagnose the disease.

Excentric Convulsions are occasionally caused by irritation in some part of the economy, from altered nutrition, in the outset of some of the exanthemata, &c. ; in pregnancy, disease of the sexual organs, ovaries, dyspepsia, and acute gastritis, the presence of worms, scybalæ, calculi, or dentition, &c. ; but, although to a certain extent resembling epileptic convulsions, and from the symptoms during the attack, it may even be impossible to determine the nature of the disease, yet those developed afterwards, and the history, will enable us to conclude what is the nature of the fit. There is generally some fever with the convulsions, which come on less suddenly than, and do not last so long as, those due to epilepsy ; unconsciousness may be present, but not until the second stage of the fit, that which is marked by clonic spasm ; the after symptoms noticed in epilepsy, do not occur, there is no stupor or paralysis, and we find the fit to be due to some irritation in the cavities lined by the mucous, or serous membranes, by the removal of which the cure is effected.

Excentric Convulsions

May, 15th, 1879.—I was called to a Government office to see a gentleman who was in violent convulsions. I found a middle-sized, healthy-looking man struggling violently, being held by several gentlemen.

Circulation very quick, hard, and irregular.

Respiration hurried or held ; no smell of drink.

Eyes ferrety and red, pupils dilated, sensible, eyelids firmly held closed.

Sensibility dulled, shouting, and struggling ; talking of things and persons not present.

Temperature hot and perspiring, head very hot and flushed.

Spasm. Violent clonic convulsions, which continued with only a short time between.

Gave the ammonia to inhale ; at first he did not notice it, but soon felt it, and tried to avoid it ; gave three drops in water ; he still had the convulsions, though not so bad ; gave him three more drops ; he now began to recognise the people near him ; I gave three more, when he at once became sensible, sat up and arranged his dress, and told us he had pain in the head. He had been working hard to arrange his papers for inspection, and had eaten some indigestible food for breakfast. He went home all right.

Menorrhagia and Drink

July 28th, 1878.—A woman was found in the street creating a disturbance, was brought to the station, charged with being drunk, and placed in a cell. Here she became so violent that three policemen were required to restrain her, and preventing her injuring herself. She appears a strong, healthy young woman; she certainly gives the men as much as they can do to hold her.

Circulation strong, quick, and throbbing.

Respiration quick and hurried, smelling of drink, and she has the "drunkard's breath."

Eyes suffused and bloodshot; pupils dilated.

Sensibility masked, very hysterical; although hearing words and sounds she attributes them to persons and affairs on which her thoughts are fixed, other than those surrounding her.

Temperature hot and perspiring.

Spasm. No vomiting; the convulsions are in paroxysms and very violent, with a muttering, as if holding a conversation between their advent.

Gave the ammonia to inhale; she was at once sensible of it; three drops restored her to herself. She told me she had been menstruating

a whole month. I left her asleep in the cell. Next morning she was quite well.

Pregnancy and Drink

January 6th, 1879.—A woman found by policeman in violent convulsions, surrounded by a crowd in front of the Alhambra; she had been quarrelling with some person or persons unknown. With great difficulty the police were able to convey her on the stretcher to the station. When I saw her she was still violently convulsed, being held by several men, who could not restrain her, and scarcely prevent her injuring herself.

Pulse very rapid and excited.

Respiration held, or quick and free; smells of drink.

Eyes suffused and bloodshot, and pupils dilated.

Sensibility perfect; hyperæsthesia, hysterical; and I find she is about six months gone in pregnancy.

Temperature hot and perspiring, although it is a very cold night.

Spasm. Vomiting; the convulsions are clonic, and evidently induced by the hysterical and pregnant condition of the patient.

Gave her the ammonia to inhale, but she refused to take a second sniff, and we were able to check the convulsions by a threat to use it. Sent her home.

February 10th, 1879.—A girl was seen in the street running about in a wild, undecided manner, staggering from the kerb to the roadway, and screaming violently; she was brought to the station, where she immediately became convulsed. When I saw her she was still throwing herself about, as far as allowed, and screaming fearfully.

Circulation very excited.

Respiration held or dragged, and breath smelling of drink, with drunkard's breath.

Eyes suffused ; lids held down over eyes ; the pupils widely dilated, but sensible.

Sensibility perfect. Find she is about four or five months gone in pregnancy, and that she is having pain, which appears to be due to contractions of the womb.

Temperature hot and perspiring ; cold night.

Spasm. The convulsions are hysterical, and quite under her control.

Gave the ammonia to smell ; but after the first she would have none of it, and got quite well except the pains. Sent her home.

