

SCIENCE

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NEW RESEARCHES ON CONDITIONED REFLEXES¹

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I HAVE the pleasure and the honor to present to the representatives of American science the results of my investigations. For the last twenty years I have studied the highest nervous activities of the dog, the functions of the cerebral hemispheres of the brain. These functions I have studied only physiologically on strictly physiological grounds. I never use any psychological conceptions or terms.

The basis of nervous activity is formed by so-called reflexes or instincts. The instincts are also reflexes, but more complex. The instincts—inborn associations with definite stimulators—correspond to the activities of the organism. On this basis are built the highest nervous activities.

If the action of any indifferent agent coincides in time with the action of an instinct, and if the action of the agent is repeated many times, then this agent, formerly indifferent, begins to stimulate the instinct. Here is an example:

Food stimulates the food reaction, which consists of some movements of the animal and secretion. If some indifferent agent, which previously had nothing in common with feeding, is repeated many times with the feeding of the dog, after a time it begins to stimulate the food reaction when used alone. If we produce some distinct musical sound, for instance, at a given rate of frequency of vibration per second—and always at the same time feed the dog, after a while this sound, used alone, will produce the same food reaction as the food itself.

Such stimulators may be formed from any agent of the outer world and with any other instinct. For example, the self-protective instinct, the sexual instinct, and so on, have both the individual reflexes and the social reflexes. In this way, besides the reflexes or instincts which are inborn, there are some reflexes acquired during the life of the individual. The first, or inborn, reflexes we call unconditioned reflexes and the second, or acquired, reflexes we call conditioned.

It is clear that the conditioned reflexes play a very important part in our behavior, as they are being acquired all during the life of the individual and are the education and the development of the individual.

¹ Address given at Battle Creek Sanitarium, July 7, 1923. Translation furnished by Professor W. N. Boldyreff, Pawlow Physiological Institute, Battle Creek Sanitarium.

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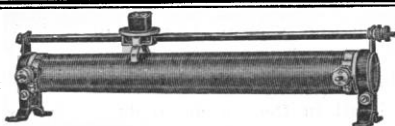
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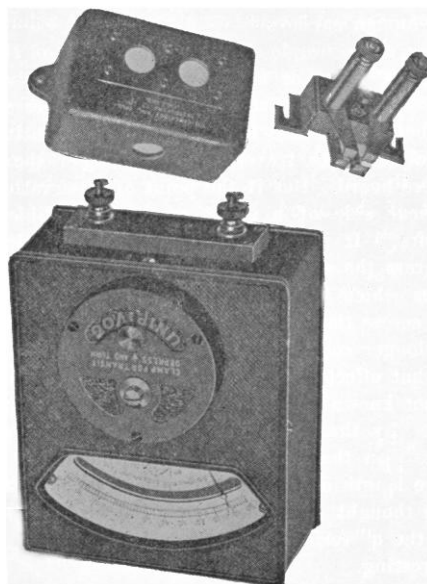
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