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THE MORPHIA HABIT.

By,

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THE MORPHIA HABIT.

This subject has been selected for my thesis for various reasons. It was my fortune to assist at an Institution, in fact, I had sole charge for a time, where such cases were treated, and therefore I had exceptional opportunities of clinical observation and investigation. Apparently little has been written on this subject in this country, the chief literature emanating from German and French physicians.

Persons suffering from the Morphia habit are mostly treated in Institutions suitably adapted for the purpose, therefore the general practitioner has little opportunity of witnessing the care and patience required in the treatment of such cases. The Opium or Morphia habit is much more common than the majority of people have any idea of. I shall deal chiefly with the subject as applying to the introduction of Morphia into the system by means of the syringe and needle.

I would include in the "Morphia Habit" the constitutional proclivity or "neurosis" which impels to the inordinate use of Morphia, & the injury caused to the system by its injudicious use.

The use of opium or its alkaloids is always perilous: in some cases, no doubt, there is a distinct "opium diathesis." The latency or activity of this

diathesis will depend on certain conditions of life and surroundings which in many cases can be traced. The "Morphia habitué" has often a "neurotic" element in his history, it may be associated with brain or nerve injuries, cell starvation, faulty nutrition, or excessive drains of nerve force: a train of predisposing causes may have been gathering for an indefinite time. There is no doubt that the toxic use of Opium and its alkaloids is great: it is evident that the number of cases is large. Morphia is given daily and yet only comparatively few become addicted to its use. Why should so many persons take Morphia continuously for the transient relief it gives? Why should the effects of the drug become so pleasing as to demand its increased use irrespective of all consequences? The only explanation is the presence of a neurotic diathesis either inherited or acquired.

I have arrived at the conclusion that the abuse of Morphia injections is due to a central neurotic change, thus differing from some Continental authorities. Morphia neurosis would thus seem to be not an intoxication from the drug, but a central neurotic change, brought about by the long perversion and impairment of central nutrition. This I hope to prove and also show by my clinical cases.

Certain constitutions bear up through the changes of life fairly well, until some serious injury overtakes the physical organisation, such for example as a blow on the head, a wound, or even a long or trying illness. Irritation at once begins to do its work, the ordinary and natural constitution gives way; it is weak, exhausted, and weary; it has become unequal to the requirements of ordinary life, it craves for rest and repose. The Morphia diathesis is invoked. The mind rushes from one extreme of emotion to another, either showing excitement that is morbid, or degrees of feebleness that are abject. Women are often of this class, and persons from the wealthier circles of social life.

A diathesis implies a special predisposition to certain kinds of diseased action, and is more or less a remote cause which might properly be called "nervous diathesis." Using this term, certain well defined conditions appear to be traced from which the craving for narcotics can be studied and prognosed with much certainty.

I will now proceed by mentioning some of the general causes which may lead to the development of the "Morphia habit," which include injuries or concussion of the brain and spinal cord, and consequent

alterations of nutrition. Blows on the head or railway accidents, often develop the craving, as the concussion and surprise are sudden and overwhelming, causing int-reaction on the nervous system, though they produce at first insignificant physical lesions.

Peripheral irritations or reflex excitability is a common cause: both are frequently the beginnings & in many cases the active causes of the disease.

Previous diseases are also active causes, such as neuralgia, by disturbing the nervous centres and their equilibrium. For example, Dipsomania, suppressed Gout, acute Rheumatism, skin diseases and Syphilis, often precede the craving for Morphia. I shall deal with these again.

Exhaustive intellectual and physical exertion, by breaking up a healthy central action, may develop the Morphia habit.

I will now deal with an important part of my subject: namely, "Phychical traumatism" or injury from mental agitation, or powerful emotions, as a cause of the Morphia habit. This may be considered from two points of view.

First, as a direct cause of the disease, and

Second, as an indirect cause by developing conditions which rapidly merge into the disorder.

As a direct cause the following is a good example:

A gentleman was driving in an open dog-cart, his horse took fright at a steam roller, which caused the horse to bolt along busy thoroughfares and finally landed him into a shop window. The sudden alarm and crashing noise and profound fear of impending death produced, what I may term, functional paralysis. He was taken to the Hospital. After a few days he was able to return home. Whilst in the Hospital he had neuralgic pains in various parts of the body, and hypodermic injections of Morphia were administered to relieve the pain. When he got home, although not suffering any particular pain, an intense desire seized him for an injection of Morphia. He commenced its use and became a Morphia habitué.

Another case was that of a gentleman, who was in good health, and correct in all his habits of life. The sudden death of his wife, from an accident, threw him into a profound state of nervous prostration which lasted some time. He began to take Morphia, first by the mouth and then hypodermically: he claimed that he needed it for exhaustion, as a tonic. His craving for the drug commenced directly from the shock, following and caused by intense grief.

In both of these cases there was a degree of mental and physical vigour that gave no indication of the sequel or of any neurotic disease. There was no defective hereditary in either case, and the craving for Morphia was entirely due to "⁶psychical traumatism."

A very large class of cases have suffered in the past from some attack of disease, from which they have recovered, which has left some form of debility and a want of something that cannot be defined. They are fully conscious of diminished power, of change of vigour and force. It may be that they do not sleep as naturally and do not get the usual rest; they are more sensitive than before, emotional and excitable with every event that is irritating. In one case a man has a serious attack of pneumonia with a tedious long convalescence. After recovery, a change of disposition and character is noticed, and a year or two later he begins to take Morphia as a stimulant and soon becomes a habitué.

Or in another case a man recovers from Typhoid fever and for a long time exhibits marked alterations of habits and character, then gradually becomes addicted to the use of Morphia. There can be no doubt that the Morphia habit originated in traumatism following the disease in these cases. The integrity of the organism and function has been impaired, and from this point

disease and diseased tendencies are developed. In the second class of cases where "psychical traumatism" is the cause of the Morphia habit indirectly the history and Symptoms are always more or less obscure and require careful study. Yet these cases are undoubtedly numerous, and will in the future, I am certain, attract attention. The following conclusions may serve as a guide for further clinical and psychological investigation viz:-

(1) The injury to the nerve centres from psychical traumatism is the point of departure from the main line, from which all subsequent disease and symptoms of change and perversion can be traced and studied.

(2) The most prominent early symptom is exhaustion which goes on, progressively manifest in more complex deviations from health, and general functional disturbances.

(3) The progress and treatment will differ materially, depending on a knowledge of the facts, and will present indications, which it is absolutely necessary to know for the proper management of the case.

The refusal to take proper physical rest when tired is one of the most important and powerful causes in inducing a desire for an indulgence in the use of Morphia. Men work until they get so tired that they

cannot wait to feel rested by processes of change going on in their systems from suspension of labour. They either want to work more hours than they are able; or when they have done as much as they feel themselves at liberty to do, they are so tired that they cannot rest; they get rest therefore in artificial ways, some get rest by drinking tea, coffee, or alcohol; others by smoking tobacco or taking Morphia. They fall back on stimulants instead of the intrinsic vitalities of their bodies. They are therefore lifted up into false conditions, they keep on working until they become so functionally impaired as to induce positive inability to work longer. Appeals to their feelings and reasons are useless, for their faculties are unable to direct or control the progress of disease. A further most important factor, as a cause of the Morphia habit, is "abnormal nutrition." The neurotic or opium diathesis is not apparently present and opium or Morphia taking dates from some nutritional disturbance, such cases are common in those who suffer from Dyspepsia, hepatic and enteric derangements. They have a deranged appetite, headaches, cramps, thirst and nausea; they are anaemic and hyperaesthetic and complain of varied pains and neuralgia, these cases are evidently ill-nourished, and in all probability suffer from imperfect

digestion, assimilation, and elimination of food products and waste material. Poisonous Compounds form sources of trouble, the brain suffers from fatigue & pain, the cells are imperfectly nourished. Congestions, neuralgias, nerve irritation and instability follow. Opium in any form is almost a specific paralyzant in these cases.

I would especially note that "Acidity" is a powerful cause of the "Morphia habit," and it is among the above where this is most frequently present, and it is one of the chief factors which makes them drug takers. Then comes Opium in some form.

The "Morphia habit" is a most insidious one. It is quite true that in some cases, for a short period, the absorption of a small quantity of Opium or Morphia is followed by vital and intellectual stimulus. There is first a degree of exaltation, a sense of well-being, a feeling of bodily and mental activity, a general satisfaction and good humour that is most agreeable, and the only symptom he betrays at the time is no more than a natural talkativeness. The hypnotic effects when they appear are not overwhelming; of course small doses lose their effects and larger doses are demanded. These are succeeded even at the beginning by a period of depression and irritability, although some habitues

may go on, even for years, without being apparently any the worse for the "Morphia habit." In other cases symptoms of Morphia poisoning are soon developed, the patient breaks down physically, mentally and morally. The natural history of such cases indicates a steady progressive degeneration on to death.

The injections of Morphia not only relieve pain and insomnia, but they produce a change in the whole system. The drug produces a state of excitement mentally, similar to alcohol, the temper is altered, strength is given, depression is overcome, and I have always noticed the consciousness of power and ability is greatly increased, but as soon as the Morphia has left the system a reaction sets in, that of despondency. Some persons exhibit an incompatibility to the drug which is often most startling and alarming. I remember once administering a small dose of Morphia to a lady patient, which produced the most alarming symptoms; the emesis and prostration were very great. This intolerance precludes the use of the drug, and it is recognised with alarm by the patient. On the other hand the effects sometimes are rapid and marked, relieving pain or restoring the disturbance of the functions, with no other than a pleasing sense of rest and cure. A dangerous diathesis should be

suspected in such cases. While the medical man recognises the constitutional incompatibility in one case, he ought not to overlook the abnormal attractiveness of the drug in the other. The dose of Morphia which gives the first complete rest, or calms the delirious excitement, or relieves the neuralgic pain, or the digestive disturbance, soon calls for a repetition, and medical men will often advise and sanction its use. I shall have more to say on this point when deal- with the hypodermic syringe and its injudicious use, when far more fatal conditions are cultivated and roused into activity. In all neurotic cases Opium and its alkaloids should be concealed and watched with care: if a special predilection for the drug appears, equal care and skill should be used to divert and change it. Morphia should only be used from a knowledge of the nature and character of the case, as its use is always perilous, We can see some of the many complex causes favouring brain and nerve strain, with exhaus- tion and degeneration, and the inter-changeability of nerve diseases in which the use of the drug is only another form of the same disease; but we cannot well trace the early causes and cell conditions which develop the Morphia craze. The morbid impulse, like the delirious thirst for water in a desert, completely

dominates all reason and so-called will-power, and every condition of life and surroundings. It is more than an accident, more than a failure to reason and act wisely, it is a disease, an organized march of dissolution. The demand for Morphia is only a symptom, the removal of Morphia is not the cure. Some cerebral nerve degeneration, has begun and is going on.

In this study the fact is emphasized that the opium disease appears most frequently in persons who have a neurotic and opium diathesis, and also in persons who are suffering from nutrient disturbances, and those who are invalids or have some entailment of previous disease and injury; also that certain diseases and symptoms seem to furnish favouring conditions for its growth and development.

The Hypodermic syringe, an instrument well known to every one, even to the poorest of out patients in consequence of the frequency of its use. The large majority of people think that Morphia is the only drug administered by this means. The inventor and instigator of the use of the syringe and needle had little idea of the horrible sufferings and misery that would be brought about by its injudicious use. No patient should ever be allowed to use it himself. It has a powerful fascination for the habitué. It should never

be used except by the medical attendant, and not even then, if the drug can be administered in any other way, such as by the mouth, suppository per rectum, or in the form of ointment to be applied to a painful malignant sore. I recollect being called to attend a patient after the death of her previous medical attendant. She had a large malignant sore which caused terrible pain in the hypogastric region, having eaten its way completely through all the muscular walls. Her late medical attendant was allowing her to take from three to five opium pills (1gr each) in the 24 hours and frequently he administered a hypodermic injection of Morphia in the evening as well. I advised the discontinuance of those, and prescribed "Unguentum Morphiae" to be applied to the sore, and a draught containing Chloral Hydrate and Potassium Bromide at bed time. The patient said this treatment afforded her greater relief from pain and greater comfort than anything she had ever had, which was continued for about twelve months when she died. It is no uncommon thing for the house physician in a large hospital to go on his nightly rounds with hypodermic case in hand and give several Morphia injections to the patients who are in need of the drug.

In general practice I have known medical

practitioners go two and three times daily, for weeks and months, to administer Morphia injections to the same patient. In these cases I consider it would have been better administered by other means, with less liability to disastrous results, which must usually occur. From what I have stated it is evident that more caution ought to be used by medical men before recommending the use of Morphia injections and never under any circumstances ought they to allow the patients to administer the injection themselves. For by doing this I consider the medical attendant is entirely responsible, should the patient become addicted to the Morphia habit.

The daily quantity taken by individuals varies greatly from 2 to 60 grs: per day. It is quite common for 16 grs: to be taken in the twenty-four hours, in fact I know two professional men at the present time who are taking, one, sixteen grains, and the other, eight grains daily. One of my patients (see case 2) used, he says, to inject 40 grains daily, and previous to going for a long bicycle ride, he would inject six grains of Morphia.

Symptoms of the "Morphia habit." Chronic Morphia poisoning is characterised by repeated nerve excitations, in which the nerve centres not being completely

overcome, a kind of tolerance is established, with progressively developing abnormal changes, which are repeatedly concealed by the renewed doses, till some sudden deprivation of the drug, or failure to appropriate it, reveals in full the neural mischief which has been done.

The central tracts involved are the cerebro-spinal and sympathetic systems. Organic lesions are rare, probably some instances of renal and brain disease, the ultimate results being marasmus, ending in death. The symptoms which result from Morphia injections commence to show themselves in a few months but there are cases, however, of which the injurious effects are only evident after some years. This does not depend so much on the dose, but some are more susceptible to the drug than others. Morbid appearances soon show themselves, as previously stated, in the cerebro-spinal and sympathetic nervous systems.

The Skin loses its colour, a pale grey is the hue, sometimes it is almost of a cadaveric tint, and has a withered feel, the adipose tissue as a rule disappears rapidly, but there are many exceptions to the rule - perspirations, I have noticed, are excessive in almost every case sometimes to an alarming extent. Abscesses are apt to occur at the point where the injections are

made, which is often in a vein. One of my patients had both hands and arms, and both legs literally covered with ugly dusky blue cicatrices which represented scores of injections.

The Eyes are dull and hazy sometimes are very weak - surrounded by a dark ring - Double vision is most common (see cases), the pupils contract, but unequally, one being often larger than the other.

The Mouth is parched, there is great thirst, nausea and vomiting, the tongue is tremulous and I notice that there is often a peculiar angry looking reddish line in the centre of the tongue towards the back part, it has a dirty brownish covering as well. Sometimes slight grooving or indentations at the edges are present. The appetite is greatly affected in these cases - the victim has peculiar likes and dislikes - of the latter I may mention the great dislike to meat, he is all for nourishment that he can drink down quickly, such as egg beaten up with milk, beef tea and broth.

The bowels are usually confined - due to diminished *peristalsis* caused by the paralysis of the nerves by the drug. There is also chronic catarrh of the stomach on account of the irritating chemical action of the Morphia.

The Pulse is very small and hard, and may be thread-like. I have found frequently the number of beats to count only a little over forty per minute. There are often, from the paralysing effects of the Morphia upon the blood vessels, noises in the ears, syncopal attacks and dyspnoea. These are distressing and generally show themselves most when the patient wakes up in the early part of the morning; he has all the feelings of impending death.

Kidneys - in severest cases there is generally albumen, and the quantity of urine is often greatly diminished - there is frequently atony of the bladder. Patients have told me that they generally tried to pass their urine immediately before using the syringe, as it was usually more difficult to do so afterwards. The testing for Morphia in the urine is most important as it is the only certain way of knowing whether the patient is taking Morphia unknown to his medical attendant or not. A patient whose urine contains Morphia for a longer period than six or eight days is sure to be continuing the injection of Morphia, although he may persistently deny the fact. The albumen after a period of abstinence is observed oftener than during the continued use of Morphia and occurs nearly in all cases (see cases). It is usually first discovered from the

third to sixth day after deprivation of Morphia, disappearing after some two or three days. The central nervous and sympathetic symptoms are affected in many of their functions. The deviations from health noted, are due to departure from the normal tone of one or both of these centres. I consider the most important point here is that the reflexes are greatly increased. Other symptoms are insomnia, hallucinations, great irritability of temper, hyperaesthesia and paraesthesia.

Symptoms after the deprivations of Morphia. The following is a characteristic clinical picture; on the one side there is the bodily ruin, and on the other side the moral impairment and pronounced mental affection. I will state some of the leading features which frequently occur after the deprivation of Morphia. Only a short time has elapsed since the last injection was given, the patient looks ill and wretched, there is a feeling of uneasiness and restlessness, there is great despondency, accompanied by Dyspnoea, the patient will often crave for Morphia or alcohol. There is a hyperaemic condition of the head and palpitation of the heart - the latter is frequently very weak and is the first to show signs of Morphia deprivations, there is a hard pulse which is often irregular.

The vaso-motor system shows its want of power or

weakness, by the abundant perspiration, which is a most characteristic symptom. Diarrhoea and vomiting are almost always present, and are as will be seen from one or two of my cases, very troublesome features during the treatment, and are in my opinion the chief symptoms that should prevent a too rapid reduction of the drug. However carefully the treatment is carried out, they are almost certain to occur after the last injection. Reflex irritability is greatly increased, there are violent fits of sneezing, coryza, giddiness, and yawning. The speech is often incoherent, stammering, and there is ^{cut} ~~great~~ trembling of lips and tongue.

Dyplopia (see cases) is often present, neuralgic pains in front and back of the head show themselves. Cardialgia, often abnormal sensations in the legs and feet, such as tinglings, burnings, itchings which may be most distressing. These various symptoms are seen to occur in the cases in which I give details.

The progress of the disease is generally insidious and varies very much - if slow it is sure. It is no exaggeration to say that the unfortunate victims of the Morphia habit are wholly and absolutely dependant on their accustomed stimulant, so much so, that it has almost become a condition of their existence.

The Prognosis must always be very guarded and

great caution must be taken as regards the statement of patients regarding their cure, a variety of circumstances beyond our control prevent us from making a fair and just statement of our success to the world. As a rule, failures occur with persons who are willing to be cured, if it can be done without making any sacrifice or concession themselves towards effecting such a consummation. However honest their desires may be to be cured, they have not the strength of will to resist strong and repeated temptation. Is not this the case with transgressions of every physical and moral law? But even such cases are not without hope, proper medical and dietary treatment may do much to build and strengthen their physical systems; but what they need most is medicine for a diseased and weakened mind, and that is a curative agent not to be found amongst the drugs in the Dispensary. Therefore a person of high moral nature, either from culture or inherent perception, gets more control over himself and will battle long against the craving when it is coming on, although he eventually gives way not from any fault of his own, but on account of being the subject of a mental disease entirely beyond his control. In those cases where the moral nature is evidently low and weak, or nearly absent, no hope can be held out for a cure, and the patient

will be an endless source of misery to themselves and their relatives until they die.

Treatment. Basing the treatment on the clinical study of the case it will be evident, where a opium diathesis exists, the withdrawal of opium should be very gradual. Some continental authorities advise the sudden and entire deprivation of the drug. I totally differ from them for several reasons. Firstly on account of the great danger to the life of the patient if suddenly deprived of the drug. There is apt to be serious collapse, and no doubt many deaths have occurred under this form of treatment.

Secondly, on account of the intense agony and suffering amounting to torture which the patient must undergo during the above form of treatment. Whilst treating my patients by the gradual reduction method, I have seen sufficient in their suffering and anxiety to warrant me in not recommending what I might venture to call the inhuman treatment, sudden and entire deprivation of the drug.

Thirdly. Cases treated by the sudden deprivation method, are as a rule allowed to have as much alcohol as they wish to take and in any form they choose, although attempting to assist the unfortunate patient out of one trouble, is this not likely to cause him

to develop a craving for alcohol? Which is also a very serious condition, as he might become a confirmed drunkard. As it is, Morphia habitues are apt to become alcoholics.

Fourthly, in cases so treated there is a greater risk of relapse. In my opinion the craving is far more likely to occur after the treatment by sudden deprivation. Why? Because no time has been allowed for the least repair to the damaged nerve centres, such as we get from the gradual method of treatment.

Fifthly, the rapid reduction of the drug and heroic treatment fail to convince me that the cure would ever be permanent.

The way back to approximate health is "straight and narrow," and only along lines of applied science. More attention must be paid to the brain and nerve nutrition. The removal of Morphia may be followed by the appearance of various disorders such as neuralgia, hysteria, and various other neuroses. The gradual withdrawal of Morphia enables us to discover and anticipate these neurotic troubles which have been masked before. I knew a case of general paralysis spring into activity after the Morphia was taken away. By the treatment of gradual deprivation the patient has a chance to get strong, and, as I have said before,

time is allowed for his moral balance to be restored, so as to enable him to resist the craving. This method is attended by little, or no danger to life. I would advise that other narcotics should be used as little as possible to lessen the irritation in the withdrawal of the Morphia. These cases require the same general treatment as other states of brain exhaustion: they are drug-takers and will resort to anything for relief.

Where the "Morphia habit" has been developed from bad nutrition and faulty elimination, I would recommend a course of baths, mineral waters and tonics, before the removal of the drug. Then the latter may be removed slowly and without the knowledge of the patient and there will be less danger of relapse and suffering.

The more accurately the diseased states, the predisposing and exciting causes, the diathesis, and varied influences which have caused Morphia to be used are studied, the more accurate the treatment. Morphia taking should be seen as a symptom; remove or break up the cause and the effect will cease.

The general or special diathesis must be treated, the nutritive disorders, intoxications and starvations, must be recognised and removed: the influence of pathological states from previous disease must be ascertained and treated.

I consider these to be the essential facts and conditions which must enter into the practical treatment.

In the special treatment we have first to deal with an individual whose will power is subverted. To him the enslaving drug has become as great a necessity of existence, as his food.

Any treatment which depends on his own volition must fail: for his own will must be substituted the will of another. As a rule removal from home is essential to secure this control, as in insanity and hysteria. Strangers have far more control than relatives or friends. It has the further advantage of breaking up the accustomed train of associations, which is always a great aid in overcoming the "habit".