Overwork

May 15th, 1879.—A gentleman was taken with a dimness of vision and deafness whilst in his office, being at the time engaged in listening to a clerk reading over some Government papers ; he attempted to get up, but fell, and became violently convulsed.

When I saw him he was struggling on the floor, shouting incoherently, and being held by several persons.

Circulation. Quick, throbbing pulse.

Respiration hurried, but otherwise normal; no smell of drink.

Eyes suffused, tears, and the pupils dilated; wild-looking eyes.

Sensibility evidently perfect, but masked by the intense excitement from which he was suffering.

Temperature hot and perspiring.

Spasm. No vomiting. The convulsions came on in paroxysms, and were of an hysterical character.

Gave him the ammonia to inhale; at first he did not feel it, but soon noticed and tried to avoid it; gave three drops, then after a time three more, but was still convulsed, though he could restrain himself, and began to recognise people; gave three more, when he at once became sensible, and sat up and began to arrange his dress. He was very weak, but was able to go home in a cab.

In *syncopal attacks* ("le petit mal") there is little that resembles epilepsy, and they cannot be mistaken for that disease; there is a general history of weakness and ill health; the insensibility does not come on suddenly; there is no spasm, no high temperature; the pulse is feeble; the countenance pale, often cold; the pupils are generally dilated, but more or less sensible to light; and the recovery, which though slow, is unattended with stupor or other serious consequences. In these attacks the ammonia will be found most useful, the inhalation alone being sufficient, in nearly every case, to restore the vital powers. I omit notes of cases, as these attacks are constantly occurring in every medical man's practice, and need no exemplification.

Hysteria has a convulsive form, but there is little difficulty in diagnosis. The patient, as a rule, passes gradually into the fit, which has the appearance of being "got up," and is preceded by laughing, crying, and excitement. The convulsions come and go, in some cases for a long time; there is no bitten tongue, no wry face, no lack-lustre eye, or insensible pupil; no palor, but often flushing from the exertion used. The breathing is constrained, held, or jerked, but no true asphyxia. The attacks do not occur in sleep, and afterwards there is crying and excitement, but no stupor.

Case of Malingering

February 16th, 1878.—A woman was brought into the station at 2 o'clock this morning, drunk and violent. She is an old offender, and was put into the cell, where she rapidly became insensible. I was sent for, and, on my arrival, found a small stout woman, lame ("talipes equinus"), in the left leg, which was carefully drawn up under her; a puffy, bloated face, swollen under the eyes.

Circulation. Heart's action feeble and intermittent.

Respiration. Breathing normal, smelling of drink, and drunkard's breath.

Eyes. The lids tightly held over the eyes, pupils and conjunctiva sensible.

Sensibility unimpaired, resisting all attempts at examination.

Temperature normal.

Spasm. Twitching and jerking of limbs.

Gave her the ammonia to inhale; was at once sensible, gave three drops which caused gasping breathing and desire to vomit. She would not take more, but pretended she was again insensible, unless she was threatened with the ammonia.

She continued to mangle even before the magistrate next morning.

Case of Malingering

May 26th.—A woman was found asleep, or apparently so, in a doorway, the policeman had great difficulty in arousing her. She was quite helpless and was brought to the station on the stretcher, where she attempted to strangle herself twice, first with her handkerchief, and when this was taken away, she tried again with her bonnet strings; being now restrained, she had a violent fit. When I saw her she appeared to be in a state of epileptic coma, but on examination I found the

Circulation. Pulse quick and throbbing.

Respiration. Breathing held in, and drawn spasmodically.

Eyes turned up until the iris was nearly hidden, sensitive to light and touch; the lids being with great difficulty opened.

Sensibility unimpaired, felt slight pinch anywhere on the body.

Temperature high; was hot and perspiring, face flushed with the necessary exertion to keep up the rigidity.

Spasm. Limbs held rigid, resists examination.

Gave the ammonia to inhale, when its effect was immediately apparent, and the woman was shown to have been a malingerer.

Case of Malingering

April 15th.—A woman found in a fit in the street by policeman, insensible, and frothing at the mouth. She was conveyed to station on the ambulance stretcher, where I saw her. She is a well-formed, nervous-looking young woman.

Pulse quick and throbbing.

Respiration. Breathing, held, or normal.

Eyes. The lids tightly held over the eyeballs, the pupils sensitive to light; conjunctiva sensitive to touch.

Sensibility. Seems insensible, but feels a pinch, frothing at the mouth, the froth is pushed out between the lips.

Temperature. Skin hot, flushed, and perspiring.

The tongue was not bitten, and the spasmodic movements were not calculated to injure her. I gave her the ammonia to inhale, when she at once showed her sensitiveness to its power, and would not allow the bottle again to go near her face, but rapidly got quite well.

