

the metal, and the evolution of an equivalent of hydrogen. The formation of these secondary electrolytes, and compound anions and cations, will probably furnish the key to the explanation of many of those decompositions and recompositions, to which the presence of water is necessary, such as those of nitric acid on the metals, and the formation of Schönbein's circuit: but the author reserves for a future opportunity the examination of this hypothesis, as well as of the general question.

"Experimental Researches on the mode of operation of Poisons."
By James Blake, Esq. Communicated by P. M. Roget, M.D., Sec. R.S.

In this paper the author examines more particularly the action of those poisons which appear to produce death by affecting the nervous system.

After reviewing the evidence adduced in support of the opinion, that the effects of some poisons are owing to an impression made on the nerves of the part to which they are directly applied, he proceeds to relate a series of experiments undertaken in order to show with what rapidity the blood is circulated through the body, and tending to prove, that a substance may be generally diffused through the system in nine seconds after its introduction into the veins.

Experiments are then related in which the more rapidly fatal poisons had been used, and in which it was found, that an interval of more than nine seconds always elapsed, between the administration of a poison, and the appearance of the first symptoms of its action. The mere contact of a poison with a large surface of the body appears to be insufficient to give rise to general effects, as long as it is prevented from entering into the general circulation.

Various causes of fallacy in experiments of a similar kind, which have been adduced in support of an opposite opinion, are pointed out. The following is a summary of the conclusions arrived at by the author.

1. The time required for a substance to penetrate the capillary vessels, may be considered as inappreciable.
2. The interval elapsing between the absorption of a substance by the capillaries, and its general diffusion through the body, may not exceed nine seconds.
3. An interval of more than nine seconds always elapses between the introduction of a poison, into the capillaries, or veins, and the appearance of its first effects.
4. If a poison be introduced into a part of the vascular system nearer the nervous centres, its effects are produced more rapidly.
5. The contact of a poison with a large surface of the body is not sufficient to give rise to general symptoms, as long as its diffusion through the body is prevented.