

SCIENCE SURVEY

THE output of scientific work is so great that with limited space it is impossible to do more than mention a few rather general books that happen to have come one's way. The modern world possesses a number of devices to persuade its experts to pause in their primary work of research and explain to the rest of us where things are going. One of these is the Reith Lectures, and the B.B.C. have seldom made a happier choice than that of Professor Medawar, whose recent series of talks has just been published as *The Future of Man* (Methuen; 10s. 6d.). His subject was the theory of genetics in its application to human beings, but he saw his task to be less the expression of the most recent conclusions (which will after all be superseded before long) than the explanation of the reasoning by which such conclusions are reached, and the types of question that have to be asked if new paths are to be opened up. To follow him carefully is to begin to think as a biologist does, or ought to (Medawar himself says that the work made him think 'more widely' than before). The questions he deals with are broadly evolutionary; he explains the genetic factors that have to be considered in asking how we may improve as a race in the immediate future, the effects of social change such as wider use of birth-control, the direction in which intelligence changes in the population may go. In a last chapter he distinguishes the Darwinian sense of evolution, the result of built-in genetic structure, from a much looser sense, the passing on of instruction through oral and written tradition, a sense which corresponds to Lamarckian ideas and perhaps accounts for the psychological pressure to introduce them into the type of evolution in which they have no place. Though the similarities between the two have often led to confusion, Medawar shows that their differences are in fact more interesting and important. This is indeed what he speaks of as 'hard thinking, as opposed to soft thinking; thinking that covers ground and is based upon particulars, as opposed to that which finds its outlet in the mopings or exaltations of poetistic prose'.

The reader will probably not be far out if he detects here a reference to Sir Julian Huxley and Père Teilhard de Chardin. Teilhard's book (an article on which appeared in the April *BLACKFRIARS*) is still being widely discussed—it has produced a remarkable series of letters, of gnostic tendency, in the correspondence columns of *The Tablet*—and it would perhaps be better to determine to what extent its interest depends on a confusion in the concept of evolution, such as Medawar points out, before finding theological insight or heresy in it. An interesting criticism of a rather different kind is to be found in an article by the Rev. A. Kenny in the January number of the *Newman Philosophy of Science Bulletin* (obtainable from the P.S.G. Secretary, 31 Portman Square, W.1., price 2s.). Fr Kenny argues that though Teilhard attacked Cartesian conclusions, he never freed himself from Cartesian assumptions, so that starting with a misunderstanding of the human mind he could never succeed in his attempt to show that all natural things

possess an inner world of spirit which is one with them. Here too the criticism is of philosophical foundations rather than of superficially more exciting theological conclusions.

Though it has only recently met with attention in England, *Le Phénomène Humain* was in fact completed before the war, and the contrast between it and *The Future of Man* may perhaps measure the renewal of interest in philosophy of science that has taken place in the interval. The scientist who writes today in general terms knows that he has to reckon with the scrutiny of the philosophers, and knows that he must mark the limits of what he is saying with considerable precision: mere denial of any concern with philosophy is no excuse. Unfortunately it is still by and large true that the scientist and the philosophical critic have to be different people, and there is nothing easier than for an unsympathetic philosopher to produce a catena of quotation from scientists who have ventured into over-rash generalization, and string it together with destructive criticism. Such works are common enough (one sees with sinking heart the inset passages from page to page); simply for the sake of example, the latest of them is *The Hollow Universe* by Professor de Koninck of Laval (O.U.P.; 12s. 6d.). He is concerned with 'views of thought and nature suggested by certain advanced interpreters of the scientific outlook', views which he flogs with fine savage irony in the names of Aristotle and Aquinas. The 'interpreters' turn out to be men such as Russell and the late A. N. Turing. Is it too much to ask that philosophers should find out what people are actually thinking today? There are of course philosophers of science who by their sympathetic understanding of its processes really help the scientist to see what he is doing, but they are rarer; the most recent work of this kind which I know of is N. R. Hanson's *Patterns of Scientific Discovery* (C.U.P.; 30s.), but this was published in 1958, and I need do no more than mention it here.

Each year too there is a crop of books by scientists witnessing to their religious faith. Two recent ones are H. E. Huntley's *Faith of a Physicist* (Bles; 16s.) and Roger Pilkington's *World Without End* (Macmillan; 12s. 6d.). The dust-jackets are expectedly similar—a cross superimposed on something with vaguely scientific associations, and some reference to 'the common belief that the findings of science must conflict with the truths of religion', here to be refuted. The refutation has been done so often that it is surprising to find the belief still common. Professor Huntley is concerned to show that scientists are investigating the work of the Great Artist, and re-thinking the Creator's thoughts. He would do well to re-read Hume's *Dialogues concerning Natural Religion*. Dr Pilkington's approach is more sophisticated. Entering more deeply into the Christian revelation, he can do without the Designer (chs. vii and viii). The second part of his book is an apologetic for Christianity, which though interesting and often helpful suffers from a self-imposed ban on using the ideas of those modern exegetes with whose work Pilkington is familiar. He prefers 'individual groping after truth, and experience in one's own unique and individual life'. A scientist might have been expected to see that individual experience and expert assistance are equally necessary.

The approach characteristic of all the books so far discussed is in the broad sense philosophical; it involves seeing contemporary