

is very poisonous to animals and men; when a man has eaten the seeds and stalks of the tutu, and shows signs of poison, he is put under water for nearly half a minute, his stomach is by this means filled with water, he is then taken out and rolled on the ground, until he vomits. The expressed juice from the seeds of the tutu is a favourite drink of the New Zealanders, it is not poisonous, and is very pleasant. The juice of the leaf of the Puatanatana is used as a blister.

There are several other plants used by the natives to cure diseases. Different parts of the country use different substances. None of them are very active. Neither purgatives nor emetics are much used. A large proportion of the remedies are to cure cutaneous diseases, a very significant proof of their great frequency. There are few remedies for pectoral diseases, or indeed any internal or obscure malady. Much of the above information relative to the plants used in medicine is procured from the Rev. Mr. Taylor's 'Leaf from the Natural History of New Zealand.' The natural orders given, I have arranged from a French work, entitled 'Choix de Plantes de la Nouvelle Zeelande Recueillies et Decribes, par M. E. Raoul, Chirurgien de première classe de la Marine Royal, 1846.'

Their Physicians.—From the New Zealanders' ideas about the pathology of diseases, the priests were their only useful medical men. When called to a sick person, the first thing done was to consult the gods as to the termination of the malady; there were several ways of doing this, but the most common was to pluck up a piece of fern, if the root came up clean and free from earth, a favourable prognosis was given; if, on the other hand, much earth adhered to the root, an opposite opinion was given. The sick were conveyed into the bush away from the village, and a small place built for them, and the place was tapued—when a sick person recovered, fern root or some other food was cooked, and a portion was set apart for the gods—the tapu was then removed. When a person was bewitched, the priests were summoned to drive the witch away; the incantations of the priests in such cases were generally performed near water, where they professed to see the spirit depart. In some cases the witch was transferred from one person to another. I have seen a woman have nothing the matter with her, almost die from a belief in witchcraft; she rapidly recovered on a priest visiting her, and repeating a short prayer. The tapuing of the sick, and their removal from among the healthy, is merely an extension of our laws for the prevention of contagious disease.

ART. IV.

Note on the Induction of Sleep and Anæsthesia by Compression of the Carotids. By ALEXANDER FLEMING, M.D., Professor of Materia Medica, Queen's College, Cork.

WHILE preparing a lecture on the mode of operation of narcotic medicines, I thought of trying the effect of compressing the carotid arteries on the functions of the brain. I requested a friend to make the first experiment on my own person. He compressed the vessels at the upper part of the neck, with the effect of causing immediately deep sleep. This experiment has been frequently repeated on myself with success, and I have made several cautious but successful trials on others. It is sometimes difficult

to catch the vessels accurately, but once fairly under the finger, the effect is immediate and decided.

There is felt a soft humming in the ears, a sense of tingling steals over the body, and, in a few seconds, complete unconsciousness and insensibility supervene, and continue so long as the pressure is maintained. On its removal, there is confusion of thought, with return of the tingling sensation, and in a few seconds consciousness is restored. The operation pales the face slightly, but the pulse is little, if at all, affected. In profound sleep, the breathing is stertorous, but otherwise free. The inspirations are deeper. The mind dreams with much activity, and a few seconds appear as hours, from the number and rapid succession of thoughts passing through the brain. The experiments have never caused nausea, sickness, or other unpleasant symptom, except, in two or three instances, languor. The period of profound sleep, in my experiments, has seldom exceeded fifteen seconds, and never half a minute.

The best mode of operating is to place the thumb of each hand under the angle of the lower jaw, and, feeling the artery, to press backwards, and obstruct the circulation through it. The recumbent position is best, and the head of the patient should lie a little forwards, to relax the skin. There should be no pressure on the windpipe.

The internal jugular vein must be more or less compressed at the same time with the carotid artery; and it may be thought that the phenomenon is due, wholly or in part, to the obstructed return of blood from the head. I am satisfied that the compression of the artery, and not of the vein, is the cause. The effect is most decided and rapid when the arterial pulsation is distinctly controlled by the finger, and the face loses somewhat of its colour; and, on the other hand, is manifestly postponed and rendered imperfect when the compression causes congestion of the countenance.

This mode of inducing anæsthesia is quick and certain. The effects diminish immediately when the arteries are relieved from pressure, and are not liable to increase, as happens sometimes with chloroform and ether, after the patient has ceased to respire their vapours. So far as my experience goes, it has shown no tendency to cause faintness; and usually, after its employment, no unpleasant feeling whatever remains.

I think it may be found useful as a remedial agent in certain headaches, tetanus, asthma, and other spasmodic diseases, and to prevent pain in such small operations as the extraction of a tooth or the opening of an abscess. Whether the compression can be continued *with safety* sufficiently long to make it available in larger operations, has to be ascertained. But, whatever be the practical value of this observation, it is at least interesting as a physiological fact, and may be the means of throwing light on the causes of ordinary, medicinal, and hypnotic sleep, and of coma. Some facts encourage the supposition that the circulation of the brain is languid in ordinary slumber, and the etymology of the word carotid shows the ancient belief in the dependence of deep sleep on some interference with the passage of the blood through these vessels; and it is not an unreasonable conjecture, that hypnotic sleep may be sometimes caused or promoted by the contracted muscles and constrained position of the neck compressing the carotid arteries, and diminishing the supply of blood to, and pressure on, the brain.