December 7th, 1878. —Early this morning I was called to the police station, to see a French woman, who had been found in the street, in an insensible condition. On examination she appeared to be in a fit, frothing at the mouth, and grinding her teeth, but showed no symptoms to lead me to suppose the fit a real one; and on inhaling the ammonia she at once came to herself, and would no more of it.

April 15th, 1878, 3 a.m.—A woman found lying insensible in the street, was brought to the station on the ambulance stretcher, as she was apparently unable to stand or even sit up.

Circulation quick and throbbing.

Respiration hurried; smelling of drink.

Eyes. Tightly closed eyelids, pupils normal.

Sensibility. Unimpaired.

Temperature. Heated and perspiring.

Spasm. Jerking movements, resembling clonic spasm.

Gave the ammonia to inhale which at once restored her ; on her attempting the fit again, it was sufficient only to mention the " Bottle " to prevent it.

In *Catalepsy* we have a disease allied to hysteria, in which there is more or less suspension of volition and sensation, with stiffening of the body; the position taken at the invasion of the fit, is retained during the time it lasts, which may be minutes, hours, or even days; recovery occurs suddenly, as though the patient had been in a deep sleep, and "woke up," leaving only weakness, and fatigue consequent on the necessary, though unconscious, and involuntary exertion. Nervous and hysterical women, delicate in health, or who have received some mental shock, suffer most from these attacks; there is little danger to be apprehended, unless the fit lasts long enough to exhaust the animal powers. When a person who has suffered from catalepsy through fright, returns to consciousness, great care is required to calm their fears, as they "wake up," with all their ideas in the same state in which they were at the commencement of the attack; unless, as occasionally happens, they have been partially conscious, though unable in the slightest manner to show it.

Catalepsy

November 23rd, 1878—I was called to see Mr W—, who had suddenly become insensible, his friends could not account for the attack, except that he had been overworked lately; when I saw him he was lying on a sofa, where he had been placed since the attack came on.

Circulation. Slow and feeble, regular, but scarcely to be felt.

Respiration slow, regular, very weak; no smell of alcohol.

Eyes fixed and staring; eyelids could be opened, but having stayed so for a second or two. gradually closed again; pupils slightly dilated and insensible.

Sensibility. Entirely lost.

Temperature. Surface and extremities cold; face pale.

Spasm. Muscles rigid, but I could move the limbs or head; they resisted, as though the joints were very stiff. If the arm was lifted from the sofa, it remained in the position placed for a short time, then slowly dropped to its place of rest.

Gave the ammonia to inhale, he was a long time insensible to it, but little by little began

to feel it, the eyelids began to tremble, the breathing became stronger, he gave a sigh and was at once sensible. I then administered three drops in water, and he was quite himself again, he now told us he heard us talking and understood what we said, whilst he was to all appearances insensible. He has had three attacks like the above, in two of which I gave the ammonia.

Alcoholism.—Alcohol, one of the anæsthetics, is also a true narcotic poison when taken in doses sufficient to cause drunkenness; and if habitually taken to this extent, will induce the most serious consequences. Dr Anstie has said, “it causes suspension of nervous activity and paralysis.” If we expose a living nerve and surround it with alcohol it loses its power of transmitting stimulation—it is in fact, paralysed; so in a less degree if a large dose is taken into the stomach, and is absorbed into the circulation; the nervous tissue of the nerve centres and nerves becomes paralysed from the direct action upon them of the alcohol in the blood. If small doses constantly repeated are taken, the blood becomes charged with the poison which, acting more slowly, produces effects differing only in degree from those caused by the larger doses. If the brain and spinal cord are supplied with blood highly charged with alcohol they become narcotised, for the blood thus charged is not capable of oxygenation, so has not the nourishing properties sufficient to support healthy nervous functions, and symptoms arise, slight at first, but increase in intensity up to a delirious or other nervous crisis. The effect is modified by the activity of the excreting glands; the more

alcohol they eliminate from the blood, the less severe are the symptoms caused by a given quantity taken; and hence they become an element of considerable importance in the consideration of the effects of this poison.

Dr Anstie has well described alcoholism. He says: "The exciting cause may be understood to be repeated, direct action of blood strongly impregnated with alcohol on the tissues of the nerve-centres and branches, rendering them physically incapable of the due performance of their functions; and the influence of an insufficient oxygenated blood supply, consequent on a morbid condition of the blood corpuscles."