The choice of attendant is of great importance, as upon his, or her, trustworthiness and efficiency the result may often depend, the firmness and tact of the nurse, her readiness with bath, medicine, or nourishment, &c., enables the reduction to be made rapidly, and assist greatly in mitigating the prostration and suffering of the patient.

The room must be carefully prepared in every detail. All belongings such as clothes, &c., to be removed from the room. This allows them to be examined

as most of the patients carry a hypodermic syringe and Morphia with them, although they may declare differently. The word of the Morphia habitué goes for nothing. It is no use relying on the state of the pupils, or his pulse, as he knows how to overcome the various symptoms of one or the other by the use of certain remedies, such as Belladonna to dilate the pupils, he knows what to take to reduce the pulse beat or to increase it

The most reliable way is by the Analysis of the urine, providing the dose equals two grains of Morphia daily.

There should be great regularity as regards the time for giving nourishment and medicines, also for retiring to bed. The light should be lowered, and reading in bed strictly forbidden.

Diet need not be restricted unless the condition of the stomach or bowels demand it. Patients often recover with scarcely any vomiting and with only three or four actions of the bowels daily.

If the stomach rebels, give entire rest for a time or milk and lime water, beef tea, or malted milk in small amounts act well. I strictly advise that the diet should be non-alcoholic and antacid, as these are important factors in causing the craving for Morphia.

It is also necessary to take light and easily digested food at regular intervals, so as to help to resist the morbid impulses that will often cause the patient to make an extravagant meal at some unreasonable time.

Control of the patient having been secured, how shall the drug be taken from him?

There is the choice of one or two methods.

1. Immediate and entire withdrawal.
2. Gradual reduction.

I have stated my reasons why I do not approve of the first method.

The second method is the wiser. Of course the rapidity of the reduction varies in different cases, some requiring much greater care and caution than others. There is much more prostration in some cases than others during the reduction of the drug.

To take then a patient, say injecting 16 grains of Morphia a day. By way of commencement the patient gives up syringe and solution, and consents to any search that may be necessary, that nothing of the kind is secreted. He has agreed to submit himself to proper supervision and as regards Morphia he has the assurance that there shall be no compulsory reduction. For the first few days he would reduce by a grain daily, having begun perhaps by an initial reduction of

from three to five grains, later a third, a fourth, and finally a sixth would be a sufficient reduction. I do not agree with those who advise that, with the reduction of the drug, a similar or a larger dose should be administered by the mouth or rectum. I have always surmounted the difficulty by giving a few doses of Bromide of Potassium. I have had very little difficulty in reducing the dose to about two grains, then comes the most difficult part of the task, but by patience and perseverance, and by the improvement in the patient's condition the desired result, giving up the syringe, is obtained. Most frequently after the last injection, Tinct Digitalis ~~minsimms~~ V has to be given about three or four times in the twenty four hours, according to the state of the heart. I am convinced that rest in bed is a great aid, The importance of quiet and warmth in promoting restoration during the abstinence-struggle, cannot be over estimated. I order every patient to bed at the start and those who submit to this, until I allow a change, get on more easily and satisfactorily during the term of treatment.

I would advise various mechanical agencies for the relief of pain, to quiet the nervous system, to induce sleep and promote nutrition - such as massage, electricity, hot baths, turkish baths, and the cold shower bath.

Medicinal agents to meet the various indications of each case.

The pulse, as I have said before, is the first to show signs of deprivation of the drug, I find Tinct. Digitalis, Spt Ammon Co and Tinct. Nucis Vomicae to answer the best.

My experience is in favour of heart tonics and stimulants rather than ~~os~~ sedatives.

Insomnia: Chloral, Potassium Bromide, Sulphonal and Trinonal are the best Soporifices.

A warm bath is a great help in these cases and the patient expresses great comfort from it. In all cases drugs should be stopped as soon as possible and sleep produced by exercise - a light meal - and patient's will often sleep better after a glass of hot milk.

For the abdominal pain which is so common in these cases Chloroform water is of the greatest service, it is both a sedative and an analgesic - I have also used Ether in hot water, and Champhor with Capsicum.

After the deprivation of Morphia there is always an amount of debility which requires special attention, and as there is a great tendency to overcharging of the system with uric acid during this period, a consequence of the functional depression resulting from the suppression of what has been an almost vital stimulant,

everything should be done to prevent the formation of the acid and to promote its excretion - Moderate Turkish baths, cold shower baths and rational exercise are of the very first importance.

Nausea and vomiting are best treated medicinally by alkalies, Nux Vomica, and bitter infusions. Should they persist, I would advise ice and Counter irritants over the stomach. Should the patient refuse food after the continuous vomiting and should there be much prostration, nourishing injections into the rectum must be administered.

Diarrhoea often occurs during the period of abstinence. If it should continue and become severe, I have found it of great service to inject into the bowels warm water 98.6°F, one or two pints, repeated two or three times a day. Certain minor sequelae may require treatment. Internal tonics are of great value in the roboant regime. Most habitues are below par & it is my custom to give from the start Phosphorous, Strychnine, Arsenic, and Quinine combined. Then often in anaemia Iron in one of its forms is useful.

Caffeine is of value as a stimulant, tonic, and diuretic.

C A S E 1.

Mr. G. L. C. age 46. Surgeon, married, admitted Sep. 2.

Family history: Good, father and mother both lived to old age, one brother died of typhoid fever.

Previous history: Had two sunstrokes, one when a boy, the other when a student, said to have jaundice when a boy, was also very ill with typhoid fever, has never drunk to excess and is a non-smoker. Had an operation for sinus in his right groin when young.

Present illness: Fifteen years ago when in practise he had an attack of neuralgia affecting his head. He tried various remedies without success and finally on the advise of his physician he tried the hypodermic injection of Morphia. After the neuralgia was cured he continued to inject the Morphia, Three years ago, while surgeon to a Provident Association in Leeds, he broke himself of the habit for six weeks. He had, however, to give a patient a hypodermic injection of Morphia, and he himself returned to his old habits. He had been injecting five grains per diem.

On admission: Patient is a small, wiry looking man, pale and with blue lips, says he has been taking Morphia every four hours; his pupils, however, are

are not contracted.

Pulse: Full and regular.

Heart sounds: Clear and regular, but feeble, great want of tone. Spleen and Liver not felt. Tongue red, flabby and cracked. There was also great thirst.

Urine: Sp. gr. 1030; analysis, sugar is present also slight albumen.

Treatment: Patient was at once put to bed and hot milk given him. At 3 p.m. a hyperdemic solution of Morphia was injected into his left buttock; ten minims were injected or an equivalent of $\frac{1}{2}$ gr of Morphia. He is able to take a certain amount of solid food. Injections were repeated every four hours and milk and water given at intervals. Patient was much depressed at the time, but when seen at 11 p.m. he was more cheerful.

Sep. 3: Patient has passed a good night. Had an injection at 3 p.m. Eats well and is not nervous, has no tremors and no diarrhoea. Had another injection at 7 a.m. In the 24 hours he has thus taken 3 grs. of Morphia. When seen at 1 p.m. his pulse was slow and compressible, beats 55 per minute. On talking he shows signs of exhaustion. His injections now are given him every five hours instead of four hours. He has no trouble with emicturition, though his water on standing

has changed from the ordinary colour to a deep port wine colour. His pupils are somewhat contracted but not to any extent.

He is still kept on a light diet as he has no diarrhoea.

Sept. 4: Has slept well, having an injection at 2 a.m. and another at 7 p.m. So far he has not complained of any inconvenience from reducing the amount of Morphia taken. Pulse 60 per minute, tone not so strong as yesterday. At 12 o'clock he had another injection of the same strength. Pulse 45 per minute, after every 20 beats there is a tendency to intermittency. Tongue still remains flabby and red. Patient is being kept in bed again to-day as he shows at times symptoms of exhaustion.

At 6 p.m. had another injection of the same strength. This made an interval of 6 hours since the last one. He has shown signs of depression at times. Pulse 45 per minute and at times has a tendency to intermittency after the injection the pulse is noticed to be a little stronger, though not appreciably quicker. Passes a normal quantity of urine, which however continues to deepen in colour, has no trouble with micturition. Has been perspiring this evening somewhat freely.

Sept. 5: Patient had one injection during the night, slept very well. Pulse this morning 48 per minute and somewhat fuller. Had another injection of the same strength at 9 a.m. Continues to eat well. Tongue still flabby. At 3 p.m. had another injection, pulse 48 per minute. Got up for two hours this afternoon. At 7 p.m. his pulse was stronger, fuller, 55 per minute. Eats well; has perspired freely to-day, but has had no Coryza. Pupils not contracted to any extent. Complains of feeling depressed at times. Hot milk given at 10 p.m.

Sept. 6. Patient had another injection of the same strength at 3 a.m. He slept well. His bowels have been opened this morning and altogether he says he feels much better: has been perspiring freely. At 9 a.m. had another injection. Pulse 52 per minute. Got up for a couple of hours this afternoon but felt somewhat fatigued. Pulse 48 per minute but is somewhat stronger. Temperature this evening 97. Had his last injection for the day at 9 p.m. At 10 p.m. had hot milk given him.

Sept. 7: Had an injection during the night. Has slept very well and has been perspiring freely. Had his next injection at 9 a.m., $\frac{1}{2}$ gr. tabloid is used now. Pulse 60 per minute. Bowels opened freely. Tongue still flabby. At 1. 30 p.m. pulse had dropped to 50 per

minute. Had his next injection at 3 p.m. Has had two sharp attacks of sneezing, but no marked coryza.

Continues to eat well. Is still depressed at times.

9 p.m. Patient had his last injection, making altogether 1 gr. in 24 hours. Has had his bowels opened again this evening. Pulse 48 per minute.

Sept. 8: Had to-day Morphia $\frac{1}{4}$ gr. every six hours. Average pulse 48 (recumbent position). The patient complains of the intense heat to-day, (Max shade 84° F), this caused rather a restless night. Passes a good quantity of urine, slightly less sugar, albumen the same.

Sept. 9: Slept badly owing to the heat. Got up during the afternoon as well as in the morning. Injections every six hours.

Sept. 11: Continues to go on well, remains up the whole day. Injection every six hours. Has had a certain amount of coryza: has no diarrhoea. Eats and sleeps well.

Sept. 12: Had to-day Morphia, strength $\frac{1}{4}$ gr. every eight hours. Has not felt any inconvenience to speak of. Passed a very good night.

Sept. 14: Says he felt somewhat exhausted owing to constipation. Injection given every eight hours. Pulse 60 per minute.

Sept 16: Had to-day Morphia, strength $\frac{1}{4}$ gr. every 12 hours. Pulse 60 and of fairly good strength. Appetite remains good. Still has some coryza: has also a certain amount of rigidity in the lower limbs, this is chiefly to be noticed when he exerts himself at all.

Sept. 17: Going on well though feels depressed. Suffers somewhat from constipation. Pulse 62. Sleeps well. Injection same as last day.

Sept. 18: Injection still given twice in the 24 hours, viz: at 10. 30 a.m. and 1. 30 p.m. Pulse 60 per minute.

Sept. 19: Pulse 68 per minute. Respirations 24 per minute. Has had some coryza to-day and complains of feeling cold; this probably is due to the change in the weather. His appetite is good. Bowels somewhat constipated, and is troubled with an external haemorrhoid.

Sept. 20: Injections still given twice in 24 hours and of the same strength. Says he has not slept very well. Pulse 74 per minute. Respirations 28 per minute. Urine, sugar disappeared, albumen about the same in quantity.

Sept. 21: Pulse 68 per minute. Respirations 26 per minute. Temperature 98.5. Doing well.

Sept. 22: Patient walked a couple of miles this morning. Pulse 70. Respiration 26 per minute. Continues to eat and sleep well. Has no marked coryza. The rigidity in his lower limbs still remains.

Sept. 23: Has slept very well. Morphia Sulphonal $\frac{1}{4}$ gr. is now only given once in 24 hours at 10. 30 p.m. Has felt very depressed during the day, has had spurious diarrhoea, though his appetite remains good. Has had a good deal of coryza, attacks of sneezing. Pulse not so full, 64 per minute. Respirations 24 per minute. Had half a pint of hot milk this morning and this was repeated again to-night.

Sept. 24: Patient doing well. Pulse 68 per minute. Respirations 26 per minute.

Sept. 26: Continues to improve. Complains of coldness of the extremities; this however may be due to change of the weather. Has had several attacks of sneezing yesterday and to-day. Appetite good: tongue however remains cracked and thick. Pulse 68 per minute. Respirations 24 per minute.

Sept. 28: Going on well. Pulse 72 per minute. Respirations 26. Still has a $\frac{1}{4}$ gr. of Morphia injected once in 24 hours.

Sept. 30: The injections of Morphia were stopped entirely to-day. Says he has not been sleeping quite

so well lately, he however sleeps for an hour or so during the afternoon. Appetite remains good. Bowels regular.

Oct. 1: Patient has passed a fair night. Has been somewhat depressed during the day. Has had a certain amount of spurious diarrhoea, but does not lose his appetite. Pulse 68 per minute. Respirations 28. Was given Sulphonah 30 grs. at 6 p.m.

Oct. 2: Has slept well, feels better, went for a fairly long walk this morning. Still complains of fever, otherwise there is a decided improvement on yesterday's condition. Pulse full and regular 70 per minute. Respirations 28 per minute, Sulphonah was repeated at 8 p.m. this evening as he was becoming somewhat restless. Says he sleeps fairly well, does not show any marked signs of depression, has a slight amount of coryza, the spurious diarrhoea is passing off. Pulse 72 per minute and of good tension. Respiration 28, was taken for a two mile walk this evening to induce sleep.

Oct. 4: Patient has had a good night, and altogether feels better, still has a certain amount of coryza and spurious diarrhoea. Pulse 68 and respiration 28 per minute. Urine no sugar, albumen slightly increased.

Oct. 5: Has not slept quite so well and says his diarrhoea still continues. Appetite remains good. Pulse full and of moderate strength, 72 per minute.

Oct. 6: Progressing well, has slept very fairly, and there has been no occasion to give him Sulphonal again, is somewhat depressed at times, but quickly recovers his spirits. Pulse 72 per minute.

Oct. 8: Improvement continued, his depression is not so marked, and occurs at longer intervals, has had no renewal of his spurious diarrhoea. Appetite good. Pulse 76 per minute and of very fair tension. Still remains somewhat rigid in lower limbs.

Oct. 11: Has been troubled with a cold during the last two or three days, has had a certain amount of laryngitis also, this has somewhat interfered with his rest at nights. Ammonium Chloride tabloids were given him this morning, this has relieved him to a great extent, appetite remains good.

Oct. 12: Patient's cold is better, sleeps well, and appetite remains good. Has no diarrhoea but has occasional fits of sneezing, altogether his improvement is maintained.

Oct. 13: Patient was weighed this morning, weight 9⁵! 8 lbs. an increase of 12 pounds since his admission, has been somewhat depressed to-day, but

beyond this is doing well.

Oct. 14: Doing well, depression has passed off, nothing further to add. Urine just a shade of albumen.

Oct. 16: Has been troubled with neuralgia, resulting from a carious tooth.

Oct. 18: Neuralgia has passed off, is altogether better.

Oct. 22: Nothing to record, except occasional attacks of neuralgia and doing very well. Urine sp. gr. 1020 - no albumen.

Oct. 25: Has had several fits of depression lately, these however quickly pass off, beyond this there is nothing to record.

Nov. 1: Continues to make steady progress, and is putting on flesh, has not been so depressed lately.

Nov. 26: Patient left the Institution this morning, he is much improved in every way. Weight 9 stone 10 pounds.

Remarks: Did well under treatment. He bore reduction of the dose remarkably well, last I heard of him he was keeping free from the habit and in good health. Special feature in this case, I might mention the Cyanosis due to a weak heart, which showed itself more soon after the reduction commenced, there was a diminished tone in the whole of the vascular system.

I would also point out the fact that both sugar and albumen were present during the time Morphia was taken, an interesting feature was that the albumen was increased during the abstinence, but the sugar was diminished.

C A S E 2.

F. P. D. 26 years of age, single, medical student.

Family History: Good.

Previous History: Has had no serious illness, has had sore throats and enlarged tonsils frequently, has treated this with a 20 per. c. sol. of Cocaine.

On attempting to leave off Morphia on a previous occasion he got a relaxed soft palate.

In reference to the first injection, he frequently saw Morphia injected in Paris while at school there, also he saw a fellow student, an Indian, inject it.

Says he had been taking 40 grains daily for the last three months. He smoked as many as 50 cigarettes daily, he inhales the smoke until it reaches the air vesicles, he has also tried adding opium to his tobacco.

During the last $1\frac{1}{2}$ years has taken very little solid food, he has however taken a good deal of condensed milk, and also eggs beaten up with milk.

Present illness: Commenced injecting Morphia about two years ago, he cannot assign any reason for doing so, except that he had access to the drug in his father's surgery.

He had passed his examination for midwifery at the London College of Surgeons previous to taking Morphia,

but, since then he has lost all energy for work and has not presented himself for the other subjects. He commenced by taking $\frac{1}{4}$ grain of Morphia, he rapidly increased the dose until he reached 40 grains per diem. During this time he never even attempted to stop himself. On Monday Oct. 17. on being told that he was to be sent to this Institution he began to decrease the dose, he commenced by only taking 12 grains that day and on admission he says he only had taken 4 grains in the last 24 hours. He says he has never lost his memory in any way, his weight however has fallen from 12 stone 2lbs. to 9 stone 7lbs.

On admission: A fairly tall man of sallow complexion and very thin, his pupils are more or less contracted but not to any marked extent. Pulse 80 per minute, full and strong, though there is a decided tendency to intermission after every 7 beats.

Lungs: Resonant all over and no adventitious sounds could be detected anywhere. Respirations 28 per minute.

Heart: Position normal, but both sounds are very ringing. Liver and spleen not felt. Tongue thick and flabby and cracked.

Urine: Sp. gr. 1018. No albumen, no sugar.

Oct. 22: $\frac{1}{4}$ gr. Morphia was injected at 10. 30 p.m.

Oct. 23: He slept well, but will remain in bed to day. 10. p.m. light diet has been given at intervals consisting of eggs beaten up in milk, and bovril. So far he has not shown signs of depression or any coryza. Bowels have been opened twice, no spurious diarrhoea. $\frac{1}{4}$ gr. of Morphia injected again to-night at 10 p.m., this has been the only injection he has had since last evening. His pulse has remained fairly constant all day, 60 per minute.

Oct. 24: Patient has had a very restless night, has perspired very freely indeed. At 3. a.m. complained of feeling very ill. Pulse 52 per minute and markedly intermittent. Spirits Ammon. Co. 30 mms was given and this was followed by another injection of $\frac{1}{4}$ gr.

Morphia Hyd. Had another attack of shivering at 7.a.m., when another $\frac{1}{4}$ gr. Morphia was injected. Has had hot milk at intervals, also eggs beaten up with milk. At 12 p.m. his pulse was 66 per minute and of better strength. Another injection of $\frac{1}{4}$ gr. of Morphia was again given; this was repeated at 5 p.m. and also at 10 p.m. Complains of depression a great deal. Tongue very dirty and thickly coated. Bowels have not been opened. Respirations 28 per minute. Sulphonal 30 grs. given at 5 p.m. Temperature 98.4.

Oct. 25. Patient has passed a much better night; has not perspired so freely as yesterday and altogether says he feels better. He has been kept on hot slop diet all day at intervals of three hours. Has had $\frac{1}{4}$ gr. of Morphia injected every four hours. His pulse has remained constant at 62 per minute and is of very fair tension. Tongue still remains dirty and coated. Bowels have been opened once to-day but he says they were inclined to be constipated. Respirations 26 per minute. Sulphonal 30 grs. given this evening at 5. 30 p.m.

Oct. 26: He has slept well during the night and is feeling much better this morning. His pulse has dropped at 8 p.m. to 52 per minute, and at 12 p.m. was 48. Has had no shivering attacks to-day although there has been a good deal of restlessness, and he complains of feeling much irritated at trifles. Has had no abdominal pains at all, and there is very little coryza. His bowels have been opened once to-day and the motions were somewhat of a loose character. His tongue is slightly cleaner than yesterday, but is still coated with a thick fur. His temperature at 9 p.m. was 98. Respirations 28 and Pulse 50 per minute. His injections of $\frac{1}{4}$ gr. Morphia have been continued every four hours throughout the day. Sulphonal 30 grs. at 6 p.m.

Oct. 27: Has passed a good night. Pulse on waking was 50 per minute, and this has remained fairly constant during the day, when taken after hot milk had been given it was found to have risen to 50 per minute. There is no sign of intermission and is full and of a fair amount of tension. Has had slight coryza at intervals but no shivering fits at all. His bowels have been opened once and there is no tendency to diarrhoea. Tongue is still coated but cleaning towards the edges. Was allowed up for an hour this afternoon and did not feel at all depressed. His respirations were 26 per minute. His injections were continued every five hours. No Sulphonal was given to-night. Has been somewhat restless at intervals but altogether has been doing well to-day.

Oct. 28: Patient has not slept so well and was somewhat depressed in consequence. Pulse on waking 48 per minute but this increased after the injection to 54 per minute. Complained of feeling cold but this soon passed off. He had slight coryza. Bowels have been opened once during the morning; complains however of a dull pain in his right iliac region, says his faeces were somewhat scyballous. His hot diet has been continued but in addition a little fish was given him for dinner to-day. Injections of the same quantity given

at 6 p.m. He remained up for about two hours this afternoon. Temperature at 9. 30 p.m. was 98.°

Oct. 29: Patient has not slept so well and is somewhat depressed he says. Pulse on waking was 48 per minute. Respirations 28 per minute. A dose of Castor oil was given at 6 a.m., and this operated in the course of the morning; the pain in his right iliac region has disappeared, and he has no diarrhoea.

Nourishment is still continued every three hours and meat was given for the first time to-day. His injections of $\frac{1}{4}$ gr. Morphia are now given every six hours. This evening he has been somewhat depressed: this however was attributed to the fact that he over tired himself by sitting up too long. This after-noon the pulse was not so strong or full. No Sulphonal was given to-night.

