was put into a Petri dish on a deep layer of dry sand, in which she rapidly buried herself, and placed in a dry incubator at an even temperature of 29° C. After laying the first batch of eggs she was placed in a partly-hollowed-out banana and enclosed in a cardboard box. The animal immediately left the banana and took up a position in a broad groove where she was partly concealed, in which position she remained fixed and inert until long after the third batch of eggs was laid. No attention was paid to the banana; indeed she made a hasty retreat from the fruit, and got as far away from it as the limits of her cage would permit. Here two more batches of eggs were laid, both lots being protected for a few days beneath the body of the parent; but both lots finally slipped from beneath her and fell intact to the bottom of the box. She defaecated three times during the period of egg-laying; the white, fluid-like faeces, when dry, left a white deposit resembling French chalk in texture. The actual process of egg-laying was not observed. The length of the tick before feeding was 7 mm. The weight before feeding was 0.0270 gram, after engorgement 0.2602 gram, or an increase of about ten times her original weight. This was not a very marked increase as compared with certain other species of female ticks, which are known to increase to about thirty times their original weight after engorgement. Batches of eggs were laid on the following dates, during the night:

June 29th. First batch of seventeen eggs. These were found in a little cluster at the bottom of the Petri dish. July 2nd. Second batch of fifty-one eggs laid. These were protected for a few days beneath the body of the parent. July 10th. Third batch of twenty-six eggs laid. These were also protected by the parent for a few days.

Development of the First Batch of Eggs.

June 30th. First day—subcutaneous reticulation evident; poles slightly cloudy. June 31st to July 3rd. Second to fourth day—no change. Fifth day—subcutaneous reticulation more distinct. July 5th. Sixth day—form decidedly flattened, legs and capitulum of larva showing faintly through the cuticle of the egg. July 6th. Seventh day—form unchanged; legs more evident. July 7th. Eighth day—"arrow-shaped" patch of secretion formed beneath the cuticle of the larva near anal orifice. July 8th. Ninth day—egg shell split; larva fully formed. July 14th. Tenth to fifteenth day—cuticle of both egg and larva increasing in opacity, finally forming a dull white disc. July 15th. Sixteenth day—nymphs hatching. Several examples were seen to escape from the larval exuviae anteriorly.

Development of the Second Batch of Eggs.

Although these were laid four days later than the first batch, some of the nymphs appeared simultaneously with those of the first batch—that is, on July 15th.

Development of the Third Batch of Eggs.

These were laid twelve days after the first batch, or eight days after the second batch, and the first nymph appeared on July 18th, just three days later than the earliest appearance of the nymphs from the first batch. It should, however, be noted that the nymphs from all three batches were quite erratic in their appearance, as examples from each lot of eggs continued to emerge over a period of twelve days, the last appearing on July 27th.

Dermacentor reticulatus.

This is the tick which Surgeon John F. Anderson thought to be responsible for the transmission of spotted fever or tick fever of the Rocky Mountains region in the United States of America. Anderson founded his theory on the ground that the fever was always found where there was a history of tick bites about one week before the onset.

Claim not substantiated.

ON THE ETHICS OF A PRESCRIPTION.*

By G. A. BATCHELOR, M.D.,
Capetown, South Africa.

IF we take a rapid and very cursory view of the history of medicine, we find that the ancient man of medicine gathered his herbs and made decoctions in secret, and retained his nostrums for his sole use in the treatment of his patients. In this way he created for himself a monopoly. When the patient wished to be treated he went to the man of medicine and obtained

his potions, and when he wished for further treatment he was obliged to return to the man of medicine. By a rapid step we come to the general practitioner of some years ago, and who still exists in country places. He was a man who dispensed his drugs and sent out his combinations in carefully-labelled and corked bottles, treating the case that applied to him with mixtures the composition of which was his own property. He in this way insured to himself gain for every repetition. To-day, for our own convenience, we write prescriptions, which are dispensed by the chemist. It is in reference to the ethics of these prescriptions that I wish to bring before you certain points for your discussion. Before going any further it is necessary for us all to accept the position that the prescription is written for the purpose of the treatment of the ailment of the person applying to us for relief. In writing the prescription our objective is to supply the patient with certain drugs indicated in the treatment of the attack for which he applies. Consequently, the prescription does not take a practical form until it has passed through the hands of the chemist and has become a bottle of medicine or a box of pills, etc. The chemist acts as our mediary or agent, and does the work which was formerly done by the man of medicine and the practitioner. The first question which will present itself to you is, Who is responsible, the prescriber or the druggist who makes up the medicine? I venture to think that you will agree with me that the prescriber must be held responsible, and that his responsibility does not end at the moment he hands the prescription to his patient; as a fact, the responsibility does not take a practical form until the prescription has taken the form of a bottle of medicine, etc. The prescriber is then responsible for the effects produced by the drugs exhibited. The only responsibility the chemist has is in the correct reading of a prescription and its correct dispensing. His responsibility should be to the prescriber and not to the patient. This does not appear to be quite the position held by the chemist. He appears to acknowledge his responsibility to the person presenting the prescription. We not infrequently see written up in a chemist's shop or his window, "Prescriptions accurately and carefully made up," as an inducement to the public to bring their prescriptions. If the position I have suggested be the right one, then the chemist should send circulars to us writers of prescriptions stating their ability to make up our prescriptions accurately and carefully.

