

"attraction at a distance", an increasingly unacceptable "occult quality".

Dr Aiton has earned the gratitude of students for extracting and lucidly presenting the essence of his theme from a mass of obscure and frequently tedious source material.

A. ARMITAGE

Static View of Science

The Philosophies of Science: an Introductory Survey. By R. Harré. Pp. 191. (Oxford University: London and New York, January 1972.) £1.30 boards, 60p paper.

THE philosophy of science, as an academic discipline, is deeply divided among its practitioners into a number of schools, each of which accentuates its differences from and minimizes its similarities to the rest. The frequent confrontations between these schools have become a ritual. In spite of a general belief to the contrary, these confrontations are of minor significance in the progress of the field of study. A beginner—be he scientist, layman or student of philosophy—wishing to gain some insight into the philosophy of science will find very little literature setting out the basic positions and problems in the philosophy of science, and he is more likely to be irritated than instructed by much contemporary writing.

Mr Harré's book is subtitled as being an introductory survey to the philosophy of science. In many respects it is more successful than most surveys in giving a fairly balanced view of some of the major approaches to the subject. Having divided the subject into three branches, logic, epistemology and metaphysics, the author then delineates in turn three theories of the logical structure of science—inductivism, Popperian falsificationism and positivism—showing their respective strengths and weaknesses.

The second theme of this book encompasses the various epistemological paradigms used by scientists, natural philosophers and philosophers of science. Rather than characterizing science by a single epistemological model, the author shows that certain of these models are more appropriate to particular sciences than to others. Sciences such as chemistry and anatomy are presented as being more suited to a realistic interpretation while physics is offered as being more accurately described by the phenomenalist paradigm.

The role of metaphysical theories is the third theme discussed in this book. This is an important subject which has too frequently been neglected in introductory texts. Among the topics dealt

with are the discreteness or continuity of matter and time. Causation is discussed in terms of the generative and successive theories of causality. As this book deals with "classical" science the author emphasizes the former theory while omitting to mention the significance of the latter to modern physics. Aristotelian metaphysics is referred to briefly before the author considers the corpuscular world-view in greater detail, and the relation between the three themes—logic, epistemology and metaphysics—is illustrated by his analysis of the corpuscular philosophy.

In general, the author's style is lucid if dry in places. The introductory chapter is disjointed and lacks clarity and is further marred by a typographical confusion on page 17. An example of this lack of clarity is in the discussion of the status of scientific knowledge. The perplexed reader of this section is left in a state of limbo owing to the author's cavalier use of terms like knowledge, truth and certainty.

This book is certainly an admirable introductory text on logic, epistemology and metaphysics. But owing to this division of the subject, a grey and static view of science is presented, as if science consisted of nothing other than these three branches, and Kuhn had not written *The Structure of Scientific Revolutions*. G. N. CANTOR

Tragi-comedy of Science

The Call-Girls: a Tragi-comedy with Prologue and Epilogue. By Arthur Koestler. Pp. 191. (Hutchinson: London, October 1972.) £2.25.

DON'T worry: Arthur Koestler has not taken to porn—he breaks fresh ground. *The Call-Girls* is a novel, aptly introduced by his publishers with: "Off they go, the distinguished members of the academic call-girl circuit, to yet another cultural congress, scientific conference, inter-disciplinary symposium." Economy-class fares paid; a modest honorarium or maybe no honorarium. . . . Suppose I were to let fall the word Pugwash, for example—is there not a shock of recognition? I am afraid Mr Koestler has introduced an undying concept into our culture: I shall never again think of them as anything but the call-girls of Academe—summoned over the long-distance telephone by "some professional busybody, Foundation or university" to do their thing, that is assemble, each read a paper, dispute and discuss to a climax, ejaculate a resolution or message, and then disperse to await the next call.

Mr Koestler's brilliant symposium is sponsored by the International Academy of Science and Ethics and is held in a

Scandinavian-type glass-and-concrete Kongresshaus improbably and sadistically planted in a remote Alpine village: the title finally settled on is "Approaches to Survival"; but its aim, and Mr Koestler's aim, is no less than to discuss the ultimate viability of the human race, which—to me at least, and, I should have thought, to many people nowadays—seems open to doubt.

The date seems to be a few years from now. The symposium is led by Solovief, an American physicist who has been awarded a Nobel Prize for discovering a new fundamental particle: he limits the number of participants, which includes two more Nobel Laureates, to twelve. (There is a prologue in which Jesus of Nazareth, hauling the Cross up Calvary, calls on God, the Father, to show His hand—if any.) Each of the twelve represents a current, not to say in some cases modish, approach to man. They include a post-Skinnerite behaviourist; a post-Kleinian psychologist; a surrealistic, down-with-the-system nihilist; a post-Delgadoist brain-stimulator; a slick, self-advertising exponent of "controlled schizophrenia"; a blushing young priest to propound extrasensory perception and psychokinesis; a silly, old, distinguished poet, Laureate among call-girls and the sole representative of the arts, whose main contribution to the action is a pass at the blushing young priest. Each delivers a paper, in which Mr Koestler displays his mastery of the art of exegesis; and, because this is fiction, he can take advantage of not having to side with anybody other than, perhaps, Solovief.

So Mr Koestler has created a novel of intellectual disputation. And a good thing that is, too, in days when we seem only too frequently to be offered the alternative, in novels, between headless action and incoherent emanations of the author's inner world. I found myself reminded of the early Aldous Huxley. Mr Koestler does not possess Huxley's poetic gift, and *The Call-Girls* is less "written" in the Henry Jamesian sense: on the other hand he does not suffer from the intellectual weediness that strikes one if one re-reads say *Chrome Yellow* now.

The crunch, so far as criticism is concerned, is of course in the climax of the novel, the message; in which Mr Koestler, through having taken on the tallest of orders, has to deliver the tallest, and the most serious, of goods. Very, very difficult—I should have said impossible, myself. I shall not disclose Solovief's recipe for human survival—in order to make sure you read Mr Koestler's book to see what it is. What I will disclose is that, like everything Mr Koestler writes, it is fascinating and provoking.

WILLIAM COOPER