Oct. 30: Patient was very restless last evening and at 11 p.m., he was given a draught of Ammon. Bromide gr. 30. This quieted him considerably and his hysterical condition passed off. He says however this morning that he has not slept at all well. Pulse on waking was 48 per minute. Had his first injection of $\frac{1}{4}$ gr. Morphia at 7. 30 a.m and the next at 4 p.m.: this was repeated at 10 p.m. and again at 4 p.m., making one gr. in 24 hours. Towards the close of his six hours he

complained of feeling very irritable and says he has tingling pains running up his neck. Got up in the fore-noon to-day, and remained up until 7 p.m. His pulse at 5 p.m. was 56 per minute and of very fair tension. Bowels have been opened once, but there is no tendency to diarrhoea and he has had no abdominal pains. Tongue cleaning by degrees. Sulphonal 30 grs. given at 6 p.m.

Oct. 31: Says he has not slept very well: he however is looking better this morning. Pulse 52 per minute and of good strength. His injections were repeated every six hours, and it was noticed to-day, that he did not seem quite so restless before the time for injection came round. Has had several attacks of shivering during the day but they were not so strong, nor did they last so long as they have on previous occasions. Bowels have been opened once: he has no abdominal pains at all. Tongue much cleaner. Remained up to tea this evening.

Nov. 1: Has slept very well, and in consequence was feeling much better this morning. Pulse on waking 58 per minute, Gets up about 10 o'clock and remains up until 8 p.m. His injections are still continued four times in the 24 hours. He says the fits of tingling previous to his injections have not been so bad to-day.

He had only one shivering attack and this was not at all bad. Bowels have been opened once. Appetite very good and says he has not eaten much food for the last two years. Tongue much cleaner.

Nov. 2: Says he has not slept so well; he however is looking better this morning. His pulse was 60 per minute at 1 p.m. and of good tension. His injections are now given every eight hours, making $\frac{3}{4}$ grs. Morphia Hyd. in the 24 hours. Has not complained to-day of the tingling pains, though he feels cold a good deal, especially about the time his injections become due. Bowels opened twice to-day but no diarrhoea. Appetite good, and his tongue is gradually cleaning. Sulphonal gr. xx was given at 6 p.m.

Nov. 3. Had a very good nights rest. Pulse on waking was 56 per minute. Injections still continued every eight hours. Complained of tingling pains and cold on the back of the head, previous to his injection at 6 p.m., this however had passed off before the injection was given. Bowels regular and appetite good.

Nov. 4. Patient has slept fairly well. Pulse on waking was 56 per minute but somewhat weak and compressible, it however recovered its tone after breakfast. Complained of having a shivering attack before his 10 o'clock injection. This was succeeded by a

warm perspiration. Injections still continued every eight hours: was allowed one for the first time to-day. Appetite continues good, his tongue however is not quite so clean. Bowels regular.

Nov. 5: Has slept very well. Pulse on waking 60 per minute, very fairly strong. His injections are still continued every eight hours, Has had slight coryza to-day, but no shivering attacks. Says he feels better and stronger in himself than he has done for some time past, Appetite good and bowels regular.

Nov. 6: Says he has slept very well. Pulse 60 per minute. Was allowed up to breakfast for the first time. Injections are now given every 12 hours, these at 10 a.m. and 10 p.m. Tongue still somewhat dirty, he says however he has never really had a clean tongue for the last two years. Had a slight coryza before his 10 a.m. injection.

Nov. 7: Has slept fairly well. Pulse on waking 58 per minute. His injections are still continued every 12 hours and are of the same strength, viz: $\frac{1}{4}$ gr. of Morphia Hyd. Had another attack of coryza before his 10 a.m. injection, this was however relieved by giving the injection. His appetite remains very good and he is losing the pallor he had on admission, his face is also much fuller than it was. His bowels are

quite regular. Has no trouble at all with micturition.

Nov. 8: Has not slept quite so well. Pulse on waking 58 per minute. Complains of feeling cold a great deal, has had several slight shivering attacks but not to cause him any actual discomfort. Has still slight coryza at times. Appetite continues to be very good. Bowels regular. His injections are still continued at the same time and at the same strength.

Nov. 9. Had slept fairly well. Pulse 54 per minute full and strong. His injections are still continued twice in the 24 hours and are of the same strength. He still has slight shiverings and a little coryza at times but not to cause him much discomfort. His bowels are regular and his tongue is gradually becoming cleaner.

Nov. 10: Has slept well. Pulse 66 per minute. His 10 o'clock injection was discontinued this morning, he has now only $\frac{1}{4}$ gr. of Morphia in the 24 hours. One gr. of Quinine was given at 11 p.m. He has had several small attacks of sneezing, but has not experienced much discomfort from dropping his morning injection. His bowels are regular and his appetite good. At 5 p.m. he had a shivering attack. This was followed by a warm perspiration, which in time was succeeded by a feeling of coldness: the attack then passed off, altogether

the attack lasted about half an hour. I left him with a bad headache, which however was relieved by bathing his forehead in cold water. He also complained of feeling of fulness in the head, he finds this is much relieved by a little exercise. His appetite does not suffer at all by the attacks.

Nov. 11: Has slept fairly well. Pulse 60 per minute and not quite so strong as yesterday. Had a slight shivering attack at 8 a.m., during the attack his pulse is thin and somewhat thready, when however perspiration begins it becomes much fuller. He still has one injection during the 24 hours, also 1 gr. of Quinine every four hours. He becomes somewhat depressed at times but soon regains his spirits. About half five this afternoon he had a shivering attack similar to the one he had yesterday, the symptoms however were much modified and the attack itself did not last so long. Has been also restless the greater part of this evening and cannot settle down to anything for very long.

Nov. 12: Has had a good nights rest. Pulse on waking was 60 per minute. Has a little coryza this morning, but is altogether brighter and more cheerful to-day. He still has his injection of $\frac{1}{4}$ gr. Morphia at 10 p.m., the 1 gr. of Quinine is given at 11 a.m. He has had no shivering fit of consequence this



evening. Though somewhat depressed at times he felt quite equal to joining in the amusements. Bowels open and appetite good.

Nov. 13: Has slept fairly well. Pulse this morning is 68 per minute. He says he is feeling much brighter. This morning was able to take a mile walk and did not feel at all exhausted. He had no shivering attacks this morning. His Morphia injection and his Quinine tabloid is given as before. Has had no shivering fits at all this morning.

Nov. 14: Has slept well. Pulse 68 per minute. His tongue is slightly cleaner this morning, but still remains dirty. Was able to take a fairly long walk to-day and did not feel exhausted. He still has slight coryza at times and complains of tingling down his back, this however is not enough to cause him much inconvenience. Has had no shivering fits at all to-day. His injection is still given at 10 p.m. Bowels regular.

Nov. 15: Patient continues to improve. Has slept well again. Pulse 74 per minutes, regular and of fair strength. He continues to be restless at times, and says he feels he must be moving. He complains of the tingling in his legs and back which however soon passes off. He has a very good appetite and is plainly putting on flesh since his admission. Has had no shivering fits

this morning. Was able to take a good walk not feeling exhausted. His injection is still given at night.

Bowels regular.

Nov. 16: Has had another good nights rest. Pulse full, 72 per minute. He has had no shivering attacks at all to-day. Has had very little coryza. His night injection is stopped for the first time to-day, his Quinine tabloid is still continued. Has able to go a longer walk to-day without feeling fatigued. His tongue remains dirty. He however is an inveterate cigarette smoker, and though he has promised to discontinue this he still smokes a good deal. His appetite still remains very good.

Nov. 17: Says he has had a very bad nights rest, and could not sleep at all. Pulse 78 per minute and of poor strength. He is very restless and says he feels he must walk though very tired. He has slight coryza. His appetite remains good though his tongue is dirtier than it was yesterday. A mixture of Bromide of Potassium and Spirits Ammon. Co. were given this morning which quite relieved the restlessness. He says he felt much better himself but inclined to be depressed. He has had no shivering fits at all. The draught was repeated at 10 p.m.

Nov. 18: Patient has had a very good night, sleeping from 11 p.m. to 6. 30 a.m. Pulse much stronger this morning, 74 per minute. He says he feels much better in himself. Has had no shivering fits to-day, though at 1 pm. he began to be somewhat restless. This however quickly passed off. Has had a little coryza and complains of the cold a good deal. Was able to go for a walk this morning and did not feel any inconvenience from it. His appetite remains very good. Bowels regular.

Nov. 20: Has again had a good nights rest, though at 10 p.m. last evening he felt irritable and said he did not think he would be able to sleep. No draught however was given. Feels very well this morning and his pulse is stronger, 74 per minute. Has had very slight coryza, and has not complained of any restless feeling in his legs. The tongue is much cleaner and his appetite is vaey good. He has had no dyspeptic troubles at all.

Nov. 21: Patient is going on very well. Had six hours sound sleep last night. Pulse this morning 80 per minute, and very fairly strong. Has not felt at all depressed to-day. Has had no shivering fits, the restlessness also has been very slight. The tongue is cleaner. He continues to smoke a good deal. Bowels quite regular.

Nov. 22: He had seven hours sleep, and so feels much better this morning. Pulse strong 80 per minute. He has not been troubled with restlessness in the legs, and his fits of depression quickly pass off. His appetite keeps very good. Bowels regular.

Nov. 23: Has not slept quite so well, owing to the gale, which disturbed him. Pulse not so strong as yesterday, 80 per minute. He noticed the cold a good deal. Has a light amount of coryza, he has however had no more shivering attacks. The tongue is much cleaner, and he continues to eat very well. Bowels quite regular.

Nov. 24: Is going on very well, has had a good night. Pulse full and strong, no shivering felt, has caught cold which may account for coryza. No return of restlessness. Appetite very good, rapidly increasing in flesh.

Nov. 26: Continues to improve, cold better, slight coryza, sleeps well, does not complain of restlessness except when he first wakes in the morning, says he is quite unable to lie still. Appetite keeps good. Has gained since admission 1st. $8\frac{1}{2}$ lbs. weight is now 10 st. $10\frac{1}{2}$ lbs.

Nov. 29: Patient is steadily improving. Sleeps very well, restlessness better, he still continues to

take daily 1 gr. of Quinine. No shivering for some time past. Tongue much cleaner. Bowels regular. Appetite very good.

Dec. 3: Progress still steadily maintained, restlessness has almost entirely passed off, does not complain of shivering or coryza. Rapidly putting on flesh. During the last few days has been able to concentrate his attention on reading, this he has been unable to do for the last two years. Appetite very good.

Dec. 11: Patient continues to improve, his weight is increasing rapidly, weight now 11st. 7 lbs: it is calculated that he puts on 3 lbs: every two days.

Dec. 20: Continues to improve, his weight to-day was 11 st: 9 lbs: is much better in every way.

Dec. 27: Patients improvement well maintained. Urine analysis sp. grs. 1018 no albumen no Morphia detected.

Jan. 8: Continues to improve.

Jan. 11: Improvement maintained. Weight 12 st: 3 lbs:

Jan. 12: Patient left this morning to resume his hospital work. He is much improved in every respect.

Remarks. I consider this case is a good illustration of the neurotic element. Which I have previously stated is so often present in the Morphia habitué, here is a very young man apparently without being able to

give any real cause, injecting up to 40 grains of M
Morphia per diem. And is a great smoker as well, in
fact smokes opium in his tobacco.

I found it necessary to treat the reduction in a
very gradual manner; as it was, he was very hysterical
and delirium tremens threatened. In this case there was
neither albumen nor sugar in the Urine.

The absence of diarrhoea in the case was exceptional
The "Coryza" was most marked, and lasted for a long
period.

I am sorry to say that soon after leaving the
Institution the patient had a relapse.

C A S E 3.

Mr. C. A. B. 31 years old, married. Accountant.

Family history: On his fathers side there is a history of drink, his grandfather also his great grandfather were very heavy drinkers. As regrads his father he says he drinks a good deal of wine.

Previous history: Has been troubled with bronchitis for a number of years. His health was generally poor.

Present illness: He was sent abroad to recruit his health, on his return he went into business in an Accountant's office. Subsequently he went into a branch of the Civil service, where he remained for about two years, he was compelled to resign this post as his memory was failing him, he had several attacks of neuralgia, and from what I can make out they were chiefly "Supra Orbital." Hypodermic injections of Morphia were administered, which rid him of the pain, and he says the effects of the Morphia were so agreeable and comforting to him, that he continued its use, readily obtaining the Morphia from a friend who was a chemist. Daily quantity used 16 grains.

State on admission: Patient is a man about 5 ft. 10½ in in height. And of fair development, his face is flushed, his eyelids are continually twitching, the

pupils which are slightly unequal, are somewhat inactive to light, conjunctivae are slightly suffused. The tongue is thin and red at the tip, furred at the back, and is very tremulous, the hands are thin and also very tremulous. The pulse is wanting in tone, beat 60 per minute, and points to heart failure. He was ordered to bed.

Lungs: The note on the left apex is duller than the right, otherwise the note is normal on auscultation, rough mucous rales can be heard all over the chest. On palpation the chest moves equally on both sides.

Heart: Position normal, at the apex the first sound is rough and at times simulates a murmur, no murmur could be detected at the base.

Liver: Dulness commences above the lower border of the fifth rib, and extends about half an inch below the level of the ribs, on deep inspiration the edge can be felt.

Spleen: Not felt.

Urine: Acid, sp. gr. 1020, a trace of albumen.

July 26: Two injections of Morphia equal to two grs. each were given at night.

July 27: Patient passed a fair night. At 9 a.m. 2 grs. of Morphia were injected; At 12 a.m. $1\frac{1}{2}$ grs.

were injected. Complains of headache, and abdominal pains, also uncomfortable feelings in the chest.

$1\frac{1}{2}$ grs. of Morphia injected at 8 p.m.

July 28: Slept on until 12. 30 p.m. Had epigastric pains, trembling of limbs, and restlessness. At 7 a.m. and 12 a.m. $1\frac{1}{2}$ grs. of Morphia were injected. The appetite is poor; pulse feeble, irregular, beat 50. Bowels constipated, abdominal pains. Is kept on a milk diet. $1\frac{1}{2}$ grs. of Morphia injected at 8 p.m. Sulphonal 30 grs. given at 10. 30 p.m.

July 29: Patient has not slept well. Good deal of abdominal pains, sneezing and shivering. Temperature 99°. At 7 a.m. 1 gr. of Morphia was injected. He complains of pain at the back of the head, and supra-orbital neuralgic pains in the back and legs. Pulse beat 50 per minute. Bowels irregular. Appetite moderate. At 12 a.m. 1 gr. of Morphia was injected, also at 8 p.m.

July 30: No sleep after 12 o'clock. Good deal of sneezing. Craves for Alcohol and Morphia. At 7 a.m. 1 gr. of Morphia. Feels restless and depressed, talks nonsense and is very troublesome. At 12 a.m. 1 gr. of Morphia injected. Pulse varies from 55 to 68 per minute. Temperature 100. Two relaxed motions. At 8 p.m. 1 gr. Morphia injected; Chloral 40 grs. given at

10. 30 p.m., also a hot bath.

July 31: Only one hour and a half sleep in the night. Restless craving for Morphia. Complains of abdominal pains and supra-orbital neuralgia. Bowels moved twice in the night, very loose. At 7 a.m. 1gr. of Morphia was injected. Slept for an hour in the morning after a warm bath having been given. He is very nervous and starts at the slightest sound. At 12 a.m. 1gr. of Morphia injected. Still complains of abdominal pains and of feeling sick, sneezing and coryza, is very restless and rambles in his talk. At 7 p.m. gave another injection of Morphia 1 gr. Chloral and Potassium Bromide at 10. 30 p.m.

August 1: Sleep very much interrupted. Diarrhoea, and still complains of pains in stomach and legs. His mind is clearer but is very restless. At 7 a.m. $\frac{1}{2}$ gr. of Morphia injected. Pulse varies from 58 to 62 per minute. Appetite is very poor and he is restricted to milk diet. At 12 a.m. $\frac{1}{2}$ gr of Morphia was injected. Sneezes and yawns a good deal; is very depressed and weak. Pulse about the same. Bowels only moved once. Half gr. of Morphia injected at 7 p.m. Potassium Bromide gr.xx Chloral Hydrate gr. xxx given at 10 p.m.

August 2: Patient slept rather better but was rather excited in the early hours of the morning,

which gradually passed off. Craves for Morphia. Bowels opened once. Pulse slightly improved. Temperature 99°. Pulse 58 to 72 but very weak. At 7 a.m. $\frac{1}{2}$ gr. of Morphia injected. Was ordered beef tea. Appetite improved a little. At 12 a.m. $\frac{1}{2}$ gr. of Morphia injected.. Patient is very depressed and restless. Passes water with difficulty requiring great effort, still a small quantity of albumen present. At 7 p.m. $\frac{1}{2}$ gr. of Morphia injected. Sulphonal 30 grs. given at 10. 30, also hot bath.

August 3. Had a better night. Quite calm as regards his mental faculties. Complains of very little pain anywhere. Sneezing and yawning continue. At 7 a.m. $\frac{1}{4}$ gr. of Morphia injected. Not restless at all during the day. At 12 a.m. $\frac{1}{4}$ gr. of Morphia was injected. Patient feels very weak and yawns a good deal, but was able to sit up for four hours. He dozed at intervals. Pulse 68, full and stronger. Bowels relaxed twice. At 7 p.m. $\frac{1}{4}$ gr. of Morphia. At 10. 30 p.m. similar draught as last was given.

August 4: Patient has had a fairly good night. No pains of any consequence; no excitement. $\frac{1}{4}$ gr. of Morphia was injected at 7 a.m. Appetite better, feels a little stronger in himself though very weak. Temperature is normal. Had a tepid bath which refreshed him

very much. At 12 a.m. $\frac{1}{4}$ gr. of Morphia injected. Had fish for his lunch. Complains of pains in the back and rigidity of the muscles of the calf. Bowels still loose. At 7 p.m. $\frac{1}{4}$ gr. of Morphia injected.

August 5: Patient slept quite as well as on the previous night. A good deal of sneezing, some coryza. At 7 a.m. $\frac{1}{4}$ gr. of Morphia was injected, also at 12 a.m. Patient has had a fairly comfortable day, enjoyed reading a book, says he feels stronger. Has a craving for a stimulant owing to the depression which continues. Bowels relaxed twice. At 7 p.m. $\frac{1}{4}$ gr. of Morphia was injected: 11 p.m. he complained of severe headache. Potassium Bromide gr. xx Spirits Ammon. Co. m. xxx were given which relieved him.

August 6: Not much sleep during the night, was restless, complained of very little pain but felt faint. At 7 a.m. $\frac{1}{4}$ gr. of Morphia was injected. Had a warm bath after which he slept for a couple of hours. He feels better. $\frac{1}{4}$ gr. of Morphia injected at 12 a.m. A little excited in the afternoon, wanted to be on the move all the time. Pulse 70, stronger. Appetite fairly good. Had a walk in the garden which rather fatigued him. $\frac{1}{4}$ gr. of Morphia injected at 7 p.m. A

August 7: Did not sleep much, although he felt tired, he had no draught. Complained of feeling sick.

Bowels moved once, relaxed. At 7 a.m. $\frac{1}{8}$ gr. of Morphia was injected. Pain in both calves, feels faint. 3ss Spt. Ammon. Co. was given with 5 min. of Tinct. Digitalis at 12 a.m. $\frac{1}{8}$ gr. of Morphia was injected also at 7 p.m. Improvement is quite satisfactory. Depression continues. Coryza and nausea, sneezing.

August 10: Patient sleeps very well. Has had three injections of Morphia daily, dose $\frac{1}{8}$ of a gr. which will be continued for a little longer. Patient still feels weak. Good deal of depression; enjoys walking but is soon tired. Bowels moved two or three times in 24 hours

v August 12: Patient did not sleep well last night. Was inclined to be excited a little. 30 grs. of Sulphonal were given at 1 a.m. He slept off and on for four hours. $\frac{1}{8}$ gr. of Morphia has been injected thrice in the 24 hours up to to-night when I shall discontinue it altogether. At 10. 30 p.m. a warm bath and Chloral 30 grs. Potassium Bromide gr. xx were given.

August 13: Patient slept for five hours and feels much better. Craves for his Morphia. Appetite keeps fairly good and is taking ordinary diet. Potassium Bromide gr. 15 Spt. Ammon. Co. mins. 15 and Tinct. Digitalis m V., will be given about every four hours, since the injections are stopped and the pulse is weak. Bowels opened four times to-day, loose still, rather

more abdominal pain.

August 16: Patient continues to make satisfactory progress, enjoys his exercise, has increased in weight a little, does not crave for Morphia but says he would like a glass of wine. Appetite is much improved, only the diarrhoea is troublesome and he still sneezes a good deal, also yawns. Pulse fairly good. Is still taking Digitalis with Strychnine in addition.

August 20: Patient was examined this morning. The edge of the liver can still be felt on palpitation. The first sound at the apex is prolonged but no murmur is detected.

August 27: The patient has been much better the last week and has had very little depression. He sleeps well, appetite good, he is still very shaky at times. He now weighs 11 st. 1 lb.

Sept. 5: Patient has been improving sreadily, is feeling better in himself, feeling of depression gone. Bowels are more regular.

Sept. 12: No change to note.

Sept. 19: Patient weighed this morning 11 st. 4 lbs. So far has no craving either for Morphia or Alcohol.

Sept. 26: Still improving. Urine, sp. gr. 1018, no albumen. Left for Wales this morning.

Remarks: It will seem that the family history, & the patients own history are unsatisfactory and one is not surprised at the "Morphia habit" being so suddenly developed. During treatment the important feature was the attack of delirium, although not serious it was typical of delirium tremens.

C A S E 4.

Mr. A. K. 32 years old. Chemist. Married.

Family history: Father and mother living and well, his relatives have been in the habit of taking a fair amount of Alcohol.

Previous history: About seven years ago he was in a railway accident, was injured in the head and both legs, had pneumonia about three years ago: he was blind in the left eye two years ago from accident, also suffered badly from acute rheumatism. In consequence of all this he has been in a poor state of health.

Present illness: He was afflicted with acute rheumatism, which compelled him to use Morphia injections. After the complaint had left he discontinued the use of the drug but resorted to it again on account of worry, injecting up to the time of admission, on the average 8 grs. per day, sometimes more: was a moderate drinker, chiefly spirits.

