aims and to similar principles of action —that is to say, in like methods of yoking a few elementary forces to the discharge of special functions and to the production by adjustment of one harmonious whole." It is the recognition of this fact which has been productive of such wonderful results in the recent past, and which holds out still more wonderful possibilities for the future. On this fact is based Dr. Hendricksen's discovery.

If by means of an electric current sound can be reproduced hundreds of miles distant, with every inflection, and every tone of a familiar voice, why may not light be reproduced and a far off face or a distant scene be brought before us as plainly as if it were but a few yards away?

Illustrations of the developments founded upon, and which lend support to, the truth of the wave theory, as well as justify confidence in the ultimate perfection for practical purposes of Dr. Hendricksen's discovery, are to be found in the history of experimental research. A reference to this history may assist the reader. The most fruitful discovery of recent times is that of Oersted, showing that a magnet tends to place itself at right angles to the course of an electric current within its field. Oersted also shows that electric and magnetic phenomena are not independent; that they are of the same class, and that the explanation of the one involves the explanation of the other. In the hands of Faraday and others this discovery was developed, and we have the dynamo, the electric motor, and last, but not least, the telephone, as the results of their labors. The experiments which followed showed that if the direction of the current is reversed, the direction of rotation of the magnet is changed: that if the magnet is held fixed, the conductor through which the electric current passes tends to take a position at right angles to the magnet: that by the motion of a magnet within the field of an electro-magnet the strength of the current about the electro-magnet is increased or diminished, and conversely, that anything which tends to increase or diminish the magnetism of the enclosed magnet tends to alter the strength of the electric current in the surrounding wire. Now, the movement to and from the poles of the magnet of any substance capable of affecting the magnet, as iron does, tends to cause an increase or decrease in the current of electricity and anything affecting the current at any one point of the circuit, must affect all points alike. If, then, more than one magnet be inserted in a circuit, what affects one magnet must similarly affect all others. This is an explanation of the telephone. Two magnets inserted in an electric circuit having two plates of iron contiguous to their poles constitute the receiver and the transmitter. Waves of sound impinging on the plate at the transmitting end, cause the plate to approach to and recede from the magnet there, thus altering the magnetic condition and the strength of the electric current in the wire. But this alteration in the strength of the current affects in a like manner the magnet at the receiver and causes the plate in front of it to recede from and approach to the magnet in harmony with the movements of the plate at the other end of the wire. But these movements have been caused by sound waves, and as the movements of the receiving magnet are synchronous with those of the transmitting magnet, sounds similar in all respects, save perhaps in volume, are thus reproduced.

Light was once regarded as consisting of corpuscles shot out with infinite velocity from a luminous body. This theory which had for its greatest advocate Sir Isaac Newton, has long since been shown to very inadequately explain the phenomena of light. It was replaced by the undulatory or wave theory propounded by Fresnel and Young, and its truth in large