waking for a few minutes he took some bovril and I gave an injection of strychnine. Another quiet sleep ensued for about the same period as the first. During the few minutes he was next awake he was fed and treated as before; altogether he slept for twenty-four hours, at the end of which time the atropine injections were resumed and continued as in Case III. He found on regaining consciousness that the craving for stimulants was greatly lessened, and during the course of the next two days it not only disappeared, but was replaced by absolute aversion to alcohol. With the exception of some slight modifications incidental to the condition of the patient's system, the treatment varied but little from that in Case III during the remainder of the course. He returned home in what he was pleased to term "the pink of condition," his treatment having lasted five weeks.

During the second week he informed me that he had apparently been "living in a cloud," but he now felt as though "scales had fallen" from his eyes, and that he could not only think and see clearly, but that also his views on the use of intoxicants had been entirely reversed. His subsequent career proved that his recovery was complete. It may be added that three years after treatment he unintentionally took some brandy sauce when away from home; the effect was remarkable, in that he had hardly time to leave the dining room before vomiting. He remained well in January, 1904.

The four cases cited are typical of the majority, but I may refer to one extreme case that passed through my hands in October, 1895. It was a case of acute alcoholic poisoning in a man 30 years of age. He was a confirmed inebriate and not expected to rally from the unconscious condition in which I found him. I agreed to treat him in consultation with his medical adviser, provided consciousness was regained. The treatment was administered at his own home, and as the man had no idea that he was being treated for alcoholism, I purposely left the decanter and siphon within his reach. On the fifth day he ordered them out of his sight, remarking that their presence nauseated him. This may be scarcely credible, but I can vouch for the accuracy of the statement. It was not until his recovery was completed that he was informed of the reason of his treatment. When I last heard of the patient three years ago there had been no relapse to his former habits.

I think that the foregoing cases will fully illustrate the method of application.

I make no claim for originality in respect of the drugs used in this treatment of inebriety. The method of their application is, however, I believe, new, and I cannot find that the medical profession generally is aware of the specific action of atropine in combating inebriety. In the ordinary textbooks no mention is made of it. In Hare's *Therapeutics*, published in 1903, the value of strychnine and atropine is discussed. I may quote the following passages:

There can be no doubt that in most cases strychnine is beneficial, and that it markedly diminishes the depression of the period of withdrawal, and may even tend, as is claimed by Phelps (*Medical Fortnightly*, St. Louis, 1895, viii), to impair the appetite for alcohol. Though it has not in the writer's experience so valuable a property, no harm can be done by its use, especially in moderate doses. In many cases we must admit that its use is followed by most gratifying results.

Referring to the use of atropine, he says: "Its stimulating qualities are apparently of much service in many cases of alcoholism. Like strychnine, it appears to lessen the depression caused by the withdrawal. It seems to diminish especially the distressing epigastric and sinking sensations from which alcoholics suffer. . . . Clark (*New Orleans Medical and Surgical Journal*, vol. xxiii, p. 721) regards the combination with strychnine as almost a specific. He maintains that while strychnine acts as a nerve tonic the atropine has a special aptitude for decreasing the appetite for alcohol. Carter (*Medical News*, March 9th, 1895) also regards atropine as of special value. He declares that atropine given three or four times a day will produce a great distaste for alcohol in from one to five days; that whisky becomes repellent as regards both sight and odour, and that its taste becomes intolerable, producing nausea."

Hare also remarks further . . . "Atropine may indirectly lessen the craving for alcohol."

Having now for fully thirteen years used these remedies with a large measure of success, during which time I have treated several hundred cases, I feel justified in saying that a remedy is available which will prove of great value in the treatment of one of the most hopeless forms of disease.

The cases cited in this article refer simply to patients who have suffered from excessive use of alcohol. I have also used the treatment largely in the case of those who are suffering from the abuse of other narcotics, especially cocaine and morphine. I have never known unsatisfactory sequelae to result either in the case of these or alcoholic patients.