On admission: Patient is short, fairly stout, weight $10\frac{1}{2}$ st., height 5ft. $8\frac{1}{2}$ inches.

On examination: Chest moves equally well on both sides, auscultation reveals few rales back and front, vocal fremitus and resonance normal: Percussion, note was good all over: Heart, the sounds were somewhat

faint, and the first sound at the apex was slightly prolonged: Sounds at the base, normal.

Liver: The upper border commences at the fifth rib, the lower border could not be felt.

Reflexes: Those of the left leg much increased: eyes reflexes, normal, left pupil larger than right.

Urine: Acid, sp. gr. 1025, distinct trace of albumen, no sugar.

June 19: He was ordered to bed at 7 p.m. after having had a hot bath. 2 grs. of Morphia were injected at 8. 30 p.m. and again at 3 a.m.

June 20: Slept fairly well up to 12 o'clock, and then became restless, moaned and yawned, but was quieter and more comfortable after the second injection. At 8 a.m. another injection of $1\frac{1}{2}$ grs. of Morphia was given. Complains of abdominal pain, restless in the legs. rather prostrated. At 12 a.m. injection of Morphia was given. The appetite is poor, is having milk chiefly. Pulse irregular, fairly strong. No action of the bowels. At 7 p.m. the Morphia injection was repeated.

June 21: Slept for two hours, then was restlessness, sneezing and coryza. Vomited once during the night. At 7 a.m. 1gr:of Morphia was injected. In the day-time he had hyperaesthesia of the skin, sensibility

of the eyes and ears strong to light and noise, giddiness, tendency to vomit. At 12 a.m. 1 gr. of Morphia was injected which was repeated at 7 p.m. Bowels moved once, pain and straining on passing urine. Sulphonal gr. xxx given at 10. 30 pm.

June 22: Patient slept for four hours, remaining quiet in bed. Pupils equally wide. At 7. a.m. 1 gr. of Morphia was injected and repeated again at 12 a.m. Throughout the day has felt depressed. Complains of neuralgic pains in both legs. Appetite still moderate, taking milk and beef tea. 1 gr. of Morphia injected at 7 p.m., draught repeated at 10. 30 p.m.

June 23: Patient has had another fair night, sneezing, coryza, slight abdominal pain. At 7 a.m. $\frac{1}{2}$ gr of Morphia was injected, repeated at 12 a.m. Has felt a little better to-day. Bowels moved once, no diarrhoea a slight shivering. Pulse 70, stronger. At 7 p.m. $\frac{1}{2}$ gr. of Morphia injected.

June 24: Patient did not sleep so well, not having had a draught, but says he feels fairly comfortable, but perspired rather freely. Temperature 98°, pulse 70. Respirations 24 per minute. At 7 a.m. $\frac{1}{4}$ gr. of Morphia was injected. Bowels acted once during the morning naturally. At 12 a.m. $\frac{1}{4}$ gr. of Morphia injected Appetite improving, had fish for lunch, sat up during

the afternoon, felt fatigued afterwards, complained of pains in the back and legs. At 7 p.m. was given a warm bath. $\frac{1}{2}$ gr. of Morphia injected at 8 p.m., after which he was very comfortable.

June 25: Patient slept about the same. Complains of burnings in the feet, repeated at 12 a.m., after which he left his bed and remained up until 7 p.m., when the injection was repeated. During the day has had slight shiverings. Temperature normal. He is still weak, abdominal pains, no diarrhoea, bowels moved twice. Appetite improving. Pulse 70 per minute. Passes urine freely, no albumen.

June 26: Four hours sleep. Tendency to vomit which passed off. At 7 a.m. $\frac{1}{2}$ gr. of Morphia was injected. Rose after breakfast, says he feels better and a little stronger. Bowels moved twice during the day. Has felt giddy and sneezed a little more. Still has pains in back and legs. $\frac{1}{2}$ gr. of Morphia injected at 7 p.m. Had a warm bath and went to bed at 9 p.m.

June 27: Has not slept so well on account of pains in the legs and hypochondriac regions. $\frac{1}{2}$ gr. of Morphia was injected at 7 a.m. Bears the reduction of the drug well. Is having a mutton chop for lunch, says his appetite is much improved. Bowels regular. $\frac{1}{2}$ gr. of Morphia injected at 7 p.m.

June 28: Says he slept rather better. The bowels moved once during the night. Slight abdominal pains. $\frac{1}{8}$ gr. of Morphia injected at 7 a.m. Made a good breakfast. Is going for a stroll in the grounds. At 7 p.m. $\frac{1}{8}$ gr. of Morphia again injected. Passed a good day.

June 29: Nothing particular to note. Says he was comfortable during the night. Sneezed rather more. $\frac{1}{8}$ gr. of Morphia injected 7 a.m. During the day has yawned a good deal. Felt depressed rather more than usual. Was out in the grounds. Appetite is still good. $\frac{1}{8}$ gr. of Morphia injected at 7 p.m.

June 30: Patient had a very good night. Coryza still present, yawns very much at times especially towards the evening when the injection is about due. At 7 a.m. $\frac{1}{8}$ gr. of Morphia is injected. Has not been so depressed to day. Bowels regular. Pulse improving. Enjoys his food, also reading a book. At 7 p.m. the injection of Morphia was repeated.

July 1: Patient slept well, was disturbed by the attacks of sneezing. Complains of pain in the left foot and tingling in the arms. Morning injection of Morphia discontinued. After breakfast he complained of feeling faint and giddy. He was given Spt. Ammon. Co. mms 30 Tr. Digitalis mms V. Appetite is still good. Bowels moved twice, rather loose. At 7 p.m. $\frac{1}{8}$ gr. of Morphia injected. Pulse 68, does not seem to improve much in tone, at present.

July 2: Patient did not sleep so well, was restless, complains of burnings in the feet and headache. During the day he has felt better. Enjoyed his walk. Bowels slightly relaxed. Pulse stronger. There is rigidity of muscles of calves and slight giddiness.

July 4: Patient is not sleeping well. Diarrhoea, bowels moved four times; depressed but the pulse keeps quite as strong. Does not crave for Morphia, has had two doses of Tinct. Digitalis and Spirits Ammon. Co.

July 9: Marked improvement, except the diarrhoea is troublesome. Depression not so bad, says he feels inclined to be sick occasionally and is rather restless. He takes his food well; is having Tinct. Digitalis mm. V. Ammon. Co. m. xx Tinct. Nucis. Vom. m. 5. thrice daily. Urine, contains a slight amount of albumen.

July 14: Diarrhoea much better. Is doing well and has gained flesh.

July 19: Progressing satisfactorily. Albumen has disappeared. Nothing particular to note.

July 30: Satisfactory improvement in every way. Urine examined, no albumen.

August 4: Left to-day and is going to stay with friends at the seaside.

Remarks: This case did well under treatment. Chief feature was the change in the pupils, also the appearance in the urine during abstinence, during which time also the diarrhoea was very troublesome. His previous accidents and illnesses left him in a poor state of health. He was very dyspeptic and this was no doubt the great cause of the craving for Morphia being developed, which drug he could easily obtain as he was in contact with it daily.

C A S E 5.

Mr. J.B. Age 40. Merchant. Single.

Family history: Parents both dead, father died of brain disease, brother killed himself with drink.

Previous history: Was quite well and temperate up to his business failure; this came upon him unexpectedly and caused him great mental anguish, followed by impulsive craving for stimulants. He drank whisky chiefly. He could give no reason for drinking and said it was impossible to abstain. He suffered from a painful form of dyspepsia, which he says was terrible to endure. His medical attendant gave him hypodermic injections of Morphia twice daily, which greatly relieved the pain and at the same time had a strong stimulating action on his vital powers, that he continued its use on his own account, and says he drank very little liquor at this time. Injected about 16 grs. daily. He suffered from dyspepsia a good deal previous to his business failure.

On admission: The patient is tall and thin. Height, 5 ft. 11½ in. Weight, 10 st. 7 lbs. Pale with sunken cheeks. Eyes, pupils of equal size and do not react well. Bowels will not move without strong aperients, has gone as long as eight days.

Examination reveals no complaint of the internal organs, strains a good deal in passing water, there is no stricture. Complains of giddiness and headache feels worse in the mornings, sexual power greatly diminished.

Dec. 6: At 9. 30 p.m. has a hot bath, and hot milk to drink, At 10 p.m. $2\frac{1}{2}$ grs. of Morphia were injected.

Dec. 7: Patient slept for $2\frac{1}{2}$ hours. Was restless afterwards and craved for Morphia. Complained a good deal of abdominal pain. At 7. p.m. $1\frac{1}{2}$ grs. of Morphia were injected, which was repeated at 12 o'clock. During the day he was not so restless. Appetite nil. He is put on hot milk. Urine: sp. gr. 1020, no albumen no sugar. At 7 p.m. $1\frac{1}{2}$ grs. of Morphia again injected At 10 p.m. Chloral 30 gr. was given.

Dec 8: Patient has slept well during the night. He is much quieter but complains of shivering and discomfort in the bowels; an enema of soap & water ordered with turpentine, which brought away a large hard motion, it has given him great relief. At 7 a. m. 1 gr. of Morphia was injected. Has been depressed during the morning but has not craved for Morphia. Appetite still poor. Bowels moved again twice on their own account. At 12 a.m. 1 gr. of Morphia was injected. Pain and straining on passing water still continues, nausea and sneezing. Pulse 60, irregular. Sulphonal 30 gr. given at 10. 30, also hot bath.

Dec. 9: He did not sleep so well as on the previous night, was restless on account of abdominal pain, also burning sensation in legs and feet. At 7 a.m. $\frac{3}{4}$ gr. of Morphia injected, and again at 12 a.m.

Has had a more comfortable day. Bowels moved twice, rather loose. Passes his urine more freely. Taking beef-tea and milk well. Depressed at times, sneezing, coryza, and yawning. Injected $\frac{3}{4}$ gr. of Morphia at 7 p.m.

Dec. 10: Did not sleep so well. Complains of neuralgic pains in head and face, and of feeling sick but has not vomited. One relaxed motion in the night. At 7 a.m. $\frac{1}{2}$ gr. of Morphia injected, repeated at 12 a.m. Patient depressed during the day, abdominal pain, shiverings, sneezing, and yawning, one relaxed motion. Diet the same. Pulse 65, fairly strong. $\frac{1}{2}$ gr. of Morphia injected at 7 p.m. 30 grs. of Chloral, 15 grs. of Pot. Bromide at 10 p.m.

Dec. 11: Slept for three hours, perspiring freely. Temperature 98. Sneezing and coryza. $\frac{1}{2}$ gr. of Morphia injected at 7 a.m. During the day he has complained of feeling depressed and giddy, moves his legs about continually, tingling pains in the back. $\frac{1}{2}$ gr. of Morphia injected at 12 a.m. Appetite better. Bowels rather loose. Sneezing and yawning a good deal. Pulse 70 per minute. At 7 p.m. $\frac{1}{2}$ gr. of Morphia injected.

Dec. 12: Patient slept fairly well, not having a draught. Vomited once during the night, one relaxed motion. At 7 a.m. $\frac{1}{4}$ gr. of Morphia injected, and at 12 a.m. Patient feels better to-day. Had fish for lunch and sat up for three hours. In the afternoon was

depressed and restless, complained of noises in the head and throbbing, due no doubt to weakness. At 7 pm. $\frac{1}{4}$ gr. of Morphia injected.

Dec. 13: Patient has only slept for two hours, great weakness and flushed in the face. At 7 a.m. $\frac{1}{4}$ gr. of Morphia injected, also at 12 a.m. Bowels moved twice. He sat up again after lunch, not so depressed to-day, feels giddy if he walks, had slight palpitation of the heart. Pulse 70 per minute. Respirations 26 per minute. At 7 p.m. $\frac{1}{4}$ gr. of Morphia injected.

Dec. 14: Had $4\frac{1}{2}$ hours sleep, perspired most freely. Sneezing and coryza. At 7 a.m. $\frac{1}{4}$ gr. of Morphia was injected. Left his bed after breakfast and is more cheerful but still feels giddy and faint. Appetite improving. Slight diarrhoea; passes urine without any difficulty. At 7 p.m. $\frac{1}{4}$ gr. of Morphia was injected.

Dec. 16: Patient is doing very well, sleeps and takes his food well. At 7 a.m. injected $\frac{1}{2}$ gr. of Morphia. During the day has been depressed and feels very weak. The bowels trouble him, rather more diarrhoea. Pulse fairly good; 70 per minute.

Dec: 19: Progressing satisfactorily. Has been having the two injections daily, $\frac{1}{2}$ gr. each. The diarrhoea is still present, three or four moves in the day. Gets depressed and does not care to read, or do anything for amusement. $\frac{1}{2}$ gr. of Morphia injected at 8 a.m. He sneezes a good deal yet, at times; yawned a

good deal to-day. $\frac{1}{8}$ gr. of Morphia injected at 8 p. m.

Dec. 23: Still been having the injections, which will be discontinued to-day. Patient is still weak but progressing satisfactorily. Bowels not so troublesome. Depression is not so great. Appetite is ~~not~~ good, does not crave for Morphia. He will have a mixture of Pot. Bromide, Spt. Ammon. Co. and Tr. Digitalis and Tr. Nucis vomicae dose every four hours.

Dec. 25: Patient does not sleep very well, rather nervous. "Dyplopia" is present. Bowels rather more troublesome, as many as five relaxed motions in the day. Does not complain of any particular pain, except in the back and one leg.

Dec. 27: Patient has improved, still nervous. "Dyplopia" passing off. Bowels still troublesome. Neuralgia better, but he is very weak. Pulse 68 per minute. Taking Tinct. Digitalis, Spt. Ammon. Co. and Bitter Infusion. Appetite is good, sneezing continues, certain amount of coryza. No albumen in urine.

Dec. 31: Patient progressing well. Bowels improving. "Dyplopia" has passed off. He is enjoying his walks but soon gets fatigued. Sexual powers returning. Complains of giddiness and occasional depression.

Jan. 5: Still going on satisfactorily. Was weighed and has gained 5 lbs. (10 st. 12 lbs.) In a weeks time he will leave here for a warm climate, and

then a course of baths will follow on account of the dyspepsia and debility which continues.

Remarks. This patient has done well under treatment, as I have said is very dyspeptic all the time, The bowels were a troublesome feature, so much diarrhoea. I notice this is more liable to occur when constipation is one of the chief symptoms, as in this case previous to treatment. Dylopia was most marked and persistent. To me this case, from his history illustrates the class of case, when dyspepsia and nutrientdisturbances exist for some time, are peculiarly liable to develop the Morphia habit.

C A S E 6.

Mr. M. K. Age 40. Unmarried. Cotton Spinner.

Family history: His father was a very nervous man, died of over work. Mother died of Paralysis. He had an uncle that died mad, brought on through drink, one brother also died from the effects of fast living.

Previous history: Though of a highly nervous disposition says he always enjoyed good health. Not had syphilis.

Present history: Patient commenced business very early in life, in the Cotton trade. He threw up his Mills on account of ill health and bad trade, and travelled for a year abroad. He then commenced to suffer from sever symptoms of Gastralgia, he was treated by a medical man, who administered Morphia injections which relieved the pain. He had also severe neuralgia at the back of the head and he says he used the injection for relief of this. He often injected as much of the solution which equalled 16 grs. per diem.

On admission: Aug. 5: Patient is a short man of dark complexion and with a large head of hair. He was in a dazed condition, partly owing to the amount of alcohol taken, and partly to the Morphia injected.

His conjunctivae were suffused and his pupils unequal and reacted sluggishly to light. His pulse was very markedly sharp, 70 per minute. Respirations, shallow and hurried. He was got to bed as speedily as possible and $2\frac{1}{2}$ grs. of Morphia injected, which was repeated again at 2 a.m., as he was very restless and weak, pointing to collapse. Pains in the bladder, convulsive action of the legs, weight 9st. 10 lbs. In the afternoon 3 p.m. an injection of $2\frac{1}{2}$ grs. of Morphia was given. Frequent sneezing and complains of pains in the bladder.

Aug. 6: Complains of pains in the liver. Feels very weak in the evening. Slight diarrhoea. Injected $1\frac{1}{2}$ grs. of Morphia. At 9.45 p.m. 40 grs. of Chloral were given. Patient slept well.

Aug. 7: In the morning the patient was very depressed and giddy. Had palpitation of the heart and was very excited. Injected 1 gr. of Morphia, night and morning. In the evening the patient craved for Morphia, face is flushed, speech impaired. Relaxed four times. Patient does not remember well the events of last night. Same symptoms observable as yesterday. After having taken 40 grs. of Chloral he slept well.

Aug. 8: Until the evening patient was moderately well, only complained of pains in left hypochondrial region. Injected a $\frac{1}{4}$ gr. of Morphia at night and

morning. In the evening he again became excited. After taking 40 grs. of Chloral he slept until 4 a.m.

Aug. 9: Appetite good, feeling of prostration, pains in the epigastrium, relaxed motions. 40 grs. Chloral, ^{given at bedtime and} $\frac{1}{2}$ gr. of *Morphia* thrice daily. Patients condition is changeable as regards temper. Still occasional pain in the epigastrium and region of liver. Diarrhoea is present. He feels uncomfortable, craves for Morphia. At 11 p.m. 30 grs. Sulphonal given.

Aug. 10: Patient slept better. $\frac{1}{2}$ gr. of Morphia was injected at 7 a.m. and again at 12 a.m. and 7 pm. A hot bath was given at 9. 30 p.m. Sulphonal 30 grs. at 10. 30 pm.

Aug. 11: Patient had a better night, was quieter in every way. Slight abdominal pain, two actions of the bowels which were rather loose; felt sick, no vomiting. $\frac{1}{2}$ gr. of Morphia injected at 7 a.m. Patient is taking milk and beef-tea well. At 12 o' clock $\frac{1}{2}$ gr. of Morphia injected, at 7 p.m. $\frac{1}{2}$ gr. injected. Had a bath and 30 grs. of Sulphonal were ordered.

Aug. 12: Patient again had a better night, feels stronger. Pulse 60 per minute, tone weak, regular. Temperature 98. $\frac{1}{2}$ gr. of Morphia injected at 7 a.m., and at 7 p.m. Sat up for a couple of hours in the afternoon; turns very faint. Spt. Ammon. Co. 30 minims & Digitalis mn 5. were given, which gave relief.

Aug. 13: Patient did not sleep quite so well, but was not particularly restless. Tinglings pains and burnings in left and leg. Injected $\frac{1}{4}$ gr. of Morphia at 7 a.m. Patient sat up during the evening. Had fish for lunch. Still takes plenty of milk and beef tea. No diarrhoea. Pulse about the same. Injection of Morphia at 7 p.m.

Aug. 14: Patient had a restless night. 30 gr. of Sulphonal were given at 1 a.m. He had a little sleep afterwards, An injection of Morphia was given 7 a.m. Spt. Ammon. 30 m. Potassium Bromide gr. xxx were given at 10 a.m. Patient slept for a couple of hours, on waking had beef tea, and then rose and remained up for a length of time. Slight diarrhoea. Sneezed a good deal. Some coryza, but not sufficient to cause much discomfort. On the whole patient is doing well. At 7 p.m. $\frac{1}{4}$ gr. of Morphia injected.

Aug. 15: Patient slept better last night. Pulse is good 65 per minute. Respirations 26. Slight coryza, but not sufficient to cause much discomfort. On the whole the patient is doing well. At 7 p.m. $\frac{1}{4}$ gr. of Morphia injected and sneezing continues. Rose soon after breakfast. Says he feels better and stronger, but gets depressed. Morning and evening injections continued same strength, asks for alcohol.

Aug. 16: Patient had fairly good night, says he felt faint in the night, but was relieved by hot milk. Complains of feeling cold, although the day is warm. Yawns a good deal and is still very depressed, but the appetite is very good. Bowels moved rather freely, no nausea. $\frac{1}{6}$ gr. of Morphia injected at 7 a.m. and 7 p.m. Was up most of the day.

Aug. 17: Patient improving. Says he slept fairly well. Pulse stronger, going for a short walk. Injection of Morphia at 7 a.m. $\frac{1}{2}$ gr. Still craves for alcohol but not Morphia. Bears the reduction well. $\frac{1}{2}$ gr. injected at 7 p.m.

Aug. 18: Patient had the best night since he has been here. Is more cheerful and better in every way. At 7 a.m. $\frac{1}{6}$ gr. of Morphia injected. Complains of abdominal pains. $\frac{1}{6}$ gr of Morphia injected at 7 p.m.

Aug. 19: Slept fairly well. Rather more coryza and sneezing. Bowels moved twice. Feels rather faint at times. Pulse 58. Tinct. Digitalis and Spt. Ammon. Co. Tinct. Nucis. Vomical given thrice daily. At 7 am. Morphia injected. Appetite is improving, he is very nervous, and restless but his general condition is decidedly improved. Has had his last injection.

Aug. 20: Patient had a fair night. Still some coryza, little nausea, appetite good, pulse 60, resp 26, urine plentiful, sp. gr. 1020, no albumen.

Aug. 22: Patient going on well. Takes a fair amount of exercise without fatigue, little stiffness and crampy feelings in the calves. Pulse stronger, 60. Respirations 26.

Aug. 26: Nothing particular to note, only still depressed and rather restless.

Aug. 30: Continues to make steady progress. Is increasing in flesh a little. Slight neuralgia in the head and a little giddiness. Very slight coryza. Appetite very good. Bowels pretty regular.

Sept. 3: Improvement maintained. Has gained 7 lbs in weight: weighs 10 st. 5 lbs. Liver dullness still further diminished; not so depressed. He enjoys taking part in the outdoor games.

Sept. 10: Improvement is well maintained. Says he has not felt so well for three years, although depressed at times.

Sept. 18: Going on well.

Sept. 23: Much improved and left to-day.

Remarks: This patient was of a highly neurotic nature. He made the most of his case. There is no doubt he was a heavy drinker as well as a drug taker. Mentally he seems very weak. He belongs to what I term the "hopeless class," which was proved by his beginning to drink heavily, shortly after leaving here, and he is now an inmate of an asylum.

THE S I S.

