have all improved, and some have become clinically well. I have not yet determined whether the reaction to subcutaneous injections of tuberculin is altered, as I wish a few more months to elapse before doing this test.

In all these cases it has to be remembered that the home conditions were supervised and faults corrected wherever possible, and I quite admit that these hygienic measures in themselves are sometimes sufficient to induce a cure. After allowing for all that, I am convinced that improvement has been more rapid and more universal in the cases that got emetine. The expectoration dries up and the cough disappears.

Dr. Flandin's remark that the drug acts on the congestive stage of the disease is quite at one with my own observation. I assume that in the second group it acts on the bronchitis, whether this precedes the tuberculous disease or is secondary to it, but I do not consider that it acts on the tuberculous disease itself.

Some of these cases, after preliminary treatment with emetine, have responded particularly well to tuberculin.

A good case to illustrate this second group is the following:

Mrs. C., aged 29, had been treated at another dispensary for over a year, but she admitted that she had been very irregular in attendance, and came here on moving into Battersea. She had severe cough and expectoration. Both apices were dull and full of moist crepitations, and she was steadily losing weight. No tubercle bacilli could be found in her sputum. Her temperature was normal and steady; $\frac{2}{3}$ mg. of Koch's old tuberculin was injected, and in six hours her temperature rose to 100.8° . On the reaction subsiding therapeutic doses of tuberculin were given, but neither her symptoms nor her physical signs improved.

Emetine was given twice weekly for four weeks, by which time the moist sounds and the expectoration had disappeared and the cough troubled her only in the morning. Tuberculin was then recommenced. That is four months ago. The lung condition has steadily improved since, and no dullness can now be made out. Her weight has gone up 8 lb. She is clinically well, and feels in a fitter condition than she has done for years.

Group III.—Cases with tubercle bacilli in the sputum. With this group I am not able to give generalizations, as the results are not nearly so regular. In some cases I have ceased using it as, so far as one could judge, it was producing no effect.

In some cases improvement followed its use, but immediately its administration was discontinued the symptoms returned, and as this is a new use the drug is being put to I hesitate to continue it indefinitely.

As above stated, the slight feeling of nausea has been the only undesired effect that could be attributed to emetine. It remains to be seen whether such nausea is a disadvantage, but until we have more experience I prefer not to persist with it in such cases.

When the heart's action is weak one has learnt not to expect the lungs to clear up. In these cases the congestion is secondary to the weakened circulation, and is quite compatible with the theory that the drug acts on congestion when it is primary in the lungs or secondary to tuberculous disease there. One case with mitral incompetence, but with compensation well established, did very well.

In conclusion, while I do not consider that the drug has any effect on the tubercle bacillus, I believe it is a valuable addition to our weapons for reducing congestive conditions in the lungs, and that, therefore, it is both a preventive and curative agent in tuberculosis.

The drug has hitherto been prepared for use in dysentery, in which disease it is given in very much larger doses than Dr. Flandin used; and my experience corroborates his—that small doses are best for these lung cases. He gave 0.04 cg. of the salt. I used Whiffen and Sons' ampoules, which contain $\frac{1}{2}$ gram of emetine in 15 minims of distilled water. By diluting this in four parts of water, 1 minim equals 0.04 cg., and I have come to consider 4 minims of this dilution a suitable dose to give when the object is to control expectoration or lessen congestion.

THERE is a serious shortage in the number of medical officers of the French army. The reasons given are that the work is very heavy, and involves much clerical labour, that the pay is too small, and that the position in relation to combatant officers is unsatisfactory. Moreover, the recent deprivation of titles carrying a military significance has caused the service to become unpopular.

AN ECONOMICAL TREATMENT OF INEBRIATES.

By A. M. ROSEBRUGH, M.D. TORONTO,

MEDICAL OFFICER OF THE ONTARIO SOCIETY FOR THE REFORMATION OF INEBRIATES.

THE probation officer of the society visits the police cells in the morning before the opening of the court and offers a helping hand to any of the prisoners charged with drunkenness who seem really desirous of reformation. He also visits the juvenile court and takes charge of drunken non-supporters of their families who may be committed to his care. After discharge by the court the case is dealt with according to circumstances. He may be brought to my office for office treatment, or he may be taken to the cottage hospital of the society for treatment there.

The inebriate signs a pledge agreeing to take treatment for at least three weeks. In most cases, however, the treatment extends beyond that period. We endeavour to keep in touch with our cases indefinitely, more especially in periodical cases.

