number 13 only were lunatics. The number of free lunatics is increasing. In 1865 there were 28, and the number had risen to 55 at the close of 1877, and with the convicts make a total of 68.

The only asylum is situated at the seaport town of Freemantle, and is a well-ordered establishment, standing in extensive grounds, and possessing abundant cubic space per inmate. Its chief drawback, inherent in almost all small asylums, is want of classification. The convict patients are, however, kept in a separate ward, and are subject to the visitation and treatment of a separate medical officer.

The rate of recovery is very high.

Hyoscyamine, and its Uses. By Dr. George H. Savage.

This being a paper read for the purpose of eliciting the experience of others, does not purport to be anything more than an account of my experiences of the drug, and my opinions as to its uses.

All those at all interested in the treatment of mental diseases by drugs are already familiar with the careful observations of Dr. R. Lawson, as recorded in the "West Riding Reports," Vols. v. and vi. He there records experiments on the lower animals, and also his experience of the drug in violent cases of mania.

Before proceeding further, I would like to point out a danger that I am sure is very real.

Dr. Lawson has carefully told his readers where the drug he used was obtained, but he has retained the name, "Hyoscyamine" which is, in my opinion, very misleading. There seem to be, at least, three bodies that claim this name. One an ash that I do not know myself, said to be inert; another a whitish granular material that in my hands has been very powerful; and a third, the extractive Hyoscyamine (of Merck), which Dr. Lawson has chiefly used.

I shall refer to treatment by the second and by the third bodies only. It may be that some other crystalline body deserves the name Hyoscyamine, and will in due time discover itself, but the granular form has, in many hands, exerted all the most powerful effects of henbane in a distinct way, and so I prefer still to consider that it has the best right to the name. I am not singular in mistaking the one

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drug for the other. Dr. Farquharson, in his recently published book on "Therapeutics," speaks of giving grain does of Hyoscyamine, and Dr. Sidney Ringer, in his, "Handbook of Therapeutics" (7th edition, 1879), page 516, says Dr. Lawson—"Gives Hyoscyamia in one grain and a grain and a half doses." This is a mistake; the extractive may be given in such doses, but not the active principle.

My only other criticism of Dr. Lawson is that I altogether object to his very allopathic views, as expressed in the following sentence—"I started with the principle that the succussion produced in the mind already muddled with delusions and hallucinations by the antagonism of new forms of mental aberration, together with the subsequent deep and prolonged sleep," &c.

I cannot think such succussion likely to be beneficial, and the adding confusion to the confused is like dazing the dazed with a surprise bath. But Dr. Lawson has a right to his own ideas, though, if I believed his theory, I should cease to use Hyoscyamine.

The practical part of my paper divides itself into three sections, viz.—

1 The Treatment of Insane Cases by Hyoscyamia.
2 „ „ „ „ *Extractive* hyoscyamine (Merck) —two varieties.
3 „ „ „ „ Tincture of Hyoscyamus.

1st—Hyoscyamia. This was dissolved in dilute acetic acid and spirits of wine, and given with syrup. I began with $\frac{1}{60}$ of a grain, and found that this was as much as I dare give, for even this small dose in several instances produced collapse. The symptoms produced were great dilatation of pupils, with inability to read. No very marked change in the optic discs; loss of power in the limbs, more especially the lower; staggering gait at first, then inability to stand: great mental depression, and dread, so that patients would struggle violently, rather than have a second dose.

The feeling is as if death were imminent; in smaller doses the feeling was like that in the later stages of drunkenness, a feeling of confusion. Hallucinations of sight were most common, and those of touch were also present. There was a dry, unpleasant feeling in the throat which drinking did not relieve. With this prepara-

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tion of hyoscyamus the appetite always failed at once, the patient rarely taking anything after the dose of hyoscyamia was given. Sickness, vomiting, and collapse occurred in some cases soon after the administration. This drug was generally slow in its action, taking from one and a half to two hours before complete effects resulted, these effects lasted from twelve to eighteen hours, the moral effect often lasting much longer.

