X-RAYS AND CRYSTALLINE STRUCTURE

Two years have gone by since Dr. Laue made his surprising discovery of the interference effects accompanying the passage of X-rays through crystals. The pioneer experiment has opened the way for many others, and a very large amount of work, theoretical and practical, has now been done. As the preliminary exploration of the new country has proceeded, our first estimate of its resources has grown continuously; we have learned many things which help us to a better understanding of phenomena already familiar, and we have seen avenues of enquiry open out before us which as yet there has been little time to follow. The work is full of opportunities for exact quantitative measurements, where precision is sure to bring its due reward. There is enough work in sight to absorb the energies of many experimenters, and there is sure to be far more than we can see. When we consider the wideness of the new field, the quality and quantity of the work to be done in it, and the importance of the issues, we are scarcely guilty of over-statement if we say that Laue's experiment has led to the development of a new science.

The experiment itself—to put it very briefly—constitutes a proof that X-rays consist of extremely short ether waves. In order to appreciate the value of this demonstration, we must bear in mind the present conditions of our knowledge of the laws of radiation in general. Let us consider very shortly how the whole matter stood when the new work was begun.

When X-rays were first discovered eighteen years ago it was soon pointed out that they might consist of electro-magnetic disturbance of the ether analogous to those supposed to

MSS. intended for publication and books, etc., intended for review should be sent to Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.
Editor's Summary

This copy is for your personal, non-commercial use only.

Article Tools  Visit the online version of this article to access the personalization and article tools:  
http://science.sciencemag.org/content/40/1040.citation

Permissions  Obtain information about reproducing this article:  
http://www.sciencemag.org/about/permissions.dtl