When alcohol is first taken, it acts as an irritant upon the mucous membranes of stomach, intestines, &c.; but after absorption it affects the rate of movement and vitality of the blood; thus it impairs the nutrition of every part of the bodily organisation. The nervous centres have a chemical attraction for alcohol, which is thus caused to accumulate in their tissues, and they suffer more violently than any other part of the animal economy. We may then state the effects of alcohol to be, if taken in small moderate doses and well timed, a restorative stimulant to the nervous

and arterial systems, giving them tone; but if taken in immoderate doses it causes arterial relaxation and effects leading up to paralysis.

In the advanced stage of disease caused by drink we have symptoms commencing at first with a muscular inquietude, inability to sleep, the patient has the 'fidgets;' this increases to muscular tremors in the lower extremities, which from want of sleep are worse in the morning, but which at first are under control; the face becomes flabby and all bright expression is soon lost; the eyes get watery and red, with jaundiced conjunctivæ; the skin red and pimply, with an eruption like 'acne rosacea;' there is often nausea and vomiting in the morning, with foul breath, having the smell peculiar to drunkenness; congestion of the stomach and intestines, often causing bleeding from the bowels and hæmorrhoids, inability to take or retain food. Some degree of sensory paralysis is present from the first; and when this progresses to the lower limbs it is of grave import, as indicating serious organic lesion of the brain; the mental powers become depressed and enfeebled; there is locomotor ataxy or, at least, loss of muscular co-ordination; these symptoms advance in some cases to insanity, in others to paralysis, and in some, where there is

an advanced stage of alcoholic degeneration of the nerve-centres, to convulsions that resemble those of epilepsy, except that we find nearly always accompanying them a form of insanity in which there is hopeless decadency, or partial or even entire loss of the mental faculties.

The advanced forms of this disease do not often come under the treatment of medical men outside asylums ; and I therefore pass on to the milder—those in which the patient is “intoxicated,” and where it will only be necessary to describe the symptoms by which we distinguish them from other diseases.

The circulation is hurried, the pulse is abnormally quick, and gives indications of arterial relaxation. The breathing is snoring, may be stertorous, but, as a rule, it is not so ; and there is a peculiar smell of the breath, due to the digestion of alcohol, entirely different from the odour of alcohol itself, but which is also present. This “drunkard’s breath” is always to be noticed in these cases unless some pungent aromatic substance has been taken to disguise it.

The pupils of the eyes are at first mostly dilated, but as the narcotic power of the alcohol increases they contract ; yet they still possess the power of dilatation when we stimulate the

patient in our endeavours to rouse him, and they are to a certain extent sensible to light; there is lachrymation and congestion of the conjunctivæ. Insensibility, from which the patients can be momentarily roused (they will often resist examination, and oppose all our endeavours to dress wounds, &c.), comes on slowly whilst they are drinking, and a profound coma supervenes; this insensibility is generally preceded by excitement, though if large quantities of raw spirits have been taken this period of excitement may be very short, or altogether absent; the face at first is flushed, but becomes pale with cold clammy sweats as the coma advances, and vomiting often occurs; the patients will sometimes involuntarily void their urine and fæces.

Stages of Drunkenness

Drunkenness, apart from chronic alcoholism, may be divided into three stages, in each of which we find on considering them some distinguishing symptom, and a different moral responsibility:

1. Drunk and excited.
2. Drunk and incapable.
3. Drunk and insensible.

In the first stage—"drunk and excited"—the term drunk is used to signify not sober, and the symptoms noticed are, the

Circulation is increased in rapidity; there is a feeling of warmth due to the local irritation of the gastric mucous membrane, and accelerated circulation in the skin by the alcohol, although there is no real increase of temperature, except, perhaps, in the head, marked by flushing of the face. In animals there is certainly noticed a greater amount of heat in the cranium after the administration of alcohol.

Respiration is also increased; occasionally sighing, as though difficulty was experienced in aëration of the blood, the breath smells of the drink taken, and there is the "drunkard's breath."

Eyes suffused with lachrymation; the pupils are in this stage more or less dilated.

Sensibility is diminished; symptoms of a paralytic nature are produced in the spinal and fifth cranial nerves; the cerebral hemispheres, and hypoglossi are next affected.

Temperature is diminished (except, as before

stated, in the head), due, perhaps, to the effect of the alcohol on those nerve cells which are concerned in the tissue-change processes and on the increased evaporation of moisture from the surface of the body.

Spasm. Muscular inquietude; slight numbness of the lips; impairment of muscular power in the extremities, that is, loss of the delicacy of touch in the hands, and grasp of the ground by the feet in standing and walking.

2nd Stage. Drunk and Incapable

This is a development of the 1st stage, the symptoms of which are now all increased in severity.

Circulation. Arterial relaxation is to be distinctly noticed, although the pulse is abnormally quickened.