From an *a priori* point of view one would naturally think that recovery was impossible in a considerable number of cases. It is well known that alcohol produces extensive degeneration of the nervous elements in the brain and peripheral nerves, and as our present knowledge seems decidedly to indicate that very little repair of damaged nerve cells is possible

it is hard to believe in the complete restoration to mental vigour of patients who have for many years taken alcohol in great excess. Nevertheless, experience has shown me that many cases which are apparently most hopeless do recover under the treatment here recommended. I can hardly offer any explanation of this. I apprehend that in these cases the marked signs of mental deterioration are due to the effect of continued intoxication by alcohol retained in the body rather than to actual nervous destruction of tissue from alcoholic poisoning. No doubt some degenerative changes are present in most cases. The amazing recoveries which I have seen under the treatment here set forth make it perfectly clear to me, however, that the degenerative changes play but a small part in producing the obvious degradation and deterioration of the mental faculties.

I trust that the publication of these notes may result in this treatment having a careful and extended trial, but perhaps a caution is desirable lest the fate that sometimes follows the introduction of good methods of treatment should attend this and it become discredited by its wide adoption without proper precautions. Very considerable attention is required on the part of the physician. The cases are often exceedingly difficult to manage, and success is hardly likely to follow unless the treatment be carried out under proper conditions, and for this reason treatment in a sanatorium or other special institution is desirable in order to obtain the best results.

THE SO-CALLED "GOLD CURE" OF INEBRIETY.

By S. BACKWELL FENN, L.R.C.P. and L.R.C.S.Ed., etc.,
Medical Officer, Southport Hydropathic Hospital.

HAVING had the opportunity of treating many patients with, and watching the effects of, the so-called gold cure of inebriety for the last three and a-half years I esteem it a privilege and duty to testify to its methods and results. We are all only too familiar with the sad relapses occurring where the patient has been placed under restraint for six, twelve, or more months. Under these circumstances he is unable to procure the drink he craves for, and on leaving the retreat often immediately resorts to the prohibited stimulant and becomes its slave as before. The Americans have long recognized this, and institutions for the rapid cure of this disease abound in the new world, though it would appear that most of them work with secret or proprietary formulae. I am indebted to the Rev. Dr. Wolfenden for seriously calling my attention to the "gold cure" and inducing me to give it a trial.

The *modus operandi* of the "cure" is as follows: On entering the institution the patient is at once made thoroughly at home, and is given a glass or bottle of his favourite beverage if he wants it. No restriction is put upon his movements, and he can go in or out as he pleases between meals and the times for administering the medicines. A generous table is provided and, in some cases, extra nutrition is prescribed in the shape of soups, beef tea, oysters, etc. Before commencing the medicinal treatment the patient is thoroughly examined, and the presence or absence of organic disease ascertained. The "cure" then begins and consists of hypodermic injections, medicines given by the mouth and the administration of baths. The first are given four times a day and consist usually of a solution containing daturine sulphate gr. $\frac{1}{15}$ or atropine, gr. $\frac{1}{15}$ and strychnine sulphate gr. $\frac{1}{15}$, these doses being regulated according to the patient's condition. I have never seen an abscess or unduly sore arm from this frequent use of the needle. The medicine given internally is taken every two hours during the day and evening. This generally is a mixture containing chloride of gold and sodium gr. $\frac{1}{2}$, ammonium chloride gr. j, aloin, gr. $\frac{1}{2}$, fluid extract of viburnum m x and tincture of cinchona m xl . Should the patient suffer from diarrhoea I omit the aloin. It is found that small doses frequently repeated are better than larger ones at longer intervals.