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THE MORPHIA HABIT.

By,

T. A. H I R D, M. B. *Ed. 1882*

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THE MORPHIA HABIT.

This subject has been selected for my thesis for various reasons. It was my fortune to assist at an Institution, in fact, I had sole charge for a time, where such cases were treated, and therefore I had exceptional opportunities of clinical observation and investigation. Apparently little has been written on this subject in this country, the chief literature emanating from German and French physicians.

Persons suffering from the Morphia habit are mostly treated in Institutions suitably adapted for the purpose, therefore the general practitioner has little opportunity of witnessing the care and patience required in the treatment of such cases. The Opium or Morphia habit is much more common than the majority of people have any idea of. I shall deal chiefly with the subject as applying to the introduction of Morphia into the system by means of the syringe and needle.

I would include in the "Morphia Habit" the constitutional proclivity or "neurosis" which impels to the inordinate use of Morphia, & the injury caused to the system by its injudicious use.

The use of opium or its alkaloids is always perilous: in some cases, no doubt, there is a distinct "opium diathesis." The latency or activity of this

diathesis will depend on certain conditions of life and surroundings which in many cases can be traced. The "Morphia habitué" has often a "neurotic" element in his history, it may be associated with brain or nerve injuries, cell starvation, faulty nutrition, or excessive drains of nerve force: a train of predisposing causes may have been gathering for an indefinite time. There is no doubt that the toxic use of Opium and its alkaloids is great: it is evident that the number of cases is large. Morphia is given daily and yet only comparatively few become addicted to its use. Why should so many persons take Morphia continuously for the transient relief it gives? Why should the effects of the drug become so pleasing as to demand its increased use irrespective of all consequences? The only explanation is the presence of a neurotic diathesis either inherited or acquired.

I have arrived at the conclusion that the abuse of Morphia injections is due to a central neurotic change, thus differing from some Continental authorities. Morphia neurosis would thus seem to be not an intoxication from the drug, but a central neurotic change, brought about by the long perversion and impairment of central nutrition. This I hope to prove and also show by my clinical cases.

Certain constitutions bear up through the changes of life fairly well, until some serious injury overtakes the physical organisation, such for example as a blow on the head, a wound, or even a long or trying illness. Irritation at once begins to do its work, the ordinary and natural constitution gives way; it is weak, exhausted, and weary; it has become unequal to the requirements of ordinary life, it craves for rest and repose. The Morphia diathesis is invoked. The mind rushes from one extreme of emotion to another, either showing excitement that is morbid, or degrees of feebleness that are abject. Women are often of this class, and persons from the wealthier circles of social life.

A diathesis implies a special predisposition to certain kinds of diseased action, and is more or less a remote cause which might properly be called "nervous diathesis." Using this term, certain well defined conditions appear to be traced from which the craving for narcotics can be studied and prognosed with much certainty.

I will now proceed by mentioning some of the general causes which may lead to the development of the "Morphia habit," which include injuries or concussion of the brain and spinal cord, and consequent

alterations of nutrition. Blows on the head or railway accidents, often develop the craving, as the concussion and surprise are sudden and overwhelming, causing int-reaction on the nervous system, though they produce at first insignificant physical lesions.

Peripheral irritations or reflex excitability is a common cause: both are frequently the beginnings & in many cases the active causes of the disease.

Previous diseases are also active causes, such as neuralgia, by disturbing the nervous centres and their equilibrium. For example, Dipsomania, suppressed Gout, acute Rheumatism, skin diseases and Syphilis, often precede the craving for Morphia. I shall deal with these again.

Exhaustive intellectual and physical exertion, by breaking up a healthy central action, may develop the Morphia habit.

I will now deal with an important part of my subject: namely, "Phychical traumatism" or injury from mental agitation, or powerful emotions, as a cause of the Morphia habit. This may be considered from two points of view.

First, as a direct cause of the disease, and

Second, as an indirect cause by developing conditions which rapidly merge into the disorder.

As a direct cause the following is a good example:

A gentleman was driving in an open dog-cart, his horse took fright at a steam roller, which caused the horse to bolt along busy thoroughfares and finally landed him into a shop window. The sudden alarm and crashing noise and profound fear of impending death produced, what I may term, functional paralysis. He was taken to the Hospital. After a few days he was able to return home. Whilst in the Hospital he had neuralgic pains in various parts of the body, and hypodermic injections of Morphia were administered to relieve the pain. When he got home, although not suffering any particular pain, an intense desire seized him for an injection of Morphia. He commenced its use and became a Morphia habitué.

Another case was that of a gentleman, who was in good health, and correct in all his habits of life. The sudden death of his wife, from an accident, threw him into a profound state of nervous prostration which lasted some time. He began to take Morphia, first by the mouth and then hypodermically: he claimed that he needed it for exhaustion, as a tonic. His craving for the drug commenced directly from the shock, following and caused by intense grief.

In both of these cases there was a degree of mental and physical vigour that gave no indication of the sequel or of any neurotic disease. There was no defective hereditary in either case, and the craving for Morphia was entirely due to "⁶psychical traumatism."

A very large class of cases have suffered in the past from some attack of disease, from which they have recovered, which has left some form of debility and a want of something that cannot be defined. They are fully conscious of diminished power, of change of vigour and force. It may be that they do not sleep as naturally and do not get the usual rest; they are more sensitive than before, emotional and excitable with every event that is irritating. In one case a man has a serious attack of pneumonia with a tedious long convalescence. After recovery, a change of disposition and character is noticed, and a year or two later he begins to take Morphia as a stimulant and soon becomes a habitué.

Or in another case a man recovers from Typhoid fever and for a long time exhibits marked alterations of habits and character, then gradually becomes addicted to the use of Morphia. There can be no doubt that the Morphia habit originated in traumatism following the disease in these cases. The integrity of the organism and function has been impaired, and from this point

disease and diseased tendencies are developed. In the second class of cases where "psychical traumatism" is the cause of the Morphia habit indirectly the history and Symptoms are always more or less obscure and require careful study. Yet these cases are undoubtedly numerous, and will in the future, I am certain, attract attention. The following conclusions may serve as a guide for further clinical and psychological investigation viz:-

(1) The injury to the nerve centres from psychical traumatism is the point of departure from the main line, from which all subsequent disease and symptoms of change and perversion can be traced and studied.

(2) The most prominent early symptom is exhaustion which goes on, progressively manifest in more complex deviations from health, and general functional disturbances.

(3) The progress and treatment will differ materially, depending on a knowledge of the facts, and will present indications, which it is absolutely necessary to know for the proper management of the case.

The refusal to take proper physical rest when tired is one of the most important and powerful causes in inducing a desire for an indulgence in the use of Morphia. Men work until they get so tired that they

cannot wait to feel rested by processes of change going on in their systems from suspension of labour. They either want to work more hours than they are able; or when they have done as much as they feel themselves at liberty to do, they are so tired that they cannot rest; they get rest therefore in artificial ways, some get rest by drinking tea, coffee, or alcohol; others by smoking tobacco or taking Morphia. They fall back on stimulants instead of the intrinsic vitalities of their bodies. They are therefore lifted up into false conditions, they keep on working until they become so functionally impaired as to induce positive inability to work longer. Appeals to their feelings and reasons are useless, for their faculties are unable to direct or control the progress of disease. A further most important factor, as a cause of the Morphia habit, is "abnormal nutrition." The neurotic or opium diathesis is not apparently present and opium or Morphia taking dates from some nutritional disturbance, such cases are common in those who suffer from Dyspepsia, hepatic and enteric derangements. They have a deranged appetite, headaches, cramps, thirst and nausea; they are anaemic and hyperaesthetic and complain of varied pains and neuralgia, these cases are evidently ill-nourished, and in all probability suffer from imperfect

digestion, assimilation, and elimination of food products and waste material. Poisonous Compounds form sources of trouble, the brain suffers from fatigue & pain, the cells are imperfectly nourished. Congestions, neuralgias, nerve irritation and instability follow. Opium in any form is almost a specific paralyzant in these cases.

I would especially note that "Acidity" is a powerful cause of the "Morphia habit," and it is among the above where this is most frequently present, and it is one of the chief factors which makes them drug takers. Then comes Opium in some form.

The "Morphia habit" is a most insidious one. It is quite true that in some cases, for a short period, the absorption of a small quantity of Opium or Morphia is followed by vital and intellectual stimulus. There is first a degree of exaltation, a sense of well-being, a feeling of bodily and mental activity, a general satisfaction and good humour that is most agreeable, and the only symptom he betrays at the time is no more than a natural talkativeness. The hypnotic effects when they appear are not overwhelming; of course small doses lose their effects and larger doses are demanded. These are succeeded even at the beginning by a period of depression and irritability, although some habitues

may go on, even for years, without being apparently any the worse for the "Morphia habit." In other cases symptoms of Morphia poisoning are soon developed, the patient breaks down physically, mentally and morally. The natural history of such cases indicates a steady progressive degeneration on to death.

The injections of Morphia not only relieve pain and insomnia, but they produce a change in the whole system. The drug produces a state of excitement mentally, similar to alcohol, the temper is altered, strength is given, depression is overcome, and I have always noticed the consciousness of power and ability is greatly increased, but as soon as the Morphia has left the system a reaction sets in, that of despondency. Some persons exhibit an incompatibility to the drug which is often most startling and alarming. I remember once administering a small dose of Morphia to a lady patient, which produced the most alarming symptoms; the emesis and prostration were very great. This intolerance precludes the use of the drug, and it is recognised with alarm by the patient. On the other hand the effects sometimes are rapid and marked, relieving pain or restoring the disturbance of the functions, with no other than a pleasing sense of rest and cure. A dangerous diathesis should be

suspected in such cases. While the medical man recognises the constitutional incompatibility in one case, he ought not to overlook the abnormal attractiveness of the drug in the other. The dose of Morphia which gives the first complete rest, or calms the delirious excitement, or relieves the neuralgic pain, or the digestive disturbance, soon calls for a repetition, and medical men will often advise and sanction its use. I shall have more to say on this point when deal- with the hypodermic syringe and its injudicious use, when far more fatal conditions are cultivated and roused into activity. In all neurotic cases Opium and its alkaloids should be concealed and watched with care: if a special predilection for the drug appears, equal care and skill should be used to divert and change it. Morphia should only be used from a knowledge of the nature and character of the case, as its use is always perilous, We can see some of the many complex causes favouring brain and nerve strain, with exhaus- tion and degeneration, and the inter-changeability of nerve diseases in which the use of the drug is only another form of the same disease; but we cannot well trace the early causes and cell conditions which develop the Morphia craze. The morbid impulse, like the delirious thirst for water in a desert, completely

dominates all reason and so-called will-power, and every condition of life and surroundings. It is more than an accident, more than a failure to reason and act wisely, it is a disease, an organized march of dissolution. The demand for Morphia is only a symptom, the removal of Morphia is not the cure. Some cerebral nerve degeneration, has begun and is going on.

In this study the fact is emphasized that the opium disease appears most frequently in persons who have a neurotic and opium diathesis, and also in persons who are suffering from nutrient disturbances, and those who are invalids or have some entailment of previous disease and injury; also that certain diseases and symptoms seem to furnish favouring conditions for its growth and development.

The Hypodermic syringe, an instrument well known to every one, even to the poorest of out patients in consequence of the frequency of its use. The large majority of people think that Morphia is the only drug administered by this means. The inventor and instigator of the use of the syringe and needle had little idea of the horrible sufferings and misery that would be brought about by its injudicious use. No patient should ever be allowed to use it himself. It has a powerful fascination for the habitué. It should never

be used except by the medical attendant, and not even then, if the drug can be administered in any other way, such as by the mouth, suppository per rectum, or in the form of ointment to be applied to a painful malignant sore. I recollect being called to attend a patient after the death of her previous medical attendant. She had a large malignant sore which caused terrible pain in the hypogastric region, having eaten its way completely through all the muscular walls. Her late medical attendant was allowing her to take from three to five opium pills (1gr each) in the 24 hours and frequently he administered a hypodermic injection of Morphia in the evening as well. I advised the discontinuance of those, and prescribed "Unguentum Morphiae" to be applied to the sore, and a draught containing Chloral Hydrate and Potassium Bromide at bed time. The patient said this treatment afforded her greater relief from pain and greater comfort than anything she had ever had, which was continued for about twelve months when she died. It is no uncommon thing for the house physician in a large hospital to go on his nightly rounds with hypodermic case in hand and give several Morphia injections to the patients who are in need of the drug.

In general practice I have known medical

practitioners go two and three times daily, for weeks and months, to administer Morphia injections to the same patient. In these cases I consider it would have been better administered by other means, with less liability to disastrous results, which must usually occur. From what I have stated it is evident that more caution ought to be used by medical men before recommending the use of Morphia injections and never under any circumstances ought they to allow the patients to administer the injection themselves. For by doing this I consider the medical attendant is entirely responsible, should the patient become addicted to the Morphia habit.

The daily quantity taken by individuals varies greatly from 2 to 60 grs: per day. It is quite common for 16 grs: to be taken in the twenty-four hours, in fact I know two professional men at the present time who are taking, one, sixteen grains, and the other, eight grains daily. One of my patients (see case 2) used, he says, to inject 40 grains daily, and previous to going for a long bicycle ride, he would inject six grains of Morphia.

Symptoms of the "Morphia habit." Chronic Morphia poisoning is characterised by repeated nerve excitations, in which the nerve centres not being completely

overcome, a kind of tolerance is established, with progressively developing abnormal changes, which are repeatedly concealed by the renewed doses, till some sudden deprivation of the drug, or failure to appropriate it, reveals in full the neural mischief which has been done.

The central tracts involved are the cerebro-spinal and sympathetic systems. Organic lesions are rare, probably some instances of renal and brain disease, the ultimate results being marasmus, ending in death. The symptoms which result from Morphia injections commence to show themselves in a few months but there are cases, however, of which the injurious effects are only evident after some years. This does not depend so much on the dose, but some are more susceptible to the drug than others. Morbid appearances soon show themselves, as previously stated, in the cerebro-spinal and sympathetic nervous systems.

The Skin loses its colour, a pale grey is the hue, sometimes it is almost of a cadaveric tint, and has a withered feel, the adipose tissue as a rule disappears rapidly, but there are many exceptions to the rule - perspirations, I have noticed, are excessive in almost every case sometimes to an alarming extent. Abscesses are apt to occur at the point where the injections are

made, which is often in a vein. One of my patients had both hands and arms, and both legs literally covered with ugly dusky blue cicatrices which represented scores of injections.

The Eyes are dull and hazy sometimes are very weak - surrounded by a dark ring - Double vision is most common (see cases), the pupils contract, but unequally, one being often larger than the other.

The Mouth is parched, there is great thirst, nausea and vomiting, the tongue is tremulous and I notice that there is often a peculiar angry looking reddish line in the centre of the tongue towards the back part, it has a dirty brownish covering as well. Sometimes slight grooving or indentations at the edges are present. The appetite is greatly affected in these cases - the victim has peculiar likes and dislikes - of the latter I may mention the great dislike to meat, he is all for nourishment that he can drink down quickly, such as egg beaten up with milk, beef tea and broth.

The bowels are usually confined - due to diminished *peristalsis* caused by the paralysis of the nerves by the drug. There is also chronic catarrh of the stomach on account of the irritating chemical action of the Morphia.

The Pulse is very small and hard, and may be thread-like. I have found frequently the number of beats to count only a little over forty per minute. There are often, from the paralysing effects of the Morphia upon the blood vessels, noises in the ears, syncopal attacks and dyspnoea. These are distressing and generally show themselves most when the patient wakes up in the early part of the morning; he has all the feelings of impending death.

Kidneys - in severest cases there is generally albumen, and the quantity of urine is often greatly diminished - there is frequently atony of the bladder. Patients have told me that they generally tried to pass their urine immediately before using the syringe, as it was usually more difficult to do so afterwards. The testing for Morphia in the urine is most important as it is the only certain way of knowing whether the patient is taking Morphia unknown to his medical attendant or not. A patient whose urine contains Morphia for a longer period than six or eight days is sure to be continuing the injection of Morphia, although he may persistently deny the fact. The albumen after a period of abstinence is observed oftener than during the continued use of Morphia and occurs nearly in all cases (see cases). It is usually first discovered from the

third to sixth day after deprivation of Morphia, disappearing after some two or three days. The central nervous and sympathetic symptoms are affected in many of their functions. The deviations from health noted, are due to departure from the normal tone of one or both of these centres. I consider the most important point here is that the reflexes are greatly increased. Other symptoms are insomnia, hallucinations, great irritability of temper, hyperaesthesia and paraesthesia.

Symptoms after the deprivations of Morphia. The following is a characteristic clinical picture; on the one side there is the bodily ruin, and on the other side the moral impairment and pronounced mental affection. I will state some of the leading features which frequently occur after the deprivation of Morphia. Only a short time has elapsed since the last injection was given, the patient looks ill and wretched, there is a feeling of uneasiness and restlessness, there is great despondency, accompanied by Dyspnoea, the patient will often crave for Morphia or alcohol. There is a hyperaemic condition of the head and palpitation of the heart - the latter is frequently very weak and is the first to show signs of Morphia deprivations, there is a hard pulse which is often irregular.

The vaso-motor system shows its want of power or

weakness, by the abundant perspiration, which is a most characteristic symptom. Diarrhoea and vomiting are almost always present, and are as will be seen from one or two of my cases, very troublesome features during the treatment, and are in my opinion the chief symptoms that should prevent a too rapid reduction of the drug. However carefully the treatment is carried out, they are almost certain to occur after the last injection. Reflex irritability is greatly increased, there are violent fits of sneezing, coryza, giddiness, and yawning. The speech is often incoherent, stammering, and there is ^{cut} ~~great~~ trembling of lips and tongue.

Dyplopia (see cases) is often present, neuralgic pains in front and back of the head show themselves. Cardialgia, often abnormal sensations in the legs and feet, such as tinglings, burnings, itchings which may be most distressing. These various symptoms are seen to occur in the cases in which I give details.

The progress of the disease is generally insidious and varies very much - if slow it is sure. It is no exaggeration to say that the unfortunate victims of the Morphia habit are wholly and absolutely dependant on their accustomed stimulant, so much so, that it has almost become a condition of their existence.

The Prognosis must always be very guarded and

great caution must be taken as regards the statement of patients regarding their cure, a variety of circumstances beyond our control prevent us from making a fair and just statement of our success to the world. As a rule, failures occur with persons who are willing to be cured, if it can be done without making any sacrifice or concession themselves towards effecting such a consummation. However honest their desires may be to be cured, they have not the strength of will to resist strong and repeated temptation. Is not this the case with transgressions of every physical and moral law? But even such cases are not without hope, proper medical and dietary treatment may do much to build and strengthen their physical systems; but what they need most is medicine for a diseased and weakened mind, and that is a curative agent not to be found amongst the drugs in the Dispensary. Therefore a person of high moral nature, either from culture or inherent perception, gets more control over himself and will battle long against the craving when it is coming on, although he eventually gives way not from any fault of his own, but on account of being the subject of a mental disease entirely beyond his control. In those cases where the moral nature is evidently low and weak, or nearly absent, no hope can be held out for a cure, and the patient

will be an endless source of misery to themselves and their relatives until they die.

Treatment. Basing the treatment on the clinical study of the case it will be evident, where a opium diathesis exists, the withdrawal of opium should be very gradual. Some continental authorities advise the sudden and entire deprivation of the drug. I totally differ from them for several reasons. Firstly on account of the great danger to the life of the patient if suddenly deprived of the drug. There is apt to be serious collapse, and no doubt many deaths have occurred under this form of treatment.

Secondly, on account of the intense agony and suffering amounting to torture which the patient must undergo during the above form of treatment. Whilst treating my patients by the gradual reduction method, I have seen sufficient in their suffering and anxiety to warrant me in not recommending what I might venture to call the inhuman treatment, sudden and entire deprivation of the drug.

Thirdly. Cases treated by the sudden deprivation method, are as a rule allowed to have as much alcohol as they wish to take and in any form they choose, although attempting to assist the unfortunate patient out of one trouble, is this not likely to cause him

to develop a craving for alcohol? Which is also a very serious condition, as he might become a confirmed drunkard. As it is, Morphia habitues are apt to become alcoholics.

Fourthly, in cases so treated there is a greater risk of relapse. In my opinion the craving is far more likely to occur after the treatment by sudden deprivation. Why? Because no time has been allowed for the least repair to the damaged nerve centres, such as we get from the gradual method of treatment.

Fifthly, the rapid reduction of the drug and heroic treatment fail to convince me that the cure would ever be permanent.

The way back to approximate health is "straight and narrow," and only along lines of applied science. More attention must be paid to the brain and nerve nutrition. The removal of Morphia may be followed by the appearance of various disorders such as neuralgia, hysteria, and various other neuroses. The gradual withdrawal of Morphia enables us to discover and anticipate these neurotic troubles which have been masked before. I knew a case of general paralysis spring into activity after the Morphia was taken away. By the treatment of gradual deprivation the patient has a chance to get strong, and, as I have said before,

time is allowed for his moral balance to be restored, so as to enable him to resist the craving. This method is attended by little, or no danger to life. I would advise that other narcotics should be used as little as possible to lessen the irritation in the withdrawal of the Morphia. These cases require the same general treatment as other states of brain exhaustion: they are drug-takers and will resort to anything for relief.

Where the "Morphia habit" has been developed from bad nutrition and faulty elimination, I would recommend a course of baths, mineral waters and tonics, before the removal of the drug. Then the latter may be removed slowly and without the knowledge of the patient and there will be less danger of relapse and suffering.

The more accurately the diseased states, the predisposing and exciting causes, the diathesis, and varied influences which have caused Morphia to be used are studied, the more accurate the treatment. Morphia taking should be seen as a symptom; remove or break up the cause and the effect will cease.

The general or special diathesis must be treated, the nutritive disorders, intoxications and starvations, must be recognised and removed: the influence of pathological states from previous disease must be ascertained and treated.

I consider these to be the essential facts and conditions which must enter into the practical treatment.

In the special treatment we have first to deal with an individual whose will power is subverted. To him the enslaving drug has become as great a necessity of existence, as his food.

