between the joints of my armour thus loosely put on; and in an evil hour I did consent, with the result that ten days ago I found myself worn out with the monotonous and exhaustive work of examinations and with not so much as a rough note ready for this occasion—and all in spite of my most strenuous endeavors. So, gentlemen, I pray you, kindly accept of the best I can give you under the circumstances, and be assured that I prize most highly the honor of addressing you as the representatives of a large body of men who are doing a noble work and one accomplished in many cases under difficulties which you yourselves best understand.

My subject is entitled :—"Reflexes, the In-going or Afferent Impulses and their Psychic Correlatives."

Protoplasm, whether in the plant or animal, is distinguished by its power to react by movement to a stimulus. Nor is this haphazard, for even in the unicellular Amœba and still more in the simple multicellular Hydra, is there already to be observed the beginnings of motor localization. In the Bell Animalcule with its more or less definite or rhythmical movements, we are reminded of the periodic discharges of the respiratory centre of vertebrates. In the earthworm there is a nervous mechanism which results in all the segments of the creature working together in harmonious movements. Yet when the head-end is removed the difference is not what might have been expected by the student who knows only vertebrate anatomy or physiology, much less by the uninitiated. When the worm is cut into segments these still move, and when the divisions are not too small, to some purpose too, and in such a case there can be no question of a brain or will. The nervous system of each segment does not differ greatly from an imaginary simplified segment of the spinal cord of the vertebrate. Perhaps we may with greater accuracy, in some respects, compare it with the sympathetic system of the vertebrate. In any case it must be plain that movements so far as they are dependent on the nervous system, are the outcome of the effect of the external world acting directly as a stimulus; we find in some of the worms the body of the sensory neurone, not as in the vertebrate usually in the spinal or other ganglia in proximity to the main centres, but actually in the skin itself, so that it is clear that there is an admirably simple structural provision made for telegraphing the messages inwards.

There is no anatomical difficulty in the conception that the movements of the worm are largely reflex, whether in the intact or sectioned animal. It will be well to bear in mind throughout what constitutes the simplest anatomical mechanism for a reflex action according to modern conceptions. Using the term neurone to mean the nerve unit or nerve cell, we require for reflex action at least one