If we accept the position that the prescriber is responsible to his patients for the effects of his prescription, the next question which naturally follows is, How long shall the prescriber's responsibility last?

It appears to me that, in the present state of the conditions connected with a prescription, the liability is unlimited, at least it is unlimited as long as the prescription continues to exist and is negotiable into drug form, the person to whom the prescription has been given being in a position to have the prescription made up an unlimited number of times, either by the same chemist or any other chemist. Chemists are willing to repeat the mixture, etc., having for their authority for so doing only the request of the patient or his messenger. This state of affairs, I would submit to you, is both undesirable and loose. That we as a profession should be held responsible for something over which we have no control is unscientific from a medical point of view and is distinctly unbusinesslike from a commercial point of view. Such a state of affairs would not be tolerated in any other walk of life, and is ethically wrong.

The next question, and a natural sequence to the above, is: To whom does the prescription belong? I believe that it is held generally that the prescription belongs to the patient to whom it is given, and I wish to place this under review for discussion. The patient, in the first instance, applies to us for treatment, and, in order to suit our convenience, we hand him a prescription, by means of which he is able to obtain from our agent, the chemist, the necessary drugs for the carrying out of the treatment. He does not apply to us for a prescription; if he does, he does not mean what he says. He has slipped into a professionalism to which he is not entitled. After he has been supplied with the drugs indicated by the prescription, to my mind the prescription should be of no further use, either to the patient or to the chemist, for his further gain by the remaking of a prescription when not authorized by the writer, who is, as we have seen, the responsible party. Otherwise the prescription becomes a sort of blank cheque upon his reputation as a reputable and careful medical man. Let us take an instance of what not infre-

* Read before the Capetown Branch of the British Medical Association.

quently occurs. A patient presents himself at our consulting room with an attack—say, of neuralgia. It is principally in connexion with consulting-room patients that most of our difficulties occur. We prescribe for that patient with a view of relieving his pain, and expediting his restoration to health by means of drugs. The patient is probably told by the physician he consults that he is suffering from neuralgia. We are not called upon, I take it, to write a prescription for neuralgia itself, for there are many ways and various indications for treating neuralgia in different patients. What not infrequently occurs is this—the patient leaves the room with the knowledge that he is suffering from neuralgia, and he goes away with the prescription in his pocket, presumably for that disease. Neuralgia and the prescription become intimately associated in his mind. He takes the prescription to his chemist and has it dispensed. He retains the prescription, which enables him not only to have the mixture repeated for the current attack but for any subsequent attacks, and not infrequently he has the temerity to hand the prescription to his friends who may be suffering in a similar way. By this means is the doctor, who receives a guinea or five shillings or nothing at all, deprived of his just dues. So little do the public realize that by passing on a prescription to other friends they are depriving the doctor of the further fees to which he should be entitled, that they will not infrequently tell the doctor, with an appreciative remark, that they gave the prescription to Mr. So-and-so, who was suffering in a similar way; and nothing is left to the doctor but to smile and put on a gratified look at the success of his prescription at the expense of his pocket. The position I would suggest as being the correct one is, that the prescription having been dispensed by the chemist and the mixture supplied to the patient, the prescription should become dead, and should be neither at the disposal of the patient for further use nor for the use of the chemist for making up any subsequent mixture. If the prescription is to be resurrected the resurrection should only be by the signature of the prescriber. If this was the accepted rule we would be in a position to compel our patients to return to us for any repetition of mixture or for the treatment of any subsequent attacks, and I venture to think we would in this way have a larger amount of control over the treatment of our cases and we would be in a better position to follow up our cases, not only with benefit to ourselves medically and pecuniarily but also with benefit to our patients, and we would avoid our prescriptions becoming blank cheques on our reputations. When a case requires prolonged treatment, then by all means let the prescription be dated and let it be definitely stated on the prescription for how long the same shall be in use. At the end of that period the patient should return to his medical adviser for instruction should further treatment be required.