Any treatment which depends on his own volition must fail: for his own will must be substituted the will of another. As a rule removal from home is essential to secure this control, as in insanity and hysteria. Strangers have far more control than relatives or friends. It has the further advantage of breaking up the accustomed train of associations, which is always a great aid in overcoming the "habit".

The choice of attendant is of great importance, as upon his, or her, trustworthiness and efficiency the result may often depend, the firmness and tact of the nurse, her readiness with bath, medicine, or nourishment, &c., enables the reduction to be made rapidly, and assist greatly in mitigating the prostration and suffering of the patient.

The room must be carefully prepared in every detail. All belongings such as clothes, &c., to be removed from the room. This allows them to be examined

as most of the patients carry a hypodermic syringe and Morphia with them, although they may declare differently. The word of the Morphia habitué goes for nothing. It is no use relying on the state of the pupils, or his pulse, as he knows how to overcome the various symptoms of one or the other by the use of certain remedies, such as Belladonna to dilate the pupils, he knows what to take to reduce the pulse beat or to increase it

The most reliable way is by the Analysis of the urine, providing the dose equals two grains of Morphia daily.

There should be great regularity as regards the time for giving nourishment and medicines, also for retiring to bed. The light should be lowered, and reading in bed strictly forbidden.

Diet need not be restricted unless the condition of the stomach or bowels demand it. Patients often recover with scarcely any vomiting and with only three or four actions of the bowels daily.

If the stomach rebels, give entire rest for a time or milk and lime water, beef tea, or malted milk in small amounts act well. I strictly advise that the diet should be non-alcoholic and antacid, as these are important factors in causing the craving for Morphia.

It is also necessary to take light and easily digested food at regular intervals, so as to help to resist the morbid impulses that will often cause the patient to make an extravagant meal at some unreasonable time.

Control of the patient having been secured, how shall the drug be taken from him?

There is the choice of one or two methods.

1. Immediate and entire withdrawal.
2. Gradual reduction.

I have stated my reasons why I do not approve of the first method.

The second method is the wiser. Of course the rapidity of the reduction varies in different cases, some requiring much greater care and caution than others. There is much more prostration in some cases than others during the reduction of the drug.

To take then a patient, say injecting 16 grains of Morphia a day. By way of commencement the patient gives up syringe and solution, and consents to any search that may be necessary, that nothing of the kind is secreted. He has agreed to submit himself to proper supervision and as regards Morphia he has the assurance that there shall be no compulsory reduction. For the first few days he would reduce by a grain daily, having begun perhaps by an initial reduction of

from three to five grains, later a third, a fourth, and finally a sixth would be a sufficient reduction. I do not agree with those who advise that, with the reduction of the drug, a similar or a larger dose should be administered by the mouth or rectum. I have always surmounted the difficulty by giving a few doses of Bromide of Potassium. I have had very little difficulty in reducing the dose to about two grains, then comes the most difficult part of the task, but by patience and perseverance, and by the improvement in the patient's condition the desired result, giving up the syringe, is obtained. Most frequently after the last injection, Tinct Digitalis ~~minsimms~~ V has to be given about three or four times in the twenty four hours, according to the state of the heart. I am convinced that rest in bed is a great aid, The importance of quiet and warmth in promoting restoration during the abstinence-struggle, cannot be over estimated. I order every patient to bed at the start and those who submit to this, until I allow a change, get on more easily and satisfactorily during the term of treatment.

I would advise various mechanical agencies for the relief of pain, to quiet the nervous system, to induce sleep and promote nutrition - such as massage, electricity, hot baths, turkish baths, and the cold shower bath.

Medicinal agents to meet the various indications of each case.

The pulse, as I have said before, is the first to show signs of deprivation of the drug, I find Tinct. Digitalis, Spt Ammon Co and Tinct. Nucis Vomicae to answer the best.

My experience is in favour of heart tonics and stimulants rather than ~~os~~ sedatives.

Insomnia: Chloral, Potassium Bromide, Sulphonal and Trinonal are the best Soporifices.

A warm bath is a great help in these cases and the patient expresses great comfort from it. In all cases drugs should be stopped as soon as possible and sleep produced by exercise - a light meal - and patient's will often sleep better after a glass of hot milk.

For the abdominal pain which is so common in these cases Chloroform water is of the greatest service, it is both a sedative and an analgesic - I have also used Ether in hot water, and Champhor with Capsicum.

After the deprivation of Morphia there is always an amount of debility which requires special attention, and as there is a great tendency to overcharging of the system with uric acid during this period, a consequence of the functional depression resulting from the suppression of what has been an almost vital stimulant,

everything should be done to prevent the formation of the acid and to promote its excretion - Moderate Turkish baths, cold shower baths and rational exercise are of the very first importance.

Nausea and vomiting are best treated medicinally by alkalies, Nux Vomica, and bitter infusions. Should they persist, I would advise ice and Counter irritants over the stomach. Should the patient refuse food after the continuous vomiting and should there be much prostration, nourishing injections into the rectum must be administered.

Diarrhoea often occurs during the period of abstinence. If it should continue and become severe, I have found it of great service to inject into the bowels warm water 98.6°F, one or two pints, repeated two or three times a day. Certain minor sequelae may require treatment. Internal tonics are of great value in the roboant regime. Most habitues are below par & it is my custom to give from the start Phosphorous, Strychnine, Arsenic, and Quinine combined. Then often in anaemia Iron in one of its forms is useful.

Caffeine is of value as a stimulant, tonic, and diuretic.

C A S E 1.

Mr. G. L. C. age 46. Surgeon, married, admitted Sep. 2.

Family history: Good, father and mother both lived to old age, one brother died of typhoid fever.

Previous history: Had two sunstrokes, one when a boy, the other when a student, said to have jaundice when a boy, was also very ill with typhoid fever, has never drunk to excess and is a non-smoker. Had an operation for sinus in his right groin when young.

Present illness: Fifteen years ago when in practise he had an attack of neuralgia affecting his head. He tried various remedies without success and finally on the advise of his physician he tried the hypodermic injection of Morphia. After the neuralgia was cured he continued to inject the Morphia, Three years ago, while surgeon to a Provident Association in Leeds, he broke himself of the habit for six weeks. He had, however, to give a patient a hypodermic injection of Morphia, and he himself returned to his old habits. He had been injecting five grains per diem.

On admission: Patient is a small, wiry looking man, pale and with blue lips, says he has been taking Morphia every four hours; his pupils, however, are

are not contracted.

Pulse: Full and regular.

Heart sounds: Clear and regular, but feeble, great want of tone. Spleen and Liver not felt. Tongue red, flabby and cracked. There was also great thirst.

Urine: Sp. gr. 1030; analysis, sugar is present also slight albumen.

Treatment: Patient was at once put to bed and hot milk given him. At 3 p.m. a hyperdemic solution of Morphia was injected into his left buttock; ten minims were injected or an equivalent of $\frac{1}{2}$ gr of Morphia. He is able to take a certain amount of solid food. Injections were repeated every four hours and milk and water given at intervals. Patient was much depressed at the time, but when seen at 11 p.m. he was more cheerful.

Sep. 3: Patient has passed a good night. Had an injection at 3 p.m. Eats well and is not nervous, has no tremors and no diarrhoea. Had another injection at 7 a.m. In the 24 hours he has thus taken 3 grs. of Morphia. When seen at 1 p.m. his pulse was slow and compressible, beats 55 per minute. On talking he shows signs of exhaustion. His injections now are given him every five hours instead of four hours. He has no trouble with emicturition, though his water on standing

has changed from the ordinary colour to a deep port wine colour. His pupils are somewhat contracted but not to any extent.

He is still kept on a light diet as he has no diarrhoea.

Sept. 4: Has slept well, having an injection at 2 a.m. and another at 7 p.m. So far he has not complained of any inconvenience from reducing the amount of Morphia taken. Pulse 60 per minute, tone not so strong as yesterday. At 12 o'clock he had another injection of the same strength. Pulse 45 per minute, after every 20 beats there is a tendency to intermittency. Tongue still remains flabby and red. Patient is being kept in bed again to-day as he shows at times symptoms of exhaustion.

At 6 p.m. had another injection of the same strength. This made an interval of 6 hours since the last one. He has shown signs of depression at times. Pulse 45 per minute and at times has a tendency to intermittency after the injection the pulse is noticed to be a little stronger, though not appreciably quicker. Passes a normal quantity of urine, which however continues to deepen in colour, has no trouble with micturition. Has been perspiring this evening somewhat freely.

Sept. 5: Patient had one injection during the night, slept very well. Pulse this morning 48 per minute and somewhat fuller. Had another injection of the same strength at 9 a.m. Continues to eat well. Tongue still flabby. At 3 p.m. had another injection, pulse 48 per minute. Got up for two hours this afternoon. At 7 p.m. his pulse was stronger, fuller, 55 per minute. Eats well; has perspired freely to-day, but has had no Coryza. Pupils not contracted to any extent. Complains of feeling depressed at times. Hot milk given at 10 p.m.

Sept. 6. Patient had another injection of the same strength at 3 a.m. He slept well. His bowels have been opened this morning and altogether he says he feels much better: has been perspiring freely. At 9 a.m. had another injection. Pulse 52 per minute. Got up for a couple of hours this afternoon but felt somewhat fatigued. Pulse 48 per minute but is somewhat stronger. Temperature this evening 97. Had his last injection for the day at 9 p.m. At 10 p.m. had hot milk given him.

Sept. 7: Had an injection during the night. Has slept very well and has been perspiring freely. Had his next injection at 9 a.m., $\frac{1}{2}$ gr. tabloid is used now. Pulse 60 per minute. Bowels opened freely. Tongue still flabby. At 1. 30 p.m. pulse had dropped to 50 per

minute. Had his next injection at 3 p.m. Has had two sharp attacks of sneezing, but no marked coryza.

Continues to eat well. Is still depressed at times.

9 p.m. Patient had his last injection, making altogether 1 gr. in 24 hours. Has had his bowels opened again this evening. Pulse 48 per minute.

Sept. 8: Had to-day Morphia $\frac{1}{4}$ gr. every six hours. Average pulse 48 (recumbent position). The patient complains of the intense heat to-day, (Max shade 84° F), this caused rather a restless night. Passes a good quantity of urine, slightly less sugar, albumen the same.

Sept. 9: Slept badly owing to the heat. Got up during the afternoon as well as in the morning. Injections every six hours.

Sept. 11: Continues to go on well, remains up the whole day. Injection every six hours. Has had a certain amount of coryza: has no diarrhoea. Eats and sleeps well.

Sept. 12: Had to-day Morphia, strength $\frac{1}{4}$ gr. every eight hours. Has not felt any inconvenience to speak of. Passed a very good night.

Sept. 14: Says he felt somewhat exhausted owing to constipation. Injection given every eight hours. Pulse 60 per minute.

Sept 16: Had to-day Morphia, strength $\frac{1}{4}$ gr. every 12 hours. Pulse 60 and of fairly good strength. Appetite remains good. Still has some coryza: has also a certain amount of rigidity in the lower limbs, this is chiefly to be noticed when he exerts himself at all.

Sept. 17: Going on well though feels depressed. Suffers somewhat from constipation. Pulse 62. Sleeps well. Injection same as last day.

Sept. 18: Injection still given twice in the 24 hours, viz: at 10. 30 a.m. and 1. 30 p.m. Pulse 60 per minute.

Sept. 19: Pulse 68 per minute. Respirations 24 per minute. Has had some coryza to-day and complains of feeling cold; this probably is due to the change in the weather. His appetite is good. Bowels somewhat constipated, and is troubled with an external haemorrhoid.

Sept. 20: Injections still given twice in 24 hours and of the same strength. Says he has not slept very well. Pulse 74 per minute. Respirations 28 per minute. Urine, sugar disappeared, albumen about the same in quantity.

Sept. 21: Pulse 68 per minute. Respirations 26 per minute. Temperature 98.5. Doing well.

Sept. 22: Patient walked a couple of miles this morning. Pulse 70. Respiration 26 per minute. Continues to eat and sleep well. Has no marked coryza. The rigidity in his lower limbs still remains.

Sept. 23: Has slept very well. Morphia Sulphonal $\frac{1}{4}$ gr. is now only given once in 24 hours at 10. 30 p.m. Has felt very depressed during the day, has had spurious diarrhoea, though his appetite remains good. Has had a good deal of coryza, attacks of sneezing. Pulse not so full, 64 per minute. Respirations 24 per minute. Had half a pint of hot milk this morning and this was repeated again to-night.

Sept. 24: Patient doing well. Pulse 68 per minute. Respirations 26 per minute.

Sept. 26: Continues to improve. Complains of coldness of the extremities; this however may be due to change of the weather. Has had several attacks of sneezing yesterday and to-day. Appetite good: tongue however remains cracked and thick. Pulse 68 per minute. Respirations 24 per minute.

Sept. 28: Going on well. Pulse 72 per minute. Respirations 26. Still has a $\frac{1}{4}$ gr. of Morphia injected once in 24 hours.

Sept. 30: The injections of Morphia were stopped entirely to-day. Says he has not been sleeping quite

so well lately, he however sleeps for an hour or so during the afternoon. Appetite remains good. Bowels regular.

Oct. 1: Patient has passed a fair night. Has been somewhat depressed during the day. Has had a certain amount of spurious diarrhoea, but does not lose his appetite. Pulse 68 per minute. Respirations 28. Was given Sulphonah 30 grs. at 6 p.m.

Oct. 2: Has slept well, feels better, went for a fairly long walk this morning. Still complains of fever, otherwise there is a decided improvement on yesterday's condition. Pulse full and regular 70 per minute. Respirations 28 per minute, Sulphonah was repeated at 8 p.m. this evening as he was becoming somewhat restless. Says he sleeps fairly well, does not show any marked signs of depression, has a slight amount of coryza, the spurious diarrhoea is passing off. Pulse 72 per minute and of good tension. Respiration 28, was taken for a two mile walk this evening to induce sleep.

Oct. 4: Patient has had a good night, and altogether feels better, still has a certain amount of coryza and spurious diarrhoea. Pulse 68 and respiration 28 per minute. Urine no sugar, albumen slightly increased.

Oct. 5: Has not slept quite so well and says his diarrhoea still continues. Appetite remains good. Pulse full and of moderate strength, 72 per minute.

Oct. 6: Progressing well, has slept very fairly, and there has been no occasion to give him Sulphonal again, is somewhat depressed at times, but quickly recovers his spirits. Pulse 72 per minute.

Oct. 8: Improvement continued, his depression is not so marked, and occurs at longer intervals, has had no renewal of his spurious diarrhoea. Appetite good. Pulse 76 per minute and of very fair tension. Still remains somewhat rigid in lower limbs.

Oct. 11: Has been troubled with a cold during the last two or three days, has had a certain amount of laryngitis also, this has somewhat interfered with his rest at nights. Ammonium Chloride tabloids were given him this morning, this has relieved him to a great extent, appetite remains good.

Oct. 12: Patient's cold is better, sleeps well, and appetite remains good. Has no diarrhoea but has occasional fits of sneezing, altogether his improvement is maintained.

Oct. 13: Patient was weighed this morning, weight 9⁵! 8 lbs. an increase of 12 pounds since his admission, has been somewhat depressed to-day, but

beyond this is doing well.

Oct. 14: Doing well, depression has passed off, nothing further to add. Urine just a shade of albumen.

Oct. 16: Has been troubled with neuralgia, resulting from a carious tooth.

Oct. 18: Neuralgia has passed off, is altogether better.

Oct. 22: Nothing to record, except occasional attacks of neuralgia and doing very well. Urine sp. gr. 1020 - no albumen.

Oct. 25: Has had several fits of depression lately, these however quickly pass off, beyond this there is nothing to record.

Nov. 1: Continues to make steady progress, and is putting on flesh, has not been so depressed lately.

Nov. 26: Patient left the Institution this morning, he is much improved in every way. Weight 9 stone 10 pounds.

Remarks: Did well under treatment. He bore reduction of the dose remarkably well, last I heard of him he was keeping free from the habit and in good health. Special feature in this case, I might mention the Cyanosis due to a weak heart, which showed itself more soon after the reduction commenced, there was a diminished tone in the whole of the vascular system.

I would also point out the fact that both sugar and albumen were present during the time Morphia was taken, an interesting feature was that the albumen was increased during the abstinence, but the sugar was diminished.

C A S E 2.

F. P. D. 26 years of age, single, medical student.

Family History: Good.

Previous History: Has had no serious illness, has had sore throats and enlarged tonsils frequently, has treated this with a 20 per. c. sol. of Cocaine.

On attempting to leave off Morphia on a previous occasion he got a relaxed soft palate.

In reference to the first injection, he frequently saw Morphia injected in Paris while at school there, also he saw a fellow student, an Indian, inject it.

Says he had been taking 40 grains daily for the last three months. He smoked as many as 50 cigarettes daily, he inhales the smoke until it reaches the air vesicles, he has also tried adding opium to his tobacco.

During the last $1\frac{1}{2}$ years has taken very little solid food, he has however taken a good deal of condensed milk, and also eggs beaten up with milk.

Present illness: Commenced injecting Morphia about two years ago, he cannot assign any reason for doing so, except that he had access to the drug in his father's surgery.

He had passed his examination for midwifery at the London College of Surgeons previous to taking Morphia,

but, since then he has lost all energy for work and has not presented himself for the other subjects. He commenced by taking $\frac{1}{4}$ grain of Morphia, he rapidly increased the dose until he reached 40 grains per diem. During this time he never even attempted to stop himself. On Monday Oct. 17. on being told that he was to be sent to this Institution he began to decrease the dose, he commenced by only taking 12 grains that day and on admission he says he only had taken 4 grains in the last 24 hours. He says he has never lost his memory in any way, his weight however has fallen from 12 stone 2lbs. to 9 stone 7lbs.

On admission: A fairly tall man of sallow complexion and very thin, his pupils are more or less contracted but not to any marked extent. Pulse 80 per minute, full and strong, though there is a decided tendency to intermission after every 7 beats.

Lungs: Resonant all over and no adventitious sounds could be detected anywhere. Respirations 28 per minute.

Heart: Position normal, but both sounds are very ringing. Liver and spleen not felt. Tongue thick and flabby and cracked.

Urine: Sp. gr. 1018. No albumen, no sugar.

Oct. 22: $\frac{1}{4}$ gr. Morphia was injected at 10. 30 p.m.

Oct. 23: He slept well, but will remain in bed to day. 10. p.m. light diet has been given at intervals consisting of eggs beaten up in milk, and bovril. So far he has not shown signs of depression or any coryza. Bowels have been opened twice, no spurious diarrhoea. $\frac{1}{4}$ gr. of Morphia injected again to-night at 10 p.m., this has been the only injection he has had since last evening. His pulse has remained fairly constant all day, 60 per minute.

Oct. 24: Patient has had a very restless night, has perspired very freely indeed. At 3. a.m. complained of feeling very ill. Pulse 52 per minute and markedly intermittent. Spirits Ammon. Co. 30 mms was given and this was followed by another injection of $\frac{1}{4}$ gr.

Morphia Hyd. Had another attack of shivering at 7.a.m., when another $\frac{1}{4}$ gr. Morphia was injected. Has had hot milk at intervals, also eggs beaten up with milk. At 12 p.m. his pulse was 66 per minute and of better strength. Another injection of $\frac{1}{4}$ gr. of Morphia was again given; this was repeated at 5 p.m. and also at 10 p.m. Complains of depression a great deal. Tongue very dirty and thickly coated. Bowels have not been opened. Respirations 28 per minute. Sulphonal 30 grs. given at 5 p.m. Temperature 98.4.

Oct. 25. Patient has passed a much better night; has not perspired so freely as yesterday and altogether says he feels better. He has been kept on hot slop diet all day at intervals of three hours. Has had $\frac{1}{4}$ gr. of Morphia injected every four hours. His pulse has remained constant at 62 per minute and is of very fair tension. Tongue still remains dirty and coated. Bowels have been opened once to-day but he says they were inclined to be constipated. Respirations 26 per minute. Sulphonal 30 grs. given this evening at 5. 30 p.m.

Oct. 26: He has slept well during the night and is feeling much better this morning. His pulse has dropped at 8 p.m. to 52 per minute, and at 12 p.m. was 48. Has had no shivering attacks to-day although there has been a good deal of restlessness, and he complains of feeling much irritated at trifles. Has had no abdominal pains at all, and there is very little coryza. His bowels have been opened once to-day and the motions were somewhat of a loose character. His tongue is slightly cleaner than yesterday, but is still coated with a thick fur. His temperature at 9 p.m. was 98. Respirations 28 and Pulse 50 per minute. His injections of $\frac{1}{4}$ gr. Morphia have been continued every four hours throughout the day. Sulphonal 30 grs. at 6 p.m.

Oct. 27: Has passed a good night. Pulse on waking was 50 per minute, and this has remained fairly constant during the day, when taken after hot milk had been given it was found to have risen to 50 per minute. There is no sign of intermission and is full and of a fair amount of tension. Has had slight coryza at intervals but no shivering fits at all. His bowels have been opened once and there is no tendency to diarrhoea. Tongue is still coated but cleaning towards the edges. Was allowed up for an hour this afternoon and did not feel at all depressed. His respirations were 26 per minute. His injections were continued every five hours. No Sulphonal was given to-night. Has been somewhat restless at intervals but altogether has been doing well to-day.

Oct. 28: Patient has not slept so well and was somewhat depressed in consequence. Pulse on waking 48 per minute but this increased after the injection to 54 per minute. Complained of feeling cold but this soon passed off. He had slight coryza. Bowels have been opened once during the morning; complains however of a dull pain in his right iliac region, says his faeces were somewhat scyballous. His hot diet has been continued but in addition a little fish was given him for dinner to-day. Injections of the same quantity given

at 6 p.m. He remained up for about two hours this afternoon. Temperature at 9. 30 p.m. was 98.°

Oct. 29: Patient has not slept so well and is somewhat depressed he says. Pulse on waking was 48 per minute. Respirations 28 per minute. A dose of Castor oil was given at 6 a.m., and this operated in the course of the morning; the pain in his right iliac region has disappeared, and he has no diarrhoea.

Nourishment is still continued every three hours and meat was given for the first time to-day. His injections of $\frac{1}{4}$ gr. Morphia are now given every six hours. This evening he has been somewhat depressed: this however was attributed to the fact that he over tired himself by sitting up too long. This after-noon the pulse was not so strong or full. No Sulphonal was given to-night.

