

ELECTRICAL PAPERS

BY
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Heaviside's greatest contribution, "Theory H";

"Now, in Maxwell's theory there is the potential energy They are supposed to be set up by the current in the wire [Theory N] **We reverse this**; the current in the wire is set up by the energy transmitted through the medium around it [Theory H]."

The field causes the current [H], not the current the field [N].

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be compared to the energy of a machine which is transmitting motion ; if done at a steady rate, it remains constant and definite, and the rate of transmission is definite.

Now, in Maxwell's theory there is the potential energy of the displacement produced in the dielectric parts by the electric force, and there is the kinetic or magnetic energy of the magnetic induction due to the magnetic force in all parts of the field, including the conducting parts. They are supposed to be set up by the current in the wire. We reverse this ; the current in the wire is set up by the energy transmitted through the medium around it. The sum of the electric and magnetic energies is the energy of the electric machinery which is transmitting energy from the battery to the wire. It is definite in amount, and the rate of transmission of energy (total) is also definite in amount.

Below is the closest Heaviside got to "Theory C";

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By the way, is there such a thing as an electric current? Not that it is intended to cast any doubt upon the existence of a phenomenon so called ; but is it a current—that is, something moving through a wire? Now, although nothing but very careful inculcation at a tender age, continued unremittingly up to maturity, of the doctrine of the materiality of electricity, and its motion from place to place, would have made me believe it, still, there is so much in electric phenomena to support the idea of electricity being a distinct entity, and the force of habit is so great, that it is not easy to get rid of the idea when once it