The families of our patients are visited, employment found, temporary help given where and when necessary. Reconciliation between man and wife in many cases is effected, and an effort made to place the family upon a higher plane of life and living.

Medical Treatment.

For practical purposes I divide inebriates into the following classes—namely, first, cases in which there is a constant crave for "drink"; secondly, cases in which this crave is periodic; and, thirdly, cases in which there is no crave. In the latter class the inebriate drinks to be social or to drown sorrow. For this class the Christian missionary, or the clergyman, or the farm colony is indicated rather than medical treatment.

In the case of the periodical drinker, the character of the periodicity requires to be studied, and the return of the drink period anticipated and provided for.

It is, however, the inebriates with the constant crave for drink that contribute most largely to swell the great army of drunkards. The medical treatment extends over a period of at least three weeks.

Hospital Treatment.

The treatment, whether in hospital or elsewhere, is commenced with calomel at bedtime and "salts" or "seidlitz" the following morning.

Acute gastritis in hospital cases is treated with $\frac{1}{2}$ -grain doses of calomel given every half-hour for five hours, followed six or eight hours later with salts or "seidlitz." In case of acute alcoholism the treatment commences with a hypodermic injection of apomorphine $\frac{1}{4}$ grain, and, if this is not followed in ten or fifteen minutes by emesis, a second injection is administered, but with a dose of $\frac{2}{5}$ grain only.

In cases of nervousness, 30-grain doses of potassium bromide, well diluted in water, are given every three hours.

A hypodermic injection of strychnine $\frac{3}{50}$ grain is administered every six hours. One ounce of a solution of capsicum, 6 grains to the ounce, is given every two hours. The bromide solution is suspended when no longer necessary for relieving nervousness.

The hypodermic solution of strychnine is suspended at the end of six days, and on the seventh day the following mixture is substituted: Tincture of capsicum, 1 drachm; a solution of the fluid extract of quassia and the tincture of ignatia, $1\frac{1}{2}$ drachms of each to 8 oz. of water. Dose, a tablespoonful every hour while awake. The tincture of nux vomica may be substituted for the ignatia—the same quantity ($1\frac{1}{2}$ drachms to the 8-oz. mixture). This mixture is continued until the end of the full time of three weeks' treatment. The capsicum may be omitted, however, at the end of two weeks. Whisky and water may be given to patients for two or three days at the outset of treatment when there is a crave for it.

Office Treatment.

If the patient has a good home, and can be trusted to carry out the treatment faithfully, and has lost the crave

for "drink," and more especially if the probation officer is both judicious and zealous, the man, after the first week of hospital treatment, may be permitted to continue the treatment in the form of office treatment. We find that the great majority of the cases that come under our care can be satisfactorily treated as office patients. This is less expensive than hospital treatment, and has enabled us to reach a much larger number than would have been possible otherwise.

With the office treatment the hypodermic injections of strychnine and apomorphine are omitted. Either the calomel and salts treatment, or a laxative of some sort is given at the outset, and the bowels kept loose for a few days. The medical treatment proper is commenced with the following mixture: Tincture of capsicum, 1 drachm; tincture of ignatia (or nux vomica), $1\frac{1}{2}$ drachms; water, 8 oz. Dose, a tablespoonful every hour while awake. After ten days this mixture is changed to the following: Fluid extract of quassia, 2 drachms, and tincture of ignatia (or nux vomica), $1\frac{1}{2}$ drachms; water, 8 oz. Dose, a tablespoonful every hour while awake. This mixture is continued until the end of the third week of treatment. The patient calls for treatment every day during the first week, every second day during the second week, and every third day during the third week. After this he is seen occasionally by the probation officer, who is expected to keep in touch with the case as long as possible, and especially so if the trouble is periodic.

While, with our treatment, the crave for drink is relieved in less than three weeks, we do not claim that this crave is removed permanently. Some of our cases go for years without making a break, while others make a break in a few months. We warn periodical cases to return in good time for prophylactic treatment. We have on our list a few cases that require to be nursed in this manner. Between times they are respectable, and supporters of their families. Some of them go for many months without making a break.

Our treatment is a tonic for the nerve centres, and leaves the patient wonderfully improved in health and strength, with good appetite and good digestion.

In some cases, for convenience sake, I sometimes give strychnine tablets instead of medicine in a liquid form—the $\frac{1}{10}$ grain every hour for from twelve to fourteen hours a day, but I never give a prescription for such strong medication; they are given to the patients personally.

