Dr. Murphy says in explanation:

"Apparently thepower to activate a chloroformed filtrate cannot be considered as proof of the action of a living organism, for cultures of embryonic tissue or placenta are just as potent in this respect as so-called cultures of malignant tissues.

"Two possibilities present themselves in explanation of the results attained. First, that the causative agent of the chicken tumor is in the nature of an enzyme-like substance which is inactivated by chloroform and may be reactivated by a diffusible substance from malignant tumors, embryonic tissues and placental tissues. The second possibility is that the chloroform treatment does not destroy but simply attenuates the causative agent to a point at which unaided it is too weak to induce a tmmor but in conjunction with some injurious or stimulating substance supplied by the 'culture' it becomes effective. The fact that a great excess of chloroform so completely destroys the agent that no reactivation is possible is rather in favor of the latter possibility. Further experiments are in progress to elucidate these points."

REMOVAL OF ONE IDEA WOULD COLLAPSE CIVILIZATION, MILLIKAN SAYS

Two ideas, one three hundred years old and the other very new, that have exerted a powerful influence upon man's ideas of the world in which he lives, were explained by Dr. Robert A. Millikan, director of the Norman Bridge Laboratory of Physics at Pasadena, Calif., in the annual Messenger lectures that he delivered at Cornell University in April.

"One idea has probably already exerted a larger influence upon the destinies of the race than any other which has ever entered the human mind." Dr. Millikan said. "This is the one which underlies the whole of modern mechanics, theoretical and applied, and which came into human thought in a large way beginning with Galileo."

Expressed quantitatively this idea takes the form of the second law of Newton, which says that force, f, equals mass, m, multiplied by acceleration, a.

"If this idea were removed from modern civilization, it would cause the whole of it to collapse like a house of cards and throw back the world, so far as its material life is concerned, to the conditions existing in the civilization of ancient Rome," Dr. Millikan declared.

The other and younger idea is that of the electrical constitution of matter. According to Dr. Millikan, this idea, which although now less than thirty years old, including as it does radio activity, electronics, quantum theory, and relativity, has already had such enormous consequences in changing the conceptions of man about the physical world in which he lives and in practical applications to his daily life that it justifies the expectation that it will be of no less significance than the first.

The development of this idea of the electrical constitution of matter, in which Dr. Millikan has so greatly participated, is the subject of his lectures.