Respiration is still quick, but the difficulty in aërating the blood felt in the first stage is not now noticed, due, perhaps, to the anæsthetic action of the alcohol; the breath smells of the liquor taken, and the "drunkard's breath" is more marked.

Eyes. The lachrymation and congestion of the conjunctivæ are increased, and this is accompanied with strongly-marked flushing of the face. The pupils now gradually become contracted, but still are slightly sensitive.

Sensibility. The paralysis is more pronounced in the spinal nerves, causing greater numbness and loss of the muscular sense. The vasomotor fibres of the fifth nerve are more affected, as shown above, by the flushings of the face and congestion of the conjunctivæ, &c. The intellect is confused from the effect of the alcohol on the cerebral hemispheres, causing a more or less sentimental delirium, and the hypoglossi have less power, as is shown by the increased difficulty in articulation. The patient can be roused by stimulation.

Temperature. It is now known the heat of the body diminishes during this stage in persons who are not habitual drunkards, the temperature of the head excepted.

Spasm. Muscular power and sensibility is diminished all over the body; in this stage any predispositions, mental or physical, are shown in strong relief, especially if any tendency to epilepsy is dormant in the system; it is at this time most likely a nerve crisis will occur.

3rd Stage. Drunk and Insensible

All the phenomena of the two former stages assume greater intensity and increase in severity in this, until the palsy of the medulla oblongata becomes complete, and breathing ceases; the organic nerves of the heart lose their power, and entire cessation of animal life may result.

Circulation becomes weaker and weaker, as the cardiac nerves are affected; the skin assumes a dusky, even bluish, hue, and the pulse is a mere flutter.

Respiration from being quick becomes slow and feeble, until it is scarcely to be noticed; the odour of alcohol in the stomach, "drunkard's breath," is present as long as the breathing continues.

Eyes. The eyelids droop over the eyes without being closed; the mucous membrane is pale; the conjunctivæ pale, and where they have been injected have a brownish tint. The pupils are now gradually dilated, becoming more so as the coma increases.

Sensibility entirely lost, cannot be roused, coma gradually comes on, the palsy of sensation and voluntary motion is more and more complete, until, as before stated, life ceases.

Temperature of the surface of the body is now

very low, and there are cold, clammy sweats ; even the scalp is cold and pale.

Spasm. The limbs are flaccid, can be placed in any position without resistance ; all power in the muscles is lost, and there is no rigidity.

I have endeavoured in thus dividing "drunkenness" into stages to form a basis on which to erect a system of treatment, and although it is not perhaps strictly within the doctor's province, to have a text on which to offer a few remarks on the responsibility of drunkards.

The former of these I have essayed to do in the few words on "treatment" that follow.

The latter, although as I have said a little beyond a medical man's province, no excuse for giving his thoughts thereon is needed, as he is so often brought in contact with these cases, and called on to decide if a prisoner is sober, or not.

As I have said one of the effects of alcoholic stimulation is to increase the idiosyncracies in a direction to produce unsoundness of mind in those under its influence, even when small quantities of "drink" have been taken, much more so in those who habitually indulge to excess. Granting this, they are therefore more or less unlike their sober selves, that is, more or less without the same control of their ideas, passions, &c., or to put it in plain language, in degree insane according to the effect of the "drink" taken; the "rule of law" is "no man is responsible like a sane person for any act committed by him while in a state of insanity;" therefore, I contend that even in the first stage of drunkenness (as I have described it), a man is not responsible for his acts as though he were sober.

We know that persons having sustained injuries to the head are very much affected by a little "drink," which if another had taken would have produced no recognisable effect; yet these persons are regarded by the law in the same light as those drunk from excess, and should they commit some offence against it are equally responsible with a sober person; for the law "will not excuse an act committed through moral depravity," that is, when a person

is drunk; and yet in all other cases the law will admit a plea, that "the person had no just consciousness of right and wrong," or "only slight knowledge of the consequences of the act." "Delirium tremens" in law is a sufficient plea of irresponsibility, whilst confirmed drunkenness is rejected, and yet the one may be and often is produced by a single excess, and little likely to affect the mind; the other is due to diseased mind, or at least induces this state. We know that with cerebral irritation from alcohol we often get homicidal mania, and if we trace the action of alcohol on the mind, from small to large doses, we find it is towards this result. Those under its influence are even at first pugnacious; it gives "Dutch courage" even to the timid; in larger quantities it makes men commit acts of violence they would never have thought on without horror when sober, and so, up to its full action on the mind, all is towards homicide. The crime is "taking the drink," and should an offence be committed by a person intoxicated, by all means punish him for being in that condition, but allow the fact of being under the influence of drink to modify the responsibility of the criminal act.

