TODD (C. H.)

Anesthetics.

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ANESTHETICS.*

By C. H. TODD, M. D., Owensboro, Ky.

In presenting briefly the subject of anesthetics the speaker will confine his remarks to the action of chloroform.

The nervous system is divided into two great divisions: the brain and spinal cord compose one division, known as the cerebro spinal nervous system, and the organic, or great sympathetic nervous system the other division. The first division—the cerebro spinal system—has nothing directly to do with the carrying on of physical life.

We are told that the effect of chloroform is first upon the brain, and then upon the spinal cord, and the reflex functions of the cerebro spinal axis are abolished so far as concerns the voluntary muscles, which, consequently, lie perfectly relaxed and passive, and while the patient is profoundly insensible, the parts concerned in the respiratory movements remain active and all the faculties essential to life intact.

The second division—the great sympathetic nervous system—controls the organic life of the human system, both physical and mental. These organic nerves never rest, and are distributed to every minute portion of the body; and so the head, lungs, liver, stomach, kidneys, etc., never rest.

Each minute cell in the human body is composed of molecules, which must be a typical gas, and all metabolic action is controlled by the organic or great sympathetic nervous system.

In what way does chloroform cause sudden death? This is the query that naturally arises. The action of chloroform in producing total insensibility is confined in its effect to the suspension only of the functions of the cerebro spinal nervous system; but is it not probable that when sudden death occurs it is caused by the involvement, also, of the organic or great sympathetic nervous system, whereby a chemical change takes place in the gas molecules, resulting in a dynamic or explosive action which instantly inhibits all metabolic action of cell life itself? May I ask what is animal heat? Is not this term a misnomer? Is not the so-called animal heat an aeroform or gaseous body, or a substance? Is not heat a property of the molecules such as light, motion, electricity, magnetism, dynamic or explosive action, etc.? Heat is a fixed property, and cold means only a lesser degree of heat. When the human body is opened you perceive a steam or vapor or gas arise which is animal heat so-called. The animal heat is always manufactured by the arterial blood. The red corpuscles are said to carry oxygen. What do the white corpuscles and the liquor sanguinis carry, as they are both of the same temperature as the red corpuscles? Is it not reasonable, then, to suppose that the white corpuscles and liquor sanguinis contribute their respective share to form gaseous substances which, commingling with the oxygen of the red corpuscles, form conjointly a gaseous substance which we call animal heat? This term I again pronounce a misnomer.

Pure oxygen is a violent poison, but if united approximately with four-fifths nitrogen makes a breatheable atmosphere.

A condition exists within the body which is similar to the air without, and this inside condition called animal heat is a typical gas, having the same properties which, as already stated, exist in the molecules, namely, dynamic or explosive action, electricity, magnetism, heat, light, motion, etc.

Very little has been known about gases and their action, but since the late researches and publications of my fellow-townsman, Dr. Jacob Glahn, have established the law of chemical action of resolution pertaining to physical life in contrast to the chemical action of dissolution, our conception of germ causation of disease must be modified.

The fact that chloroform is often indispensable for the safe accouchement of the woman with organic heart disease, is strong evidence that sudden death from chloroform is not due to heart disease, and the same may be said in regard to disease of the kidneys when we consider that chloroform is our most valuable remedy in puerperal eclampsia.

*Read before the Kentucky State Medical Association, April, 1903.

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