

matter. The old argument for the existence of an ether because some medium is necessary to transfer the radiant energy from the sun to the earth has accordingly no weight. For we now see that the radiation may be its own medium, somewhat as the stream of water from a hose acts as the medium for a wave if the nozzle is shaken.

Perhaps the only new thing in this letter is that, according to the common significance of the word, radiation must be considered a form of matter. But it has seemed to me that a consideration of this fact shows more clearly than we have seen before that matter is essentially continuous, and that the fundamental thing in matter is not the positive and negative electrons but is rather electric intensity.

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RUSSIAN SCIENTIFIC AID

AT the request of the American Relief Administration, which has been receiving, repackaging and forwarding the contributions of American scientific books, journals and papers published since January 1, 1915, for distribution in Russia, I wish to ask that any further shipments from contributors to the New York warehouse (Gertzen and Company, 70 West Street, New York) of the American Relief Administration should be made prior to December 30, 1922. Up to date approximately eleven tons of scientific literature have been sent to Russia by the American committee. This committee wishes to extend its warm thanks to all donors.

In response to the appeal for some money with which to relieve the distress of the hundred Russian intellectual exiles in Berlin, I have received up to this writing \$865, of which \$500 came as a single gift from Princess Cantacuzene and the rest in five and ten dollar lots from American scientific men. I have no doubt that the total of \$1,000 asked for will be reached.

VERNON KELLOGG

NATIONAL RESEARCH COUNCIL,
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SCIENTIFIC BOOKS

THE WATCHERS OF THE SKY¹

The romance of Science is not an infrequent phrase and it describes as well as any other the dramatic and striking phases of one side of human activity. Its domain is modern because all science is modern as a recognized pursuit and one which is of good repute. It is treated in many forms which vary from the fascinating stories of Jules Verne and H. G. Wells to the lurid and generally inaccurate articles in the Sunday Press. In between, we have many an essay or address which emphasizes the picturesque features of the search for the secrets of nature. But it is new for a poet of the first rank amongst those living to recognize its claims to be classed with love, war, and the more obvious forms of nature's works and human activities for expression in verse. In one respect Mr. Noyes, who follows the great poets of the past in taking a single theme, differs from them. Homer tells of the struggle of man against man, Virgil of man against nature, Milton of man against the unseen powers; it is always warfare or struggle in which one side or the other is to conquer. Here there is no victory and no defeat. The Torch-bearers are striving to learn not by defeating nature but by cooperating with her, and the achievements of nature are of less importance than the methods by which she works. He who learns hands on his knowledge; the torch is passed, not extinguished.

From the preface we learn that the "Watchers of the Sky" is the astronomical portion of a trilogy the title of which "The Torch-bearers" describes the main idea of the treatment. There is no pretence at completeness—the poem is a story not a history—but the torch is followed with some degree of consecutiveness as it passes from the hands of Copernicus through those of Tycho, Kepler, Galileo, until Newton held it high for all the world to see. Later glimpses show William Herschel putting out his hand to take it and Sir John bearing it for a time. The setting of the whole poem places the first and last word on the summit of Mount Wilson

¹ By Alfred Noyes. Published by the Frederick A. Stokes Company.