

tered chloralose to a number of patients suffering from various forms of mental disease, in the asylum of which he is the medical superintendent, and found that a dose of .25 grammes (4 grains) produced no appreciable hypnotic effect, but in certain excited and violent cases a distinctly soothing influence, which lasted for a considerable time. With doses of .5 grammes (7½ grains) the hypnotic effect was uncertain; with 1 to 1½ grammes (15—22 grains) all the patients experienced a profound sleep, which lasted for many hours. The time which elapsed between the administration of the drug and the onset of sleep varied from 30 minutes to 3½ hours. In most cases sleep came on gradually, but in others the onset was sudden, and the patient dropped asleep while eating, talking, or walking. In a certain number of cases sleep was preceded by various abnormal phenomena, which affected the mental, sensory, or motor functions, such as muscular twitchings, tremors, dizziness, and affection of speech.

The character of the sleep produced does not differ apparently from normal sleep, but it is in reality more profound, and rather resembles the lethargy of the hypnotic state, for the patient is insensible to all forms of external stimulation, such as touching the cornea, pricking or pinching the skin, or the loudest noises. The respiration is calm, the pulse strong and regular, and the temperature is slightly lowered. After a variable period, the patient wakes as from natural sleep, but may suffer from headache or hebetude for some hours.

In a number of cases the period of sleep presents certain complications of great interest as tending to show some close relation between the effect of chloralose and the hypnotic lethargy. The author divides these phenomena into two groupes: (1) Psychical and psychomotor phenomena, closely resembling the automatic actions of somnambulism, the patients getting out of bed, walking about, sometimes answering questions without recognizing their meaning, and performing various automatic actions; pinching, pricking, or loud noises produced no apparent effect, and the patients returned to bed and to sleep: on awakening, there was either no recollection of what had taken place, or a confused sense of having dreamed during the night. (2) Motor complications, in the

form of muscular tremors, were not unfrequent, and presented, ordinarily, a general tremor resembling that seen in certain cases of general paralysis of the insane. In other cases, irregular movements of wider range and of choreic type were present, while a third group presented sudden twitchings of epileptiform character, at times accompanied by reddening of the face and foaming at the mouth.

One patient a girl suffering from hysterical mania—after sleeping two hours became violently agitated by rhythmical tremors of the limbs for twenty minutes: two hours later the tremors reappeared, and persisted until she commenced to sing a kind of improvised chant of mystical and erotic character, which she kept up the whole of the night.

*Uses of Chloralose.*—(1) As a means of studying the psychical and other phenomena of the hypnotic state, chloralose offers a promising field for further enquiry: it produces a dissociation of the highest and most differentiated functions of the organism, and enables us to study and analyze those conditions of mind and body which are intermediate between the ordinary waking state and complete lethargy.

(2) As a means of diagnosis, chloralose merits further study, as under its influence latent neuroses become manifest: for example, the author relates a case in which there was probably general paralysis, but in which the ordinary symptoms were slight or absent. Under the influence of one gramme of the drug, the typical mental condition and affection of speech appeared. A latent hysterical element in other cases became manifest when chloralose had been given for its hypnotic effect.

(3) As a therapeutic agent, its soothing and hypnotic properties are of great use in suitable cases. In insomnia of a purely nervous character, in states of cerebral excitement, in the insomnia and pain which form so marked a feature in the latter stages of cardiac disease, chloralose is of the greatest value; the absence of depressing influence upon the respiratory functions, and upon the heart, render it especially suitable for the latter class of cases.

On the other hand, it is of little use in sleeplessness due to pain or to alcohol; it aggravates the motor-inco-ordination of ataxic patients, and the tremors of Parkinson's disease.