It is unnecessary to enter into the subjects of delirium tremens, acute mania, or acute melan-

cholia from drink, or oinomania (which, although a constitutional disease, owes its outbreaks more especially to alcoholism), as those suffering from them are recognised as irresponsible in law.

Drunkenness

March 23rd, 1878.—A young man, about twenty-five years, small made, but well nourished, was found staggering about the street and falling down. He was brought to the station by the constable and public. During the time taken to bring him in he became quite insensible. When I saw him he was still so, but could be slightly roused by shouting at him and shaking.

Circulation very weak and slow.

Respiration very weak and slightly stertorous, smelling of drink.

Eyes dull and the pupils dilated.

Sensibility. Body and limbs supine; had a cut on left eyebrow; blood has ceased to flow; insensibility gradually becoming greater.

Temperature. Pale, cold, with clammy sweats.

Spasm. Vomited digested food, with the peculiar smell of alcohol that has been in the stomach.

Gave him the ammonia to inhale, and kept him warm. He was a long time becoming sensible to it—twenty minutes before I could give him the first three drops—after which the colour returned to his face, and he breathed

stronger ; gave him three more drops, when he gradually improved until he could tell his name ; left him asleep in the cell with the reserve policeman to watch him. I saw him about two o'clock in the morning, when he was sleeping quietly. Next morning he was all right.

Poisoned by Alcohol

April 6th, 1878.—A man, tall and well formed, with white hair and beard, about fifty years old, was brought to the station insensible, after great excitement outside a public-house. When I saw him he was asleep.

Circulation weak, slow ; the pulse a wave rather than a distinct beat.

Respiration laboured, stertorous breathing, smelling strongly of drink, with drunkard's breath.

Eyes suffused, pupils contracted and insensible to light.

Sensibility. Complete insensibility ; could not be roused.

Temperature. Extremities cold and blue; face dusky looking.

Spasm. No movement, limbs lying supine in any position they were placed.

Gave the ammonia to inhale with slight effect, then three drops, which had an immediate effect on the pupils, causing them to dilate rapidly. After continuing the inhalation for some minutes I gave him three drops more. He was, after this, quite capable of giving his name and address. He lay quietly down and slept directly, his breathing easy, and skin moist and warm.

Alcoholism, with Inflammation of Lungs

April 13th, 1878.—A woman was found lying insensible in the street, and was conveyed to the police station on the stretcher, where, on examination, I found

Circulation very weak; the pulse a mere flutter.

Respiration feeble, with gasping sighs; mouth and nose full of phlegm; smelling of drink.

Eyes suffused and shrunken looking; pupils slightly dilated, but insensible to stimulation. Sensibility entirely lost; could not be roused. Temperature. Pale, and cold all over. Spasm. Lying in a relaxed supine position; no movements.

Allowed her to inhale the ammonia for some time until a slight colour began to show in the face, then gave three drops with little or no effect, except the return of a little more colour; gave three more, which produced slight effort at coughing; the inhalation was continued, she began to cough a little stronger, and got up a large quantity of rusty-coloured phlegm; gave three drops more; the cough continued; the mouth, nostril, and trachea were now clear of mucus; she breathed more easily; warmth and pulse returned; she fell asleep. This being a dangerous case I sent her to the infirmary.

Poisoned by Drink

May 10th, 1879.—A gentleman was seen to stagger on the pavement in Waterloo Place,

and attempt to enter a cab (Hansom). He got on the front of the cab, when he fell insensible. He was driven to the station, and there lifted into the waiting room. I was sent for, when I saw him, and found the

Circulation very slow; gave a full and thick feel to the finger.

Respiration low and feeble.

Eyes. Conjunctiva suffused; looked as if seen through a dimmed glass; pupils insensible and contracted.

Sensibility. Could not be roused; insensible to stimulation.

Temperature. Surface cold and pale; face the same; lips blue.

Spasm. Limbs motionless and flaccid.

He inhaled the ammonia for five minutes before he felt it; continued for ten minutes, when he was distinctly sensible to its power; gave three drops in water, which restored some feeling; pupils a little larger, and he certainly was warmer; gave three more drops, which caused him to vomit a mass of undigested food (lobster salad); continued the inhalation. He vomited again and again; gave him three more drops; this made him sensible when spoken to; pupils were now normal. He sat up and tried

to get away from the stretcher on which he lay. He was put in a cell, where he fell asleep. All right the next morning.

Poisoned by Alcohol

October 17th, 1878.—At one o'clock this morning a cabman was seen driving a cab furiously along the street. When captured and removed from the box he almost immediately became insensible, so that he had to be carried to the station. When I saw him he was entirely so. No signs of injury.