Oct. 30: Patient was very restless last evening and at 11 p.m., he was given a draught of Ammon. Bromide gr. 30. This quieted him considerably and his hysterical condition passed off. He says however this morning that he has not slept at all well. Pulse on waking was 48 per minute. Had his first injection of $\frac{1}{4}$ gr. Morphia at 7. 30 a.m and the next at 4 p.m.: this was repeated at 10 p.m. and again at 4 p.m., making one gr. in 24 hours. Towards the close of his six hours he

complained of feeling very irritable and says he has tingling pains running up his neck. Got up in the fore-noon to-day, and remained up until 7 p.m. His pulse at 5 p.m. was 56 per minute and of very fair tension. Bowels have been opened once, but there is no tendency to diarrhoea and he has had no abdominal pains. Tongue cleaning by degrees. Sulphonal 30 grs. given at 6 p.m.

Oct. 31: Says he has not slept very well: he however is looking better this morning. Pulse 52 per minute and of good strength. His injections were repeated every six hours, and it was noticed to-day, that he did not seem quite so restless before the time for injection came round. Has had several attacks of shivering during the day but they were not so strong, nor did they last so long as they have on previous occasions. Bowels have been opened once: he has no abdominal pains at all. Tongue much cleaner. Remained up to tea this evening.

Nov. 1: Has slept very well, and in consequence was feeling much better this morning. Pulse on waking 58 per minute, Gets up about 10 o'clock and remains up until 8 p.m. His injections are still continued four times in the 24 hours. He says the fits of tingling previous to his injections have not been so bad to-day.

He had only one shivering attack and this was not at all bad. Bowels have been opened once. Appetite very good and says he has not eaten much food for the last two years. Tongue much cleaner.

Nov. 2: Says he has not slept so well; he however is looking better this morning. His pulse was 60 per minute at 1 p.m. and of good tension. His injections are now given every eight hours, making $\frac{3}{4}$ grs. Morphia Hyd. in the 24 hours. Has not complained to-day of the tingling pains, though he feels cold a good deal, especially about the time his injections become due. Bowels opened twice to-day but no diarrhoea. Appetite good, and his tongue is gradually cleaning. Sulphonal gr. xx was given at 6 p.m.

Nov. 3. Had a very good nights rest. Pulse on waking was 56 per minute. Injections still continued every eight hours. Complained of tingling pains and cold on the back of the head, previous to his injection at 6 p.m., this however had passed off before the injection was given. Bowels regular and appetite good.

Nov. 4. Patient has slept fairly well. Pulse on waking was 56 per minute but somewhat weak and compressible, it however recovered its tone after breakfast. Complained of having a shivering attack before his 10 o'clock injection. This was succeeded by a

warm perspiration. Injections still continued every eight hours: was allowed one for the first time to-day. Appetite continues good, his tongue however is not quite so clean. Bowels regular.

Nov. 5: Has slept very well. Pulse on waking 60 per minute, very fairly strong. His injections are still continued every eight hours, Has had slight coryza to-day, but no shivering attacks. Says he feels better and stronger in himself than he has done for some time past, Appetite good and bowels regular.

Nov. 6: Says he has slept very well. Pulse 60 per minute. Was allowed up to breakfast for the first time. Injections are now given every 12 hours, these at 10 a.m. and 10 p.m. Tongue still somewhat dirty, he says however he has never really had a clean tongue for the last two years. Had a slight coryza before his 10 a.m. injection.

Nov. 7: Has slept fairly well. Pulse on waking 58 per minute. His injections are still continued every 12 hours and are of the same strength, viz: $\frac{1}{4}$ gr. of Morphia Hyd. Had another attack of coryza before his 10 a.m. injection, this was however relieved by giving the injection. His appetite remains very good and he is losing the pallor he had on admission, his face is also much fuller than it was. His bowels are

quite regular. Has no trouble at all with micturition.

Nov. 8: Has not slept quite so well. Pulse on waking 58 per minute. Complains of feeling cold a great deal, has had several slight shivering attacks but not to cause him any actual discomfort. Has still slight coryza at times. Appetite continues to be very good. Bowels regular. His injections are still continued at the same time and at the same strength.

Nov. 9. Had slept fairly well. Pulse 54 per minute full and strong. His injections are still continued twice in the 24 hours and are of the same strength. He still has slight shiverings and a little coryza at times but not to cause him much discomfort. His bowels are regular and his tongue is gradually becoming cleaner.

Nov. 10: Has slept well. Pulse 66 per minute. His 10 o'clock injection was discontinued this morning, he has now only $\frac{1}{4}$ gr. of Morphia in the 24 hours. One gr. of Quinine was given at 11 p.m. He has had several small attacks of sneezing, but has not experienced much discomfort from dropping his morning injection. His bowels are regular and his appetite good. At 5 p.m. he had a shivering attack. This was followed by a warm perspiration, which in time was succeeded by a feeling of coldness: the attack then passed off, altogether

the attack lasted about half an hour. I left him with a bad headache, which however was relieved by bathing his forehead in cold water. He also complained of feeling of fulness in the head, he finds this is much relieved by a little exercise. His appetite does not suffer at all by the attacks.

Nov. 11: Has slept fairly well. Pulse 60 per minute and not quite so strong as yesterday. Had a slight shivering attack at 8 a.m., during the attack his pulse is thin and somewhat thready, when however perspiration begins it becomes much fuller. He still has one injection during the 24 hours, also 1 gr. of Quinine every four hours. He becomes somewhat depressed at times but soon regains his spirits. About half five this afternoon he had a shivering attack similar to the one he had yesterday, the symptoms however were much modified and the attack itself did not last so long. Has been also restless the greater part of this evening and cannot settle down to anything for very long.

Nov. 12: Has had a good nights rest. Pulse on waking was 60 per minute. Has a little coryza this morning, but is altogether brighter and more cheerful to-day. He still has his injection of $\frac{1}{4}$ gr. Morphia at 10 p.m., the 1 gr. of Quinine is given at 11 a.m. He has had no shivering fit of consequence this



evening. Though somewhat depressed at times he felt quite equal to joining in the amusements. Bowels open and appetite good.

Nov. 13: Has slept fairly well. Pulse this morning is 68 per minute. He says he is feeling much brighter. This morning was able to take a mile walk and did not feel at all exhausted. He had no shivering attacks this morning. His Morphia injection and his Quinine tabloid is given as before. Has had no shivering fits at all this morning.

Nov. 14: Has slept well. Pulse 68 per minute. His tongue is slightly cleaner this morning, but still remains dirty. Was able to take a fairly long walk to-day and did not feel exhausted. He still has slight coryza at times and complains of tingling down his back, this however is not enough to cause him much inconvenience. Has had no shivering fits at all to-day. His injection is still given at 10 p.m. Bowels regular.

Nov. 15: Patient continues to improve. Has slept well again. Pulse 74 per minutes, regular and of fair strength. He continues to be restless at times, and says he feels he must be moving. He complains of the tingling in his legs and back which however soon passes off. He has a very good appetite and is plainly putting on flesh since his admission. Has had no shivering fits

this morning. Was able to take a good walk not feeling exhausted. His injection is still given at night.

Bowels regular.

Nov. 16: Has had another good nights rest. Pulse full, 72 per minute. He has had no shivering attacks at all to-day. Has had very little coryza. His night injection is stopped for the first time to-day, his Quinine tabloid is still continued. Has able to go a longer walk to-day without feeling fatigued. His tongue remains dirty. He however is an inveterate cigarette smoker, and though he has promised to discontinue this he still smokes a good deal. His appetite still remains very good.

Nov. 17: Says he has had a very bad nights rest, and could not sleep at all. Pulse 78 per minute and of poor strength. He is very restless and says he feels he must walk though very tired. He has slight coryza. His appetite remains good though his tongue is dirtier than it was yesterday. A mixture of Bromide of Potassium and Spirits Ammon. Co. were given this morning which quite relieved the restlessness. He says he felt much better himself but inclined to be depressed. He has had no shivering fits at all. The draught was repeated at 10 p.m.

Nov. 18: Patient has had a very good night, sleeping from 11 p.m. to 6. 30 a.m. Pulse much stronger this morning, 74 per minute. He says he feels much better in himself. Has had no shivering fits to-day, though at 1 pm. he began to be somewhat restless. This however quickly passed off. Has had a little coryza and complains of the cold a good deal. Was able to go for a walk this morning and did not feel any inconvenience from it. His appetite remains very good. Bowels regular.

Nov. 20: Has again had a good nights rest, though at 10 p.m. last evening he felt irritable and said he did not think he would be able to sleep. No draught however was given. Feels very well this morning and his pulse is stronger, 74 per minute. Has had very slight coryza, and has not complained of any restless feeling in his legs. The tongue is much cleaner and his appetite is vaey good. He has had no dyspeptic troubles at all.

Nov. 21: Patient is going on very well. Had six hours sound sleep last night. Pulse this morning 80 per minute, and very fairly strong. Has not felt at all depressed to-day. Has had no shivering fits, the restlessness also has been very slight. The tongue is cleaner. He continues to smoke a good deal. Bowels quite regular.

Nov. 22: He had seven hours sleep, and so feels much better this morning. Pulse strong 80 per minute. He has not been troubled with restlessness in the legs, and his fits of depression quickly pass off. His appetite keeps very good. Bowels regular.

Nov. 23: Has not slept quite so well, owing to the gale, which disturbed him. Pulse not so strong as yesterday, 80 per minute. He noticed the cold a good deal. Has a light amount of coryza, he has however had no more shivering attacks. The tongue is much cleaner, and he continues to eat very well. Bowels quite regular.

Nov. 24: Is going on very well, has had a good night. Pulse full and strong, no shivering felt, has caught cold which may account for coryza. No return of restlessness. Appetite very good, rapidly increasing in flesh.

Nov. 26: Continues to improve, cold better, slight coryza, sleeps well, does not complain of restlessness except when he first wakes in the morning, says he is quite unable to lie still. Appetite keeps good. Has gained since admission 1st. $8\frac{1}{2}$ lbs. weight is now 10 st. $10\frac{1}{2}$ lbs.

Nov. 29: Patient is steadily improving. Sleeps very well, restlessness better, he still continues to

take daily 1 gr. of Quinine. No shivering for some time past. Tongue much cleaner. Bowels regular. Appetite very good.

Dec. 3: Progress still steadily maintained, restlessness has almost entirely passed off, does not complain of shivering or coryza. Rapidly putting on flesh. During the last few days has been able to concentrate his attention on reading, this he has been unable to do for the last two years. Appetite very good.

Dec. 11: Patient continues to improve, his weight is increasing rapidly, weight now 11st. 7 lbs: it is calculated that he puts on 3 lbs: every two days.

Dec. 20: Continues to improve, his weight to-day was 11 st: 9 lbs: is much better in every way.

Dec. 27: Patients improvement well maintained. Urine analysis sp. grs. 1018 no albumen no Morphia detected.

Jan. 8: Continues to improve.

Jan. 11: Improvement maintained. Weight 12 st: 3 lbs:

Jan. 12: Patient left this morning to resume his hospital work. He is much improved in every respect.

Remarks. I consider this case is a good illustration of the neurotic element. Which I have previously stated is so often present in the Morphia habitué, here is a very young man apparently without being able to

give any real cause, injecting up to 40 grains of M
Morphia per diem. And is a great smoker as well, in
fact smokes opium in his tobacco.

I found it necessary to treat the reduction in a
very gradual manner; as it was, he was very hysterical
and delirium tremens threatened. In this case there was
neither albumen nor sugar in the Urine.

The absence of diarrhoea in the case was exceptional
The "Coryza" was most marked, and lasted for a long
period.

I am sorry to say that soon after leaving the
Institution the patient had a relapse.

C A S E 3.

Mr. C. A. B. 31 years old, married. Accountant.

Family history: On his fathers side there is a history of drink, his grandfather also his great grandfather were very heavy drinkers. As regrads his father he says he drinks a good deal of wine.

Previous history: Has been troubled with bronchitis for a number of years. His health was generally poor.

Present illness: He was sent abroad to recruit his health, on his return he went into business in an Accountant's office. Subsequently he went into a branch of the Civil service, where he remained for about two years, he was compelled to resign this post as his memory was failing him, he had several attacks of neuralgia, and from what I can make out they were chiefly "Supra Orbital." Hypodermic injections of Morphia were administered, which rid him of the pain, and he says the effects of the Morphia were so agreeable and comforting to him, that he continued its use, readily obtaining the Morphia from a friend who was a chemist. Daily quantity used 16 grains.

State on admission: Patient is a man about 5 ft. 10½ in in height. And of fair development, his face is flushed, his eyelids are continually twitching, the

pupils which are slightly unequal, are somewhat inactive to light, conjunctivae are slightly suffused. The tongue is thin and red at the tip, furred at the back, and is very tremulous, the hands are thin and also very tremulous. The pulse is wanting in tone, beat 60 per minute, and points to heart failure. He was ordered to bed.

Lungs: The note on the left apex is duller than the right, otherwise the note is normal on auscultation, rough mucous rales can be heard all over the chest. On palpation the chest moves equally on both sides.

Heart: Position normal, at the apex the first sound is rough and at times simulates a murmur, no murmur could be detected at the base.

Liver: Dulness commences above the lower border of the fifth rib, and extends about half an inch below the level of the ribs, on deep inspiration the edge can be felt.

Spleen: Not felt.

Urine: Acid, sp. gr. 1020, a trace of albumen.

July 26: Two injections of Morphia equal to two grs. each were given at night.

July 27: Patient passed a fair night. At 9 a.m. 2 grs. of Morphia were injected; At 12 a.m. 1½ grs.

were injected. Complains of headache, and abdominal pains, also uncomfortable feelings in the chest.

$1\frac{1}{2}$ grs. of Morphia injected at 8 p.m.

July 28: Slept on until 12. 30 p.m. Had epigastric pains, trembling of limbs, and restlessness. At 7 a.m. and 12 a.m. $1\frac{1}{2}$ grs. of Morphia were injected. The appetite is poor; pulse feeble, irregular, beat 50. Bowels constipated, abdominal pains. Is kept on a milk diet. $1\frac{1}{2}$ grs. of Morphia injected at 8 p.m. Sulphonal 30 grs. given at 10. 30 p.m.

July 29: Patient has not slept well. Good deal of abdominal pains, sneezing and shivering. Temperature 99°. At 7 a.m. 1 gr. of Morphia was injected. He complains of pain at the back of the head, and supra-orbital neuralgic pains in the back and legs. Pulse beat 50 per minute. Bowels irregular. Appetite moderate. At 12 a.m. 1 gr. of Morphia was injected, also at 8 p.m.

July 30: No sleep after 12 o'clock. Good deal of sneezing. Craves for Alcohol and Morphia. At 7 a.m. 1 gr. of Morphia. Feels restless and depressed, talks nonsense and is very troublesome. At 12 a.m. 1gr. of Morphia injected. Pulse varies from 55 to 68 per minute. Temperature 100. Two relaxed motions. At 8 p.m. 1 gr. Morphia injected; Chloral 40 grs. given at

10. 30 p.m., also a hot bath.

July 31: Only one hour and a half sleep in the night. Restless craving for Morphia. Complains of abdominal pains and supra-orbital neuralgia. Bowels moved twice in the night, very loose. At 7 a.m. 1gr. of Morphia was injected. Slept for an hour in the morning after a warm bath having been given. He is very nervous and starts at the slightest sound. At 12 a.m. 1gr. of Morphia injected. Still complains of abdominal pains and of feeling sick, sneezing and coryza, is very restless and rambles in his talk. At 7 p.m. gave another injection of Morphia 1 gr. Chloral and Potassium Bromide at 10. 30 p.m.

August 1: Sleep very much interrupted. Diarrhoea, and still complains of pains in stomach and legs. His mind is clearer but is very restless. At 7 a.m. $\frac{1}{2}$ gr. of Morphia injected. Pulse varies from 58 to 62 per minute. Appetite is very poor and he is restricted to milk diet. At 12 a.m. $\frac{1}{2}$ gr of Morphia was injected. Sneezes and yawns a good deal; is very depressed and weak. Pulse about the same. Bowels only moved once. Half gr. of Morphia injected at 7 p.m. Potassium Bromide gr.xx Chloral Hydrate gr. xxx given at 10 p.m.

August 2: Patient slept rather better but was rather excited in the early hours of the morning,

which gradually passed off. Craves for Morphia. Bowels opened once. Pulse slightly improved. Temperature 99°. Pulse 58 to 72 but very weak. At 7 a.m. $\frac{1}{2}$ gr. of Morphia injected. Was ordered beef tea. Appetite improved a little. At 12 a.m. $\frac{1}{2}$ gr. of Morphia injected.. Patient is very depressed and restless. Passes water with difficulty requiring great effort, still a small quantity of albumen present. At 7 p.m. $\frac{1}{2}$ gr. of Morphia injected. Sulphonal 30 grs. given at 10. 30, also hot bath.

August 3. Had a better night. Quite calm as regards his mental faculties. Complains of very little pain anywhere. Sneezing and yawning continue. At 7 a.m. $\frac{1}{4}$ gr. of Morphia injected. Not restless at all during the day. At 12 a.m. $\frac{1}{4}$ gr. of Morphia was injected. Patient feels very weak and yawns a good deal, but was able to sit up for four hours. He dozed at intervals. Pulse 68, full and stronger. Bowels relaxed twice. At 7 p.m. $\frac{1}{4}$ gr. of Morphia. At 10. 30 p.m. similar draught as last was given.

August 4: Patient has had a fairly good night. No pains of any consequence; no excitement. $\frac{1}{4}$ gr. of Morphia was injected at 7 a.m. Appetite better, feels a little stronger in himself though very weak. Temperature is normal. Had a tepid bath which refreshed him

very much. At 12 a.m. $\frac{1}{4}$ gr. of Morphia injected. Had fish for his lunch. Complains of pains in the back and rigidity of the muscles of the calf. Bowels still loose. At 7 p.m. $\frac{1}{4}$ gr. of Morphia injected.

August 5: Patient slept quite as well as on the previous night. A good deal of sneezing, some coryza. At 7 a.m. $\frac{1}{4}$ gr. of Morphia was injected, also at 12 a.m. Patient has had a fairly comfortable day, enjoyed reading a book, says he feels stronger. Has a craving for a stimulant owing to the depression which continues. Bowels relaxed twice. At 7 p.m. $\frac{1}{4}$ gr. of Morphia was injected: 11 p.m. he complained of severe headache. Potassium Bromide gr. xx Spirits Ammon. Co. m. xxx were given which relieved him.

August 6: Not much sleep during the night, was restless, complained of very little pain but felt faint. At 7 a.m. $\frac{1}{4}$ gr. of Morphia was injected. Had a warm bath after which he slept for a couple of hours. He feels better. $\frac{1}{4}$ gr. of Morphia injected at 12 a.m. A little excited in the afternoon, wanted to be on the move all the time. Pulse 70, stronger. Appetite fairly good. Had a walk in the garden which rather fatigued him. $\frac{1}{4}$ gr. of Morphia injected at 7 p.m. A

August 7: Did not sleep much, although he felt tired, he had no draught. Complained of feeling sick.

Bowels moved once, relaxed. At 7 a.m. $\frac{1}{8}$ gr. of Morphia was injected. Pain in both calves, feels faint. 3ss Spt. Ammon. Co. was given with 5 min. of Tinct. Digitalis at 12 a.m., $\frac{1}{8}$ gr. of Morphia was injected also at 7 p.m. Improvement is quite satisfactory. Depression continues. Coryza and nausea, sneezing.

August 10: Patient sleeps very well. Has had three injections of Morphia daily, dose $\frac{1}{8}$ of a gr. which will be continued for a little longer. Patient still feels weak. Good deal of depression; enjoys walking but is soon tired. Bowels moved two or three times in 24 hours

v August 12: Patient did not sleep well last night. Was inclined to be excited a little. 30 grs. of Sulphonal were given at 1 a.m. He slept off and on for four hours. $\frac{1}{8}$ gr. of Morphia has been injected thrice in the 24 hours up to to-night when I shall discontinue it altogether. At 10. 30 p.m. a warm bath and Chloral 30 grs. Potassium Bromide gr. xx were given.

August 13: Patient slept for five hours and feels much better. Craves for his Morphia. Appetite keeps fairly good and is taking ordinary diet. Potassium Bromide gr. 15 Spt. Ammon. Co. mins. 15 and Tinct. Digitalis m V., will be given about every four hours, since the injections are stopped and the pulse is weak. Bowels opened four times to-day, loose still, rather

more abdominal pain.

August 16: Patient continues to make satisfactory progress, enjoys his exercise, has increased in weight a little, does not crave for Morphia but says he would like a glass of wine. Appetite is much improved, only the diarrhoea is troublesome and he still sneezes a good deal, also yawns. Pulse fairly good. Is still taking Digitalis with Strychnine in addition.

August 20: Patient was examined this morning. The edge of the liver can still be felt on palpitation. The first sound at the apex is prolonged but no murmur is detected.

August 27: The patient has been much better the last week and has had very little depression. He sleeps well, appetite good, he is still very shaky at times. He now weighs 11 st. 1 lb.

Sept. 5: Patient has been improving sreadily, is feeling better in himself, feeling of depression gone. Bowels are more regular.

Sept. 12: No change to note.

Sept. 19: Patient weighed this morning 11 st. 4 lbs. So far has no craving either for Morphia or Alcohol.

Sept. 26: Still improving. Urine, sp. gr. 1018, no albumen. Left for Wales this morning.

Remarks: It will seem that the family history, & the patients own history are unsatisfactory and one is not surprised at the "Morphia habit" being so suddenly developed. During treatment the important feature was the attack of delirium, although not serious it was typical of delirium tremens.

C A S E 4.

Mr. A. K. 32 years old. Chemist. Married.

Family history: Father and mother living and well, his relatives have been in the habit of taking a fair amount of Alcohol.

Previous history: About seven years ago he was in a railway accident, was injured in the head and both legs, had pneumonia about three years ago: he was blind in the left eye two years ago from accident, also suffered badly from acute rheumatism. In consequence of all this he has been in a poor state of health.