If the patient from force of habit insists after the fourth or fifth day in taking alcohol, a little liquid extract of ipecacuanha is added to his medicine. The resulting emesis quickly induces him to abstain from his whisky. Should the medicine produce nausea, diarrhoea, or bilious symptoms I change the prescription accordingly. Tincture of capsicum, fluid extract of kola, and ammoniated tincture of valerian are drugs frequently used in addition to the above named. Special attention is paid to insomnia and neurasthesia, symptoms from which inebriates frequently suffer. The next, and by no means the least, important part

of the treatment is the hydrotherapeutic. Full sheet packs, liven packs, vapour baths, sitz baths, spinal baths, are all in their place found to be most beneficial. The skin is thus got into a thoroughly healthy condition and internal organs are invigorated in the performance of their functions.

Mentally and morally much is accomplished by the patient's cheerful surroundings, the presence of others nearing the completion of their treatment, whose well-being and health greatly encourage the new arrival, and by tactful counsel from the physician or nurse to help the patient's resolve and open up to his mind fresh and healthy views of life and its privileges.

In the great majority of cases four weeks is sufficient to transform the drink-sodden victim of intemperance into a healthy and sober man or woman. Exceptional cases will require five weeks, and very occasionally six to eight are desirable.

There are some few cases who have little or nothing left to work upon. They appear to be thoroughly burned out, so to speak, by alcohol, and though the baths and medicines may take the appetite for drink away they have no vitality left, and soon drift back into their old habits. Such cases, however, are not numerous. Rarely, too, one meets with another class of patients that are very disappointing. They will not treat one honestly and fairly in taking the treatment, they will drink on the sly, and will never show an honest purpose to live a clean life. As a rule, however, no patient who takes the full course of treatment as directed, and manifests an honest desire and set purpose to rid himself of his bondage will fail to succeed. One clearly recognizes that alcoholism is not simply a physical disease but also a great moral malady, and we therefore seek to lead the patient to look upon life in a new way; to persuade him to give up false friends and old associations; and to make up his mind that in the future he will under no circumstances whatever touch the poison that has ruined his past.

The treatment is necessarily institutional from its very nature and the frequent, regular, and thorough administration of the remedies employed. Besides, there is much about institutional life and its environments that is extremely helpful to the patient. I should add, however, that considerable success has been achieved by sending specially-trained administrators as residents into homes of alcoholics for a month or five weeks, there to treat the patient under the physician's directions.

What percentage of the patients remain permanently cured? It is most difficult to answer this question, as from the very nature of the malady it is not easy to gather reliable statistics. Dr. Wolfenden's statistics in Australia go to show that 80 per cent. remained total abstainers after a period of one to eight years. My own experience leads me to conclude that 60 per cent. here do so. Some fall and return at once, and having learnt their bitter lesson are the stronger for the relapse. Others are led back to drinking habits by old associations, the presence of drink in the home, or the lack of moral courage. The results, however, are most encouraging and stimulate one to further research and endeavour to secure the best results.

ADRENALIN IN NEUROTIC HEART.

By A. S. MYRTLE, M.D.,
Harrogate.

NOTHING has been more forcibly impressed on my mind during the last fifteen years than the great and steady increase of heart cases of a neurotic origin. On examining such in a quiescent state, one discovers nothing abnormal with heart or pulse. The attack generally comes on suddenly without apparent cause—the patient feeling perfectly well, detects a little flurry in heart's action with a sense of oppression or weight—the pulse is feeble, very irregular, and intermittent, beating rapidly for a second or two, then halting, missing a beat after every third, fifth, or seventh. Respiration is hurried and shortened, but not remarkably so, and a full deep breath can be readily taken. Early attacks pass off generally as quickly as they appear with rest and a glass of whisky or other stimulant; they can be frequently be traced to errors in diet, over-fatigue, mental excitement, or functional derangement of the liver. As time goes on they become more frequent and persistent, demanding active treatment. I have found full doses of strychnine $\frac{1}{10}$ gr. hypodermically or by the mouth most reliable, and with this $\frac{1}{10}$ gr. to $\frac{1}{2}$ gr. strophanthin is combined with marked advantage; in

severe cases I have resorted to ether inhalations without permanent good. I have long discarded digitalis as useless.