Circulation very weak; pulse imperceptible; heart's action could only just be felt.

Respiration very faint, scarcely present at all; smells of drink, with strong odour of spirits. Eyes very dull, watery; pupils slightly contracted.

Sensibility entirely lost.

Temperature. Surface cold and clammy; extremities purple, with numerous points of a red colour over them.

Spasm. None.

Gave the ammonia for some time before any improvement. When sensible of its influence I gave three drops in water, putting them far back in the mouth ; continued the inhalation ; gave again three drops, when he became warmer, breathing stronger ; gave him two more, which caused him to vomit a quantity of fluid with spirits in it. He became conscious, but immediately fell asleep. As he breathed easily and the pulse was strong I left him asleep ; he was all right next morning.

November 15th, 1878.—A woman was found in the street, lying on the pavement, wet through (it was raining heavily) ; brought by the policemen on stretcher to the station. When I saw her she was still insensible. A stout, middle-aged woman, with only a few rags on her body ; no linen or flannel, and an old pair of man's trousers on ; wet to the skin.

Circulation slow and laboured.

Respiration difficult and stertorous, smelling of drink.

Eyes suffused and the pupils dilated ; slightly sensible.

Sensibility. Could not be roused ; no response to stimulation.

Temperature. Surface cold ; extremities blue.

Spasm. None ; all the limbs flaccid and limp.

Gave the ammonia to inhale until she was sensible enough to swallow, then gave her three drops in water, continuing the inhalation ; after some ten minutes she gradually lost the blue look, and even made some slight movements ; then she vomited. I gave her three more drops, when she again vomited, and sensibility returned ; she was now conscious enough to tell her name and residence ; she was placed in a cell, well covered up, with a man watching ; she slept all night, seemed quite well next morning, made no complaints, and when asked how she felt was very savage, as she thought we were "insulting her."

January 12th, 1879.—A woman was found lying on the pavement quite insensible, with

blood over face and neck; she was brought to the station on the ambulance. On examination I found a small scalp wound behind the right ear, the bleeding from which was easily arrested with the styptic colloid. She was quite insensible when I first saw her; her

Circulation slow, feeble, almost imperceptible.

Respiration very weak and sighing; smelling of drink and drunkard's breath.

Eyes suffused; pupils contracted, but slightly sensible.

Sensibility lost; could not be roused.

Temperature. Very cold, and surface dusky looking (a very cold night).

Spasm. Lying perfectly flaccid, without movement.

Gave the ammonia to inhale; she quickly became sensible to its influence; gave three drops, which partially restored her to consciousness; after a short time gave her three drops more, which made her quite sensible; she began to use abusive language; was placed in a cell; all right next morning.

April 26th, 1879.—A man found lying insensible on the pavement early this morning. He was taken to the station on the ambulance, where he lay when I arrived. On examination I find the

Circulation. Pulse very feeble, almost imperceptible, sometimes a mere flutter.

Respiration very faint, and feeling cool when the back of hand held near the mouth; the breath smells strongly of drink (a sweetened spirituous odour).

Eyes. Conjunctivæ insensible to touch; pupils contracted and insensible.

Sensibility lost; could not be roused.

Temperature. Surface quite cold; skin showing patches of dusky red hue; nails blue.

Spasm. No vomiting.

Gave the ammonia to inhale, which, after a long time, caused him to sneeze and cough; placed two drops in water far back on tongue; this caused him to eject in a purposeless way, and with assistance some mucus and phlegm. Continued the inhalation until the pupils began to dilate and the skin to lose its dusky hue, when I gave three drops more; he resisted, and spat this out; after a time gave three drops more; these he tried to spit out also; he

began to speak, and after a time (twenty minutes from the beginning of the inhalation) he told his name and swore at us. He was walked about the waiting room, being supported on each side, until he became quite sensible, when he gave his address, and was conveyed home.

Drunkenness (excessive)

August 31st, 1879. — A woman of about forty-two years, deformed, with marks of severe burn on right arm, was found incapable in the street, and was brought to the station, where she became insensible. I found her in a comatose state.

Circulation very slow and weak.

Respiration feeble, scarcely to be noticed;
smells of drink, with the drunkard's breath.

Eyes suffused (fishy); pupils contracted and nearly insensible.

Sensibility. Slightly sensible to stimulation.

Temperature. Cold with blueness of extremities;

the surface of the body quite cold and dusky looking.

Spasm. No vomiting or defecation.

Gave the ammonia to inhale. At first she was entirely insensible, but after a time the breathing became stronger, the skin warmer, and lost its dusky hue; there was deglutition and tendency to vomit, and the pupils began to dilate; gave two drops in water, which produced still greater improvement; then three drops; she now became suddenly excited, struggling viciously to bite and strike those around, but the continued inhalation soon commanded this, and she recovered sensibility sufficiently to give her name and address.