Take, for instance, the treatment of epilepsy with bromides. It may be necessary that the patient may have to take bromides for years, but it is very doubtful practice to allow a patient to deluge himself with bromides to the detriment of his mental condition without being under medical observation. This principle may even be carried out in such a small matter as the prescribing of a tonic. It would be much more scientific for the prescriber to state how long the tonic shall be continued and the limit on the prescription than to allow the patient to continue the treatment at his own discretion and perhaps to the ultimate detriment of his digestive organs. In the case of a patient being removed from the physician from whom he has received his prescription by a great distance, then I would suggest that after the patient has taken the prescribed drugs for the period stated on the prescription, he should either be compelled to communicate with the prescriber for further instructions, or submit the treatment to his local medical attendant for advice. In connexion with this, I think it is not altogether free from reprehension for physicians to undertake the prolonged treatment of a chronic case, living at a great distance from them, by giving prescriptions and advice, and quietly ignoring the local medical attendant of the patient. This is, in my mind, a transgression of one of the ethical principles connected with a prescription, as between one medical man and another medical man. If the idea of the safeguarding of a prescription be accepted as correct, I am of opinion that we would place the treatment of our patients upon a safer and more scientific basis than at present.

The fact that no restrictions are placed upon the use of a prescription will account for the way in which prescriptions are made use of, and run as patent medicines. I have no

definite information to lay before you, but I think I am not far wrong when I state that probably a large proportion of the patent mixtures sold to-day have had their foundations in prescriptions the writers of which have received no royalty. Not only do they receive no royalty, but they become the unwilling means of doing a great deal of harm to the public and to the profession of which they are or were most probably honourable members. To give an instance which came under my own notice: I remember a tablet being introduced to me by a traveller of a well-known drug firm, as an excellent means for the treatment of neuralgia, and I was assured by the traveller that the tablet had been built up from a prescription written by a medical man practising in a provincial town in England who had found the combination give excellent results in his own practice. I am unaware that the medical man was in the receipt of any royalty from the sale of the tablet. To give another instance how we as a profession are being defrauded of the just reward of our hard-earned knowledge, I remember being told of a titled lady in London who obtained from a dermatologist a prescription for a hair wash, which she found so successful in her own case, and probably in that of her friends, that she patented the wash, possibly with some slight and immaterial alteration, and by the sale of the same reaped a rich harvest. It is open to us to suppose that the original cost was 2 guineas, probably 1 guinea.

I would draw attention also to the way in which prescriptions in popular books on medicine and in domestic journals, some of which not infrequently contain powerful drugs, are copied and presented to the chemist to be dispensed, without any signature representing the responsible person. I would ask the Association, Who is to be considered the responsible party for the effects of such a prescription? I would especially draw attention to the possible dangerous abuse of prescriptions containing narcotics. Cases must have come under the notice of most practitioners where patients have received a prescription containing opium, chloral, or other narcotic, evidently, in the first instance, prescribed for the necessities of the case, but the patient has continued to obtain repetitions from his chemist, without any further advice from the medical attendant, and in this way has sown the seeds of a drug habit disastrous in its results. The public are not always wrong when they accuse the medical profession of creating drug habits, seeing that prescriptions containing narcotics or other drugs capable of producing habits are allowed to exist in an irresponsible way with our signatures attached. I am of opinion that it should be penal for any chemist to repeat a mixture containing dangerous narcotic drugs without the prescription being each time signed again by the prescriber or his representative. I am not sure whether such dispensing could not be dealt with under the Act regulating the sale of dangerous drugs.

In conclusion, I would suggest, in order to protect ourselves professionally and commercially and our patients medically, and, by the way, of conducing to the fulfilment of the ethical requirements of a prescription, that each prescription shall be headed by the patient's name and address, and that the prescription shall be signed by the writer with his ordinary signature, instead of, as now, merely by initials in such hieroglyphic form that it is only decipherable by the writer, and that the prescriber's address shall be given, and that it shall be stated for how long or for what quantity the prescription shall be made up, and that it shall be only available for such time and quantity, and shall only be available for the person for whom it is written, and that after the prescription has fulfilled the instructions of the writer it shall be dead.

NOTES ON A CASE OF PNEUMOTHORAX.*

By JOHN MCKIE, M.B., C.M. GLASG., GLENLUCE.

THE patient in this, a school teacher, aged 21, called on me on September 29th, 1903, in the evening. He declared he had been in perfect health until the sudden onset of a sharp pain in the left side while taking his morning wash the previous morning. It had persisted ever since, but, nevertheless, he had continued his duties at school. The region he indicated as its site was from about the fifth to the eighth or ninth rib in the mid-axillary line.

There was no other complaint, and only on close questioning did he admit that he felt somewhat breathless on ascend-

* Read before the Scottish Division, Border Counties Branch of the British Medical Association.