

Book Reviews

JOSEPH NEEDHAM, *Moulds of understanding. A pattern of natural philosophy*, edited by Gary Werskey, London, Allen & Unwin, 1976, 8vo, pp. 320, £7.75.

Eleven essays on political and philosophical topics have been gathered together in order to illustrate Needham's social vision. He is well known for his remarkable *Science and civilization in China* which is still evolving, but preceding it and permeating it is a world view which is more difficult to appreciate because his many publications are not now easy to acquire. Nine of the eleven here have appeared in previous books and they have been reproduced faithfully, with only minor editing. The editor introduces both the selection and Needham; in addition, at least two of the essays are of autobiographic value.

One of Needham's messages concerns the dangers of allowing a world view of science to dominate society, one that he has been preaching for decades. He examines here the relationships between science, religion and politics and, in addition, the nature of applied science and technology in capitalistic society. He is one of the few individuals today who can do this adequately, owing to his deep knowledge and insight into Eastern as well as Western civilization. His central beliefs are that all important forms of human experience are fundamentally valid even though at times contradictory ("the moulds of understanding"), that there is a continuity between cosmic, inorganic, biological, human and social evolutions, and that a cosmic process underlies the moulds of understanding.

His vision is ecumenical, his outlook is progressive and his message is timely. His book can be recommended to all those who view modern science as a potentially destructive force.

BETTY JO TEETER DOBBS, *The foundations of Newton's alchemy or "The hunting of the greene lyon"*, Cambridge University Press, 1975, 8vo, pp. xv, 300, illus., £10.50.

That Newton, the towering genius of mathematics and science, could also have indulged in ethereal and arcane alchemy has, until recently, appeared to scholars as a paradox. It is now apparent that this need not be so, and Mrs. Dobbs' book contributes importantly to what is becoming a radically revised image of the master. She does this by establishing the historical context and foundations of Newton's alchemy. She has studied carefully the alchemical manuscripts, considered to date from 1668 to 1675, correlating them with Newton's records of his chemical experiments. She also shows that he was in contact with his alchemical contemporaries.

From these basic data the author is able to reveal that alchemical notions are inherent in Newton's subsequent writings, including the *Principia* of 1687, and that the one concerning a "universal spirit" extensively pervades his thinking to link all physical and biological phenomena of nature. On the other hand, he introduced precision into alchemy by means of mechanical philosophy.

This approach adds a new dimension to Newtonian studies, and Mrs. Dobbs, although at times revealing a lack of depth in the non-alchemical aspects of Newton's work, has provided an excellent interpretation and analysis of it. Her scholarly book will prove to be essential reading for all historians of science, and for those historians of medicine who are concerned with concepts influenced by Newton.