Present illness: He was afflicted with acute rheumatism, which compelled him to use Morphia injections. After the complaint had left he discontinued the use of the drug but resorted to it again on account of worry, injecting up to the time of admission, on the average 8 grs. per day, sometimes more: was a moderate drinker, chiefly spirits.

On admission: Patient is short, fairly stout, weight $10\frac{1}{2}$ st., height 5ft. $8\frac{1}{2}$ inches.

On examination: Chest moves equally well on both sides, auscultation reveals few rales back and front, vocal fremitus and resonance normal: Percussion, note was good all over: Heart, the sounds were somewhat

faint, and the first sound at the apex was slightly prolonged: Sounds at the base, normal.

Liver: The upper border commences at the fifth rib, the lower border could not be felt.

Reflexes: Those of the left leg much increased: eyes reflexes, normal, left pupil larger than right.

Urine: Acid, sp. gr. 1025, distinct trace of albumen, no sugar.

June 19: He was ordered to bed at 7 p.m. after having had a hot bath. 2 grs. of Morphia were injected at 8. 30 p.m. and again at 3 a.m.

June 20: Slept fairly well up to 12 o'clock, and then became restless, moaned and yawned, but was quieter and more comfortable after the second injection. At 8 a.m. another injection of $1\frac{1}{2}$ grs. of Morphia was given. Complains of abdominal pain, restless in the legs. rather prostrated. At 12 a.m. injection of Morphia was given. The appetite is poor, is having milk chiefly. Pulse irregular, fairly strong. No action of the bowels. At 7 p.m. the Morphia injection was repeated.

June 21: Slept for two hours, then was restlessness, sneezing and coryza. Vomited once during the night. At 7 a.m. 1gr:of Morphia was injected. In the day-time he had hyperaesthesia of the skin, sensibility

of the eyes and ears strong to light and noise, giddiness, tendency to vomit. At 12 a.m. 1 gr. of Morphia was injected which was repeated at 7 p.m. Bowels moved once, pain and straining on passing urine. Sulphonal gr. xxx given at 10. 30 pm.

June 22: Patient slept for four hours, remaining quiet in bed. Pupils equally wide. At 7. a.m. 1 gr. of Morphia was injected and repeated again at 12 a.m. Throughout the day has felt depressed. Complains of neuralgic pains in both legs. Appetite still moderate, taking milk and beef tea. 1 gr. of Morphia injected at 7 p.m., draught repeated at 10. 30 p.m.

June 23: Patient has had another fair night, sneezing, coryza, slight abdominal pain. At 7 a.m. $\frac{1}{2}$ gr of Morphia was injected, repeated at 12 a.m. Has felt a little better to-day. Bowels moved once, no diarrhoea a slight shivering. Pulse 70, stronger. At 7 p.m. $\frac{1}{2}$ gr. of Morphia injected.

June 24: Patient did not sleep so well, not having had a draught, but says he feels fairly comfortable, but perspired rather freely. Temperature 98°, pulse 70. Respirations 24 per minute. At 7 a.m. $\frac{1}{4}$ gr. of Morphia was injected. Bowels acted once during the morning naturally. At 12 a.m. $\frac{1}{4}$ gr. of Morphia injected Appetite improving, had fish for lunch, sat up during

the afternoon, felt fatigued afterwards, complained of pains in the back and legs. At 7 p.m. was given a warm bath. $\frac{1}{2}$ gr. of Morphia injected at 8 p.m., after which he was very comfortable.

June 25: Patient slept about the same. Complains of burnings in the feet, repeated at 12 a.m., after which he left his bed and remained up until 7 p.m., when the injection was repeated. During the day has had slight shiverings. Temperature normal. He is still weak, abdominal pains, no diarrhoea, bowels moved twice. Appetite improving. Pulse 70 per minute. Passes urine freely, no albumen.

June 26: Four hours sleep. Tendency to vomit which passed off. At 7 a.m. $\frac{1}{2}$ gr. of Morphia was injected. Rose after breakfast, says he feels better and a little stronger. Bowels moved twice during the day. Has felt giddy and sneezed a little more. Still has pains in back and legs. $\frac{1}{2}$ gr. of Morphia injected at 7 p.m. Had a warm bath and went to bed at 9 p.m.

June 27: Has not slept so well on account of pains in the legs and hypochondriac regions. $\frac{1}{2}$ gr. of Morphia was injected at 7 a.m. Bears the reduction of the drug well. Is having a mutton chop for lunch, says his appetite is much improved. Bowels regular. $\frac{1}{2}$ gr. of Morphia injected at 7 p.m.

June 28: Says he slept rather better. The bowels moved once during the night. Slight abdominal pains. $\frac{1}{8}$ gr. of Morphia injected at 7 a.m. Made a good breakfast. Is going for a stroll in the grounds. At 7 p.m. $\frac{1}{8}$ gr. of Morphia again injected. Passed a good day.

June 29: Nothing particular to note. Says he was comfortable during the night. Sneezed rather more. $\frac{1}{8}$ gr. of Morphia injected 7 a.m. During the day has yawned a good deal. Felt depressed rather more than usual. Was out in the grounds. Appetite is still good. $\frac{1}{8}$ gr. of Morphia injected at 7 p.m.

June 30: Patient had a very good night. Coryza still present, yawns very much at times especially towards the evening when the injection is about due. At 7 a.m. $\frac{1}{8}$ gr. of Morphia is injected. Has not been so depressed to day. Bowels regular. Pulse improving. Enjoys his food, also reading a book. At 7 p.m. the injection of Morphia was repeated.

July 1: Patient slept well, was disturbed by the attacks of sneezing. Complains of pain in the left foot and tingling in the arms. Morning injection of Morphia discontinued. After breakfast he complained of feeling faint and giddy. He was given Spt. Ammon. Co. mms 30 Tr. Digitalis mms V. Appetite is still good. Bowels moved twice, rather loose. At 7 p.m. $\frac{1}{8}$ gr. of Morphia injected. Pulse 68, does not seem to improve much in tone, at present.

July 2: Patient did not sleep so well, was restless, complains of burnings in the feet and headache. During the day he has felt better. Enjoyed his walk. Bowels slightly relaxed. Pulse stronger. There is rigidity of muscles of calves and slight giddiness.

July 4: Patient is not sleeping well. Diarrhoea, bowels moved four times; depressed but the pulse keeps quite as strong. Does not crave for Morphia, has had two doses of Tinct. Digitalis and Spirits Ammon. Co.

July 9: Marked improvement, except the diarrhoea is troublesome. Depression not so bad, says he feels inclined to be sick occasionally and is rather restless. He takes his food well; is having Tinct. Digitalis mm. V. Ammon. Co. m. xx Tinct. Nucis. Vom. m. 5. thrice daily. Urine, contains a slight amount of albumen.

July 14: Diarrhoea much better. Is doing well and has gained flesh.

July 19: Progressing satisfactorily. Albumen has disappeared. Nothing particular to note.

July 30: Satisfactory improvement in every way. Urine examined, no albumen.

August 4: Left to-day and is going to stay with friends at the seaside.

Remarks: This case did well under treatment. Chief feature was the change in the pupils, also the appearance in the urine during abstinence, during which time also the diarrhoea was very troublesome. His previous accidents and illnesses left him in a poor state of health. He was very dyspeptic and this was no doubt the great cause of the craving for Morphia being developed, which drug he could easily obtain as he was in contact with it daily.

C A S E 5.

Mr. J.B. Age 40. Merchant. Single.

Family history: Parents both dead, father died of brain disease, brother killed himself with drink.

Previous history: Was quite well and temperate up to his business failure; this came upon him unexpectedly and caused him great mental anguish, followed by impulsive craving for stimulants. He drank whisky chiefly. He could give no reason for drinking and said it was impossible to abstain. He suffered from a painful form of dyspepsia, which he says was terrible to endure. His medical attendant gave him hypodermic injections of Morphia twice daily, which greatly relieved the pain and at the same time had a strong stimulating action on his vital powers, that he continued its use on his own account, and says he drank very little liquor at this time. Injected about 16 grs. daily. He suffered from dyspepsia a good deal previous to his business failure.

On admission: The patient is tall and thin. Height, 5 ft. 11½ in. Weight, 10 st. 7 lbs. Pale with sunken cheeks. Eyes, pupils of equal size and do not react well. Bowels will not move without strong aperients, has gone as long as eight days.

Examination reveals no complaint of the internal organs, strains a good deal in passing water, there is no stricture. Complains of giddiness and headache feels worse in the mornings, sexual power greatly diminished.

Dec. 6: At 9. 30 p.m. has a hot bath, and hot milk to drink, At 10 p.m. $2\frac{1}{2}$ grs. of Morphia were injected.

Dec. 7: Patient slept for $2\frac{1}{2}$ hours. Was restless afterwards and craved for Morphia. Complained a good deal of abdominal pain. At 7. p.m. $1\frac{1}{2}$ grs. of Morphia were injected, which was repeated at 12 o'clock. During the day he was not so restless. Appetite nil. He is put on hot milk. Urine: sp. gr. 1020, no albumen no sugar. At 7 p.m. $1\frac{1}{2}$ grs. of Morphia again injected At 10 p.m. Chloral 30 gr. was given.

Dec 8: Patient has slept well during the night. He is much quieter but complains of shivering and discomfort in the bowels; an enema of soap & water ordered with turpentine, which brought away a large hard motion, it has given him great relief. At 7 a. m. 1 gr. of Morphia was injected. Has been depressed during the morning but has not craved for Morphia. Appetite still poor. Bowels moved again twice on their own account. At 12 a.m. 1 gr. of Morphia was injected. Pain and straining on passing water still continues, nausea and sneezing. Pulse 60, irregular. Sulphonal 30 gr. given at 10. 30, also hot bath.

Dec. 9: He did not sleep so well as on the previous night, was restless on account of abdominal pain, also burning sensation in legs and feet. At 7 a.m. $\frac{3}{4}$ gr. of Morphia injected, and again at 12 a.m.

Has had a more comfortable day. Bowels moved twice, rather loose. Passes his urine more freely. Taking beef-tea and milk well. Depressed at times, sneezing, coryza, and yawning. Injected $\frac{3}{4}$ gr. of Morphia at 7 p.m.

Dec. 10: Did not sleep so well. Complains of neuralgic pains in head and face, and of feeling sick but has not vomited. One relaxed motion in the night. At 7 a.m. $\frac{1}{2}$ gr. of Morphia injected, repeated at 12 a.m. Patient depressed during the day, abdominal pain, shiverings, sneezing, and yawning, one relaxed motion. Diet the same. Pulse 65, fairly strong. $\frac{1}{2}$ gr. of Morphia injected at 7 p.m. 30 grs. of Chloral, 15 grs. of Pot. Bromide at 10 p.m.

Dec. 11: Slept for three hours, perspiring freely. Temperature 98. Sneezing and coryza. $\frac{1}{2}$ gr. of Morphia injected at 7 a.m. During the day he has complained of feeling depressed and giddy, moves his legs about continually, tingling pains in the back. $\frac{1}{2}$ gr. of Morphia injected at 12 a.m. Appetite better. Bowels rather loose. Sneezing and yawning a good deal. Pulse 70 per minute. At 7 p.m. $\frac{1}{2}$ gr. of Morphia injected.

Dec. 12: Patient slept fairly well, not having a draught. Vomited once during the night, one relaxed motion. At 7 a.m. $\frac{1}{4}$ gr. of Morphia injected, and at 12 a.m. Patient feels better to-day. Had fish for lunch and sat up for three hours. In the afternoon was

depressed and restless, complained of noises in the head and throbbing, due no doubt to weakness. At 7 pm. $\frac{1}{4}$ gr. of Morphia injected.

Dec. 13: Patient has only slept for two hours, great weakness and flushed in the face. At 7 a.m. $\frac{1}{4}$ gr. of Morphia injected, also at 12 a.m. Bowels moved twice. He sat up again after lunch, not so depressed to-day, feels giddy if he walks, had slight palpitation of the heart. Pulse 70 per minute. Respirations 26 per minute. At 7 p.m. $\frac{1}{4}$ gr. of Morphia injected.

Dec. 14: Had $4\frac{1}{2}$ hours sleep, perspired most freely. Sneezing and coryza. At 7 a.m. $\frac{1}{4}$ gr. of Morphia was injected. Left his bed after breakfast and is more cheerful but still feels giddy and faint. Appetite improving. Slight diarrhoea; passes urine without any difficulty. At 7 p.m. $\frac{1}{4}$ gr. of Morphia was injected.

Dec. 16: Patient is doing very well, sleeps and takes his food well. At 7 a.m. injected $\frac{1}{2}$ gr. of Morphia. During the day has been depressed and feels very weak. The bowels trouble him, rather more diarrhoea. Pulse fairly good; 70 per minute.

Dec: 19: Progressing satisfactorily. Has been having the two injections daily, $\frac{1}{2}$ gr. each. The diarrhoea is still present, three or four moves in the day. Gets depressed and does not care to read, or do anything for amusement. $\frac{1}{2}$ gr. of Morphia injected at 8 a.m. He sneezes a good deal yet, at times; yawned a

good deal to-day. $\frac{1}{8}$ gr. of Morphia injected at 8 p. m.

Dec. 23: Still been having the injections, which will be discontinued to-day. Patient is still weak but progressing satisfactorily. Bowels not so troublesome. Depression is not so great. Appetite is ~~not~~ good, does not crave for Morphia. He will have a mixture of Pot. Bromide, Spt. Ammon. Co. and Tr. Digitalis and Tr. Nucis vomicae dose every four hours.

Dec. 25: Patient does not sleep very well, rather nervous. "Dyplopia" is present. Bowels rather more troublesome, as many as five relaxed motions in the day. Does not complain of any particular pain, except in the back and one leg.

Dec. 27: Patient has improved, still nervous. "Dyplopia" passing off. Bowels still troublesome. Neuralgia better, but he is very weak. Pulse 68 per minute. Taking Tinct. Digitalis, Spt. Ammon. Co. and Bitter Infusion. Appetite is good, sneezing continues, certain amount of coryza. No albumen in urine.

Dec. 31: Patient progressing well. Bowels improving. "Dyplopia" has passed off. He is enjoying his walks but soon gets fatigued. Sexual powers returning. Complains of giddiness and occasional depression.

Jan. 5: Still going on satisfactorily. Was weighed and has gained 5 lbs. (10 st. 12 lbs.) In a weeks time he will leave here for a warm climate, and

then a course of baths will follow on account of the dyspepsia and debility which continues.

Remarks. This patient has done well under treatment, as I have said is very dyspeptic all the time, The bowels were a troublesome feature, so much diarrhoea. I notice this is more liable to occur when constipation is one of the chief symptoms, as in this case previous to treatment. Dylopia was most marked and persistent. To me this case, from his history illustrates the class of case, when dyspepsia and nutrientdisturbances exist for some time, are peculiarly liable to develop the Morphia habit.

C A S E 6.

Mr. M. K. Age 40. Unmarried. Cotton Spinner.

Family history: His father was a very nervous man, died of over work. Mother died of Paralysis. He had an uncle that died mad, brought on through drink, one brother also died from the effects of fast living.

Previous history: Though of a highly nervous disposition says he always enjoyed good health. Not had syphilis.

Present history: Patient commenced business very early in life, in the Cotton trade. He threw up his Mills on account of ill health and bad trade, and travelled for a year abroad. He then commenced to suffer from sever symptoms of Gastralgia, he was treated by a medical man, who administered Morphia injections which relieved the pain. He had also severe neuralgia at the back of the head and he says he used the injection for relief of this. He often injected as much of the solution which equalled 16 grs. per diem.

On admission: Aug. 5: Patient is a short man of dark complexion and with a large head of hair. He was in a dazed condition, partly owing to the amount of alcohol taken, and partly to the Morphia injected.

His conjunctivae were suffused and his pupils unequal and reacted sluggishly to light. His pulse was very markedly sharp, 70 per minute. Respirations, shallow and hurried. He was got to bed as speedily as possible and $2\frac{1}{2}$ grs. of Morphia injected, which was repeated again at 2 a.m., as he was very restless and weak, pointing to collapse. Pains in the bladder, convulsive action of the legs, weight 9st. 10 lbs. In the afternoon 3 p.m. an injection of $2\frac{1}{2}$ grs. of Morphia was given. Frequent sneezing and complains of pains in the bladder.

Aug. 6: Complains of pains in the liver. Feels very weak in the evening. Slight diarrhoea. Injected $1\frac{1}{2}$ grs. of Morphia. At 9.45 p.m. 40 grs. of Chloral were given. Patient slept well.

Aug. 7: In the morning the patient was very depressed and giddy. Had palpitation of the heart and was very excited. Injected 1 gr. of Morphia, night and morning. In the evening the patient craved for Morphia, face is flushed, speech impaired. Relaxed four times. Patient does not remember well the events of last night. Same symptoms observable as yesterday. After having taken 40 grs. of Chloral he slept well.

Aug. 8: Until the evening patient was moderately well, only complained of pains in left hypochondrial region. Injected a $\frac{1}{4}$ gr. of Morphia at night and

morning. In the evening he again became excited. After taking 40 grs. of Chloral he slept until 4 a.m.

Aug. 9: Appetite good, feeling of prostration, pains in the epigastrium, relaxed motions. 40 grs. Chloral, ^{given at bedtime and} $\frac{1}{2}$ gr. of *Morphia* thrice daily. Patients condition is changeable as regards temper. Still occasional pain in the epigastrium and region of liver. Diarrhoea is present. He feels uncomfortable, craves for Morphia. At 11 p.m. 30 grs. Sulphonal given.

Aug. 10: Patient slept better. $\frac{1}{2}$ gr. of Morphia was injected at 7 a.m. and again at 12 a.m. and 7 pm. A hot bath was given at 9. 30 p.m. Sulphonal 30 grs. at 10. 30 pm.

Aug. 11: Patient had a better night, was quieter in every way. Slight abdominal pain, two actions of the bowels which were rather loose; felt sick, no vomiting. $\frac{1}{2}$ gr. of Morphia injected at 7 a.m. Patient is taking milk and beef-tea well. At 12 o' clock $\frac{1}{2}$ gr. of Morphia injected, at 7 p.m. $\frac{1}{2}$ gr. injected. Had a bath and 30 grs. of Sulphonal were ordered.

Aug. 12: Patient again had a better night, feels stronger. Pulse 60 per minute, tone weak, regular. Temperature 98. $\frac{1}{2}$ gr. of Morphia injected at 7 a.m., and at 7 p.m. Sat up for a couple of hours in the afternoon; turns very faint. Spt. Ammon. Co. 30 minims & Digitalis mn 5. were given, which gave relief.

Aug. 13: Patient did not sleep quite so well, but was not particularly restless. Tinglings pains and burnings in left and leg. Injected $\frac{1}{4}$ gr. of Morphia at 7 a.m. Patient sat up during the evening. Had fish for lunch. Still takes plenty of milk and beef tea. No diarrhoea. Pulse about the same. Injection of Morphia at 7 p.m.

Aug. 14: Patient had a restless night. 30 gr. of Sulphonal were given at 1 a.m. He had a little sleep afterwards, An injection of Morphia was given 7 a.m. Spt. Ammon. 30 m. Potassium Bromide gr. xxx were given at 10 a.m. Patient slept for a couple of hours, on waking had beef tea, and then rose and remained up for a length of time. Slight diarrhoea. Sneezed a good deal. Some coryza, but not sufficient to cause much discomfort. On the whole patient is doing well. At 7 p.m. $\frac{1}{4}$ gr. of Morphia injected.

Aug. 15: Patient slept better last night. Pulse is good 65 per minute. Respirations 26. Slight coryza, but not sufficient to cause much discomfort. On the whole the patient is doing well. At 7 p.m. $\frac{1}{4}$ gr. of Morphia injected and sneezing continues. Rose soon after breakfast. Says he feels better and stronger, but gets depressed. Morning and evening injections continued same strength, asks for alcohol.

Aug. 16: Patient had fairly good night, says he felt faint in the night, but was relieved by hot milk. Complains of feeling cold, although the day is warm. Yawns a good deal and is still very depressed, but the appetite is very good. Bowels moved rather freely, no nausea. $\frac{1}{6}$ gr. of Morphia injected at 7 a.m. and 7 p.m. Was up most of the day.

Aug. 17: Patient improving. Says he slept fairly well. Pulse stronger, going for a short walk. Injection of Morphia at 7 a.m. $\frac{1}{2}$ gr. Still craves for alcohol but not Morphia. Bears the reduction well. $\frac{1}{2}$ gr. injected at 7 p.m.

Aug. 18: Patient had the best night since he has been here. Is more cheerful and better in every way. At 7 a.m. $\frac{1}{6}$ gr. of Morphia injected. Complains of abdominal pains. $\frac{1}{6}$ gr of Morphia injected at 7 p.m.

Aug. 19: Slept fairly well. Rather more coryza and sneezing. Bowels moved twice. Feels rather faint at times. Pulse 58. Tinct. Digitalis and Spt. Ammon. Co. Tinct. Nucis. Vomical given thrice daily. At 7 am. Morphia injected. Appetite is improving, he is very nervous, and restless but his general condition is decidedly improved. Has had his last injection.

Aug. 20: Patient had a fair night. Still some coryza, little nausea, appetite good, pulse 60, resp 26, urine plentiful, sp. gr. 1020, no albumen.

Aug. 22: Patient going on well. Takes a fair amount of exercise without fatigue, little stiffness and crampy feelings in the calves. Pulse stronger, 60. Respirations 26.

Aug. 26: Nothing particular to note, only still depressed and rather restless.

Aug. 30: Continues to make steady progress. Is increasing in flesh a little. Slight neuralgia in the head and a little giddiness. Very slight coryza. Appetite very good. Bowels pretty regular.

Sept. 3: Improvement maintained. Has gained 7 lbs in weight: weighs 10 st. 5 lbs. Liver dullness still further diminished; not so depressed. He enjoys taking part in the outdoor games.

Sept. 10: Improvement is well maintained. Says he has not felt so well for three years, although depressed at times.

Sept. 18: Going on well.

Sept. 23: Much improved and left to-day.

Remarks: This patient was of a highly neurotic nature. He made the most of his case. There is no doubt he was a heavy drinker as well as a drug taker. Mentally he seems very weak. He belongs to what I term the "hopeless class," which was proved by his beginning to drink heavily, shortly after leaving here, and he is now an inmate of an asylum.