After my experience of ten years with ignatia, nux vomica, and strychnine with the doses mentioned, I fail to understand the timidity of high authorities in making use of these drugs. One high authority speaks of the use of strychnine in these cases as follows: "A cautious use of strychnine in small doses, $\frac{1}{10}$ grain every four hours, will be found valuable." Another high authority speaks of using the extract of nux vomica, $\frac{1}{4}$ grain, night and morning in these cases. The same authority speaks of giving strychnine, $\frac{3}{16}$ grain once a day, or the $\frac{1}{10}$ grain twice a day. For several years in Montreal, police-court cases have received medical treatment very similar to the treatment herein described.

The Emetic Treatment.

In the case of a number of our repeaters I have made use of the emetic treatment, lasting three or four days, and with encouraging results. The treatment is followed up, however, with a full course of the nerve tonic. The treatment has its advantages and its disadvantages. It places the inebriate on his feet, enables him to go to work in less than a week, gives him a disgust for the sight and smell of all intoxicants, and this disgust may last from a few months to a year or more. The drawbacks are that it requires the constant attendance of the physician, or a specially trained nurse for six or eight hours a day for at least three days; and, secondly, it cannot be administered with safety to a patient with a weak heart.

THE first Congress of the Association of French-speaking Gynaecologists and Obstetricians will be held at Lyons in October (1st to 3rd). The questions proposed for discussion are: (1) The value of the different laparotomy incisions in gynaecology and obstetrics, (2) the biological diagnosis of gestation, (3) early getting up after delivery and operation, (4) indications and technique of hysterectomy in suppurative conditions of the appendages.

The Milroy Lectures

ON

THE HYGIENIC ASPECT OF THE COAL-MINING INDUSTRY IN THE UNITED KINGDOM.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

By FRANK SHUFFLEBOTHAM, M.A.,
M.D.CANTAB., J.P.,

MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT FOR THE NORTH STAFFORDSHIRE DISTRICT.

LECTURE IV.

MINERS' NYSTAGMUS.

(Continued from page 651.)

THE CAUSATION OF MINERS' NYSTAGMUS.

THE four most important factors which we have to consider are:

1. Defective illumination in the mine caused by the low candle power of the safety lamp.
2. The peculiar cramped position in which miners work, especially the holers and other workers employed at the coal face.
3. The refractive errors found among the miners themselves.
4. The frequent injuries which miners sustain during their employment and more especially injuries to the eye itself.

It cannot be said in any case that miners' nystagmus can be caused by any one of these conditions alone, and the truth probably is that the onset of the disease is due to a combination of circumstances.

Defective Illumination.

We may say, however, that except at the pit bottom we always have defective illumination in the coal mines of this country; further, in perhaps the majority of cases we have a cramped position at work; refractive errors are at least as common among miners as among other sections of the community, and there is no doubt miners are, by the nature of their employment, especially liable to small injuries to the eye such as abrasions of the cornea. On the surface a worker can see when danger is coming and protect his eyes by means of his eyelids, but in the defectively lighted pit this is impossible.

The general feeling at the present time is that deficient illumination of the mine is the principal factor. In the evidence given before the Departmental Committee on Industrial Diseases in 1907 the opinion was expressed by many experienced miners that nystagmus had come into existence among miners since the introduction of the safety lamp, and statistics undoubtedly show that at the present time nystagmus is much more frequent among men who work in pits lighted by safety lamps than in those in which open lights or candles are employed.

In the experience of Sir Frank Brain, in the collieries in the Forest of Dean, where open lights are entirely used, only one case of nystagmus has come within the scope of the Workmen's Compensation Act since it became a scheduled disease seven years ago; and in the Black Country, where the illumination has been almost entirely carried out by open lights, miners' nystagmus is comparatively rare. In Scotland, again, where candles are used to a very large extent instead of safety lamps, nystagmus is much less frequent than in England and Wales.

In the metalliferous mines of this country (not including ironstone mines), where naked lights are universally used, miners' nystagmus is an unknown disease, and in the ironstone mines it is rare. Coal is often found along with ironstone in the same workings, and in such mines it may be necessary to use safety lamps; again, iron and coal are usually found in the same districts, and men frequently pass from one class of work to another. In the last ten years I have only seen three cases of miners' nystagmus among ironstone workers who have always been employed in naked-light pits and who have never worked in coal seams, and it is generally admitted that such cases are comparatively rare.

The candle power of a tallow candle will vary according to the number of candles to the pound, but roughly speaking we may say that the candle power of an ordinary