My modes of treatment were as follows:—A noisy maniacal patient was selected after breakfast—so as to insure one good meal at least—$\frac{1}{26}$ grain of Hyoscyamia was given, and generally after two hours there was peace and quiet for the rest of the day, but the night was sometimes noisy if a second dose were not given.

If given to patients who got out of bed, or were dirty in their rooms, before going to bed, a quiet night and a clean room were the results. I increased the dose up to $\frac{1}{13}$ grain, but found this dose, as a rule, too large, and I did not find that any marked tolerance of the drug was established. In brief, I may say that I gave the drug regularly to a series of cases, and cannot say that I have any good opinion of it.

I may mention three typical cases, and their reactions. The first case was that of a girl who had had one previous attack of acute mania, which lasted nine months. For six weeks this patient was treated with daily doses of hyoscyamia, from one twenty-sixth to one-thirteenth of a grain at a dose, and no improvement followed, till at the end of this period she suddenly became well, and at the same time began to menstruate; menstruation having been some time absent. Dr. Crichton Browne has pointed out that other hæmorrhages occurred in cases treated by Hyoscyamine (extractive), so, possibly, the drug did some good in this case.

The second case had been in Bethlem thrice during the last 10 years, and we were used to her attacks, and I cannot say I saw any change in the one under notice. Quiet was produced by each dose, but great dread followed, and hatred of the doctors. She refused food, and lost flesh rapidly. The quiet in the ward was bought at too high a rate, and I gave up the treatment. The third was a case of most violent recurrent mania, who had been in Bethlem over eleven years, and whose attacks were always similar in character. With hyoscyamia she was rendered quiet by

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$\frac{1}{28}$ grain, and collapsed by $\frac{1}{13}$; on recovery she was violent and vindictive against me as a "poisoner."

After two months' treatment, during which she had lost over a stone in weight, I discontinued the drug. In the end this patient had a more prolonged and severe attack than she had had for years.

In melancholia, harm and no good is done.

In one case of insanity, with chorea, very small doses ($\frac{1}{40}$ grain) produced alarming collapse.

In general paralytics I only tried it a few times and then discontinued it, as it seemed dangerous to use such a remedy in patients whose nervous systems were tottering to their fall.

In the second series of experiments I gave the extractive hyoscyamine prepared by Mr. Merck, of Darmstadt, and procured from Messrs. Harvey and Reynolds, of Leeds. This was dissolved, as Dr. A. Lawson recommends, in spirits of nitre. I began by giving one-eight of grain doses once daily, and rapidly increased the dose to one grain. I found single doses seemed not only to have greater effects in quieting the patients, but also did not affect the appetite so much. On the whole I like the drug as a producer of quiet without much injury to the patient, as well as I can like any medicinal restraint. It produces less general disturbance than the alkaloid, and the collapse—if produced—was less intense. In one of the cases of mania treated by this drug great loss of appetite followed, and in three others the body weight decreased; but in the one, the most worn and exhausted, some increase followed its use. I have not had cases enough, nor watched those I have long enough, to be sure whether my impression that maniacal cases treated with this powerful drug tend to dementia more than those not treated by narcotics is true. In some particulars my experience differs from that of Dr. Lawson, as marked complaints of dryness of the throat were complained of. I prefer small increasing doses, as some patients re-act so violently to the drug. After a single dose, which produced full physiological effects, the patients were more quiet and self-controlled for from one to three days, and then were often as violent as ever, or even more violent than before the dose. This effect is repeated for several doses, but then seems to pass off to a great extent, leaving the patient like a whipped lion, only waiting a chance for violence and outrage.

I subjoin notes of a few cases that were tried with the drug for some time, and the results:—

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Case 1.—*First Attack of Acute Mania.*

J. P., single, 38. No insane relations; said to have phthisical relations. Cause of present attack religious anxiety. At first she was depressed and melancholy, but early in December, 1878, she became excited. She thought the devil was near her, and possessed the domestic animals.