Delirium Tremens

March 18th, 1879.—A man, found in the street “mad drunk” (as described by a policeman), was brought into the station last night and placed in a cell. I was called to see him this morning, as he was supposed to be “deranged.” I found him in a nervous, excitable

state, trembling all over, with choreic action of the muscles, examining with a frightened distrustful look the corners of the cell. A fellow-prisoner states he has slept occasionally during the night, but when awake was always looking about and very frightened.

Circulation quick, but thin and weak.

Respiration hurried, and has drunkard's breath.

Eyes bloodshot, suffused, and startled look; pupils moving about in a twitching, uncontrollable way, preventing examination.

Sensibility disguised and perverted.

Temperature. Cold and shivering.

Spasm of a choreic character; constant unless the attention is commanded, when there is only trembling.

This man has evidently "delirium tremens," but I thought I would try the ammonia, so gave him three drops, which at once checked the action of the muscles, so much so that he was able to answer questions when he appeared before the magistrate.

The appropriate *treatment* of the affections enumerated above is given in most of our text-books, and, supposing we can diagnose them, may be carried out; but, as I have endeavoured to show, this is next to impossible. We therefore want some means, safe and efficacious, which we can use at once in most cases of emergency. Feeling this great want, as all must who are brought in contact with them, I have been led to employ ammonia as more generally applicable than any other means of treatment.

The physiological action of this drug is to directly stimulate the medulla oblongata and the automatic ganglia of the heart, producing increased frequency of the pulse and respiration, and, by its stimulating action on the vagus nerves, causing expectoration and vomiting.

The effects produced are excessively transient, owing to the readiness of its excretion, but it is unequalled for the promptness with which it produces them; thus,

It is "antacid."

A powerful stimulant to the digestion in the irritability and depression of the nervous system caused by excessive smoking and drinking.

It counteracts the effect of sedative poisons.

It is useful in hysteria, syncope, asphyxia, and asthma, both for inhalation and internal administration.

Outwardly it is a stimulant, rubefacient, and vesicant, and has been found useful in the bites of poisonous animals when applied to and around the wounds they have made.

It will restore a degree of consciousness to persons entirely insensible from the effects of alcohol; and if this was its only action we could not too highly praise it.

The preparation I use is the *Liquor Ammoniae Fortior*, which I allow insensible patients guardedly to inhale until they are sensible to some extent of its irritating action, then three drops in a tablespoonful of water are put into the mouth when they are able to swallow, and the beneficial effects are soon seen. The skin gets warmer, the eyes lose their dulness, sickness is often induced, consciousness gradually returns, so that they will answer questions, and sleep, we need not fear, follows. It is seldom necessary to continue the inhalation or repeat the dose, though I have occasionally done so, and I have never seen any bad effects from its administration, as I at first thought possible.

Drunken people. If only slightly affected by drink, "nature's sweet restorer" is all the treatment required.

In all cases where the patient is very much under the influence of alcohol the ammonia should be used as I have described; and only when we have restored some degree of consciousness can we with safety allow the patient to be left unwatched in a cell.

All cases of fits to which we may be called may be classified as those complicated with alcohol and those where the effects of alcohol are absent.

In the first are comprised all cases, except the rapidly fatal, arising from alcohol or are complicated with it; here, the ammonia will be found of the greatest use, unmasking the case, removing to a certain extent the symptoms due to alcohol, and bringing prominently forward those due to other causes, which we shall thus be able to recognise and treat.

In the second class are included for our purpose those cases suddenly severe, where no treatment is practicable, and also those which, being uncomplicated with drink, declare themselves and we recognise them, the proper treatment of course will be employed; the one great source of error being absent we shall have far

less difficulty in diagnosing and treating them, but even here we shall derive great assistance from the judicious administration of ammonia.

Injuries and wounds have been so often described and the appropriate treatment indicated, that it would be presumptuous in me to offer any remarks thereon.

In conclusion, I would recommend every police surgeon to have a cupboard fixed at the station, or have some place under lock and key, where he can keep a few things.

A shelf for bandages, lint, oil silk, &c.

A tray that can be removed to contain a pin-cushion, a pot or glass for grease, a probe, a pair of scissors, a glass rod, silk, silver wire, needles, pins, sticking plaster in strips, and a razor; at one side of the cupboard a space railed off for bottles, containing Liq. Ammon. Fort., Richardson's styptic colloid, acid carbolic, chloroform, and emetics in powders, ready for use. All other requisites will be found in every surgeon's pocket case.

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