Recently I met with two cases lasting for days where the above measures, with plenty of brandy, etc., had absolutely no effect.

CASE I.

The first, a gentleman over 70 years of age, had been very bad for four days and nights, when my son suggested a trial of adrenalin. He had been using this (to me a new therapeutic agent) in cases of hæmorrhage, internal and external, at the infirmary and in private. He had noticed that in cases where he had found the heart weak, the pulse feeble and irregular before the adrenalin was given, after its use the heart's action got stronger, the pulse steadier, and whilst admitting that the improvement in these cases might reasonably be accounted for by the cessation of the bleeding, he advised a trial of the drug in this case and prescribed 20 min. of adrenalin chloride solution every six hours; the pulse was so rapid, feeble, and irregular that it could not be counted, the patient complained of a dull pain with sense of weight over the heart, his expression anxious, the face and ears ashen, the extremities cold, and the voice reduced to a whisper. After the second dose a little improvement was noticed, and this continued without a check after each dose; after the fifth the patient fell asleep in his chair and in a couple of hours awoke feeling quite himself but very shaky.

CASE II.

Shortly afterwards a similar case came under our care—a gentleman close on 80 years of age, of gouty habit. He had been liable to heart attacks for many years. After reading a highly sensational blood-and-thunder novel, the heart suddenly gave in; he began passing large quantities of pale urine, for an hour and a-half he had to empty his bladder every fifteen minutes. He was put on the same course as the other patient, and after the third dose was relieved of all discomfort.

In neither of these cases did any unpleasant effect follow.

In milder cases we have given small doses, 5 min. with $\frac{1}{10}$ gr. of strophanthin with the most satisfactory results. I feel scarcely warranted in bringing this new remedy as a cardiac tonic to the front on such limited experience, but having watched its action most carefully I am convinced of its value, and place it before the profession believing it will prove of great benefit in cases of heart failure such as I have described. I am all the more encouraged to do so after reading the original, bold as well as successful results obtained by Dr. James Barr, of Liverpool,¹ in dealing with the very worst cases of serous effusion in the cavities of the body, where complications of the gravest kind had to be faced.

REFERENCE.

¹ BRITISH MEDICAL JOURNAL, March 19th.

DIONINE: A NEW OCULAR ANALGESIC.

By JAMES HINSELWOOD, M.A., M.D.,
Surgeon, Glasgow Eye Infirmary.

In dealing with disease in such a sensitive organ as the eye, our aim must be not only to cure the disease, but during its course to give relief to the sufferings of the patient. Every agent which can contribute to the relief of pain should therefore be welcomed as an additional weapon to our therapeutic armamentarium, which cannot be too well stocked. At the meeting of the British Medical Association in 1898 at Edinburgh I made a communication¹ on holocaine, an ocular anaesthetic and analgesic, greatly superior to cocaine in its power of relieving the deep-seated pain of ocular disease. On reading Darier's recent work² on ocular therapeutics my attention was directed to dionine as an ocular analgesic, and I have since made extensive use of it with great success, both in my private and hospital practice. Although dionine has been used for several years in general medicine as a sedative to replace codeine and morphine in bronchitis, pulmonary emphysema, and bronchial asthma, its use as an ocular analgesic is practically unknown in this country, and hence I wish to briefly record my personal experiences of this new and powerful agent for the relief of pain in the eye.

Dionine, or ethyl-morphine hydrochloride, is a white odourless crystalline powder freely soluble in water. I have used the dionine chiefly in 5 per cent. aqueous solution, or made up with vaseline as an ointment in similar strength. Where there is great lachrymation I prefer to use it as an ointment, which smears itself over the globe of the eye, and is gradually melted and absorbed. In such cases a few drops of a solution are rapidly diluted with tears and washed out of the conjunctival sac, and therefore it is not so effective as the ointment. Even in 2 per cent. aqueous solution, or as an ointment of same strength, dionine has marked analgesic properties, and hence, where the pain is not severe and the inflammatory condition of the eye not very acute, the