She said she was Queen of Glory. She had hallucinations, and was constantly talking to unseen persons.

For a month no medical treatment was followed, and she continued very maniacal. She was amorous, and mistook persons. She tore up her clothes, was noisy, dirty and violent, and at night was noisy and sleepless.

On February 14, $\frac{1}{8}$ grain of the extractive was given, and in less than an hour she was prostrate and sleepy, pupils widely dilated, and limbs relaxed. On the next day she was much better, properly dressed and contrite, regretting she had been "such a beast." No medicine was given her on that day, but on the next two doses of $\frac{1}{8}$th grain were given, and she was unable to speak or stand. Complained of giddiness and sickness, with loss of appetite. On the next day (February 17th) she was civil and quiet, and spent most of the day on the sofa.

The medicine was discontinued on 18, 19 and 20, when she became as bad as ever. On resuming the medicine the quieting effect was reproduced, but was less marked with $\frac{1}{8}$th grain. The dose was increased, and we gave her grain doses, which constantly produced the full physiological effects. The patient gained in weight, and slept much better, though her appetite was not so good, she took enough nourishment.

The drug has been continued with intervals of a day or two ever since, and now, in April, there are no signs of recovery, but some tendency to weak-mindedness. On February 27, instead of the extractive I gave her tincture of hyoscyamus in two-drachm doses three times daily, and in two days increased this to half-ounce doses as frequently. There was dilatation of the pupils, but the patient was rather more than less loquacious; in fact, the notes kindly taken by my clinical assistant, Mr B. Fox, state that she was more quiet on days when the tincture was not given.

By ophthalmic examination nothing could be made out abnormal, and no marked alteration was seen in retinal vessels before or after hyoscyamine (extractive).

The pulse tracing showed increase of volume and loss of tone.

Second Attack of Acute Mania.

A. M., single, 30. Maternal cousin insane. Mother and sister phthisical. First attack occurred nine years ago, and lasted between four and five months. The first symptoms of this attack began a

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week before admission. She was excited, and said she had been married to our Saviour. She had hallucinations of sight, was noisy, violent, sleepless, and in a weak general health.

Appetite bad. Catamenia regular.

On February 4th half a grain of extractive was given, and in less than half an hour induced complete prostration, inability to stand, and sensation of discomfort, to judge by her groans, and of feeling of drunkenness. The desired calm followed with the full physiological effects.

On February 5 and 6 she was quiet—without medicine—and more reasonable. She complained of dryness of tongue. A second preparation of the extractive was tried for the next four days, and did not act so satisfactorily.

On February 14 a grain of the first sample was given, and acted rapidly and violently. For three days following she took grain doses, which subdued her for the time.

On February 19 and 20, when no medicine was given, she was more unmanageable. No real gain seemed to result, and as soon as the medicine was discontinued the mania was at least as violent as before.

On February 27 tincture of hyoscyamus in two drachm doses thrice daily was given, and on March 1st this was increased to half-ounce doses, the smaller doses seemed rather to excite than quiet; and though the larger doses induced some outward quiet, the incoherence was as marked as ever.

Since March the extractive has been given at intervals, but for a time was dropped, as the patient refused food, and looked weak and ill. I cannot see that any good was done to the patient. After a full dose of the drug her pulse increased in rapidity and lost tension, and resembled a genuine febrile pulse. No change visible in optic discs.

Acute Mania, with Intemperance.

M. H., married, 36; paternal uncle insane. Drink said to be the cause of this, her first attack, which has lasted six weeks. She first thought people were in the house, and that the house was on fire; that witches came down the chimney and struck her; that she had no food, and people robbed her. She had a very peculiar idea that a salt fish was under her bed biting her.

On January 23 we began with a quarter of a grain of the extractive. No quieting effect was produced, and as the dose was found too small, on 27th it was doubled. This produced full physiological effects, but the patient had her insane ideas as much as ever, and did her best to act on them. On January 31 a grain was given, and this completely prostrated her. After continuing the drug, sometimes in grain and at other times in half-grain doses, till February 27, it only produced temporary effects.

Tincture of hyoscyamus, in two drachm and half-ounce doses,

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acted rather more satisfactorily on her, and she was more quiet, and instead of shrieking and avoiding us, she shook hands.

At intervals the drug has been continued, but as soon as discontinued she is as violent as ever. Towards the end of April she was more sleepy and dull.

Besides the above cases, I have given it in acute and chronic cases of mania, in patients who have long been under observation, and in those whose previous attacks I have witnessed, and with similar effects.

In one excessively violent and dangerous general paralytic I have prevented serious and dangerous violence by giving the drug, and in some cases have seemed to subdue the extreme libidinousness in such cases.

In one case of puerperal insanity with fits of violence and tendency to injuring herself by knocking her body and head about and tearing out her hair, one dose had a very good effect, and kept her quiet for over a week, and an occasional dose keeps her in control. In one or two acute cases smaller doses than one grain either did not act at all or else took very long in producing its effect.

In one very maniacal case the patient was not quiet after taking the dose till nine hours had passed, when he complained of drunkenness and inability to stand.

It is important to remember this instance, for danger might arise from giving additional doses if the effects may lie dormant so long.

The result, then, of my present experience, more especially in acute maniacal cases, is that the extractive is the most potent form of the drug, and is useful as a means of quiet restraint in violent and dangerous cases, especially those that are very homicidal, and those that, seeming to have lost common sensibility, dash themselves about and run serious risk of injuring themselves.

The effect of large doses, given as occasion requires, is better in every way than continued doses, as the continuance of the drug tends to refusal of food. I believe the drug to be useful in violent recurrent cases such as Dr. Lawson recommends it for. I dislike the crystalline hyoscyamia in many particular effects which it has, and I found the tincture of hyoscyamus to be nearly useless.

I do not consider any of the above-named drugs as curative in any sense, and my feeling is strongly against all narcotics and most so-called nervine drugs. I believe, with Dr. Wilks, that drugs that act directly on the nervous system will be

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found in time to be more useful in inflammatory diseases and diseases of nutrition, and that we must rather seek nutrient remedies, general hygiene, and tonics as our powerful aids in nervous diseases.

I do not believe whipping a tired nervous system with strychnine is good, nor deranging an already deranged brain by belladonna, opium, chloral, or hyoscyamine will lead to happy results. We may make a desert and call it peace.

The History of the Hereditary Neurosis of the Royal Family of Spain. By WILLIAM W. IRELAND.

In enquiries upon the influence of heredity in the causation of insanity we rarely get back beyond the third generation. Few men either know, or care much about their great-grandfathers or great-grandmothers, and fewer are willing to keep in remembrance the existence of an ancestral taint. Nevertheless, in studying these subjects we ought to go back as far as we can, and the few pedigrees which have been traced of the genesis of insanity in families bring out deductions of the highest interest. In studying the fortunes of those ruling houses, whose lives are recorded by history, we occasionally trace the rise and extinction of a family through insanity, or we behold the wane and final extinction of the hereditary disease. There is no deficiency in the materials. Mental disease is very common in royal and noble families, and great disasters to nations have sometimes signalised the madness of their rulers.

Of the first great empires, two mighty monarchs of the Babylonian and Persian dynasties, Nebuchadnezzar and Cambyses, were both insane, and the neurotic tendency of the Julian and Claudian families reached its climax in the mad doings of Caligula and Nero. The insanity of Charles VI. of France gave an opportunity to the warlike encroachments of Henry V. of England. The conqueror of Agincourt compelled the French King to give him his daughter in marriage. The revival of the English claims to the throne brought a long and desolating war upon France. Unhappily Henry VI. inherited the malady transmitted through his French mother, and England, in her turn, was desolated by the wars of the Roses as a penalty for a dynastic marriage in which the laws of heredity were set at defiance.

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