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CONCERNING  
THE NATURE OF THINGS

*BY THE SAME AUTHOR*

THE WORLD OF SOUND

Six<sup>\*</sup> Lectures Delivered at the Royal  
Institution, Xmas 1919. *3rd Edition.*

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# CONCERNING THE NATURE OF THINGS

*Six Lectures delivered  
at the Royal Institution*

By

SIR WILLIAM BRAGG

K.B.E., D.Sc., F.R.S.



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## PREFACE

It was my endeavour at the Christmas Lectures given at the Royal Institution in 1923-24 to describe certain features of the recent discoveries in physical science. Many of the facts that have come to light might well be the subject of "Lectures adapted to a Juvenile Auditory," and would be at the same time interesting and helpful; interesting because they display a beautiful order in the fundamental arrangement of Nature, and helpful because they have given us light on many old questions, and will surely help us with many that are new. I was aware of two special difficulties. The first was the difficulty of understanding the minuteness of the scale on which the action and properties of the atoms must be represented; but, after all, this was only a difficulty due to unfamiliarity, and would come to a timely end. The other was the difficulty of grasping arrangements in space. There are some who think that this difficulty is incurable, and that it is due to the want of some special capacity, which only a few possess. I am persuaded that this is not the

case: we should have nearly as much difficulty in grasping events in two dimensions as in three were it not that we can so easily illustrate our two dimensional thoughts by pencil and paper. If one can turn over a model in one's hand, an idea can be seized in a mere fraction of the time that is required to read about it, and a still smaller fraction of the time that is required to prepare the description. Perhaps some of the readers of this book will be sufficiently interested to make models of the few crystal structures that are mentioned in it, and may even go on to other structures that are described in larger books or in original papers.

I have added somewhat to the lectures as originally given. The additions are intended to make the treatment of the subject a little more complete: they were not very suitable for consideration at the lectures, but are perhaps permissible in the book because the reader can omit them if he desires or read them more than once, or consider them with a model in his hand.

At the end of the book there is a short note on the making of models.

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