

chloral resembles natural sleep. Recovery from this sleep is unattended with any apparent derangement of the system. The drug may be administered in doses just large enough to produce this sort of natural sleep, or in doses large enough to produce a dangerous degree of narcotism, or in doses that shall rapidly prove fatal. In other words, the hydrate of chloral is to animals a pleasant and harmless anodyne, or a dangerous narcotic, or a rapid and fatal poison, according to the dose in which it is given. In this respect its action on animals resembles its action on man. When death is produced, the heart seems to be the ultimum moriens. The circulation may be seen going on in the web of a frog's foot, when the animal is so profoundly under the influence of the drug as to appear dead.

Muscular relaxation, complete anaesthesia, absence of reflex movements and reduction of animal temperature, in varying degrees, dependent upon the doses given, accompany the narcotism of hydrate of chloral. An apparent hyperaesthesia has sometimes been noticed, especially by M. Demarquay, but it is an occasional and exceptional phenomenon.

A knowledge of the physiological action of the hydrate of chloral on man is an indispensable guide to its use in disease. We do not yet comprehend this action completely, but we know enough of it to aid us materially in its clinical administration. The points of greatest importance to the practitioner are its absorption, its elimination, the changes which it undergoes in its progress through the system, and its action on the system, from the period of absorption to that of complete elimination.

1st. *Absorption*.—Hydrate of chloral is readily absorbed by the mucous surfaces of the stomach and rectum, and also by the cellular tissue. For absorption by the latter tissue it should be administered by subcutaneous injection. This procedure, on account of the local irritation which it induces, is not one to be recommended. The ordinary method of giving it by the stomach is the best. If concentrated when thus given, it produces local irritation and nausea, and is apt to be thrown off. It is easily and quickly absorbed from the stomach if largely diluted. I have usually found that a solution stronger than a grain of the hydrate to a drachm of water will produce gastric uneasiness. When diluted to this or to a greater extent, it is well tolerated by the stomach. If a moderate dose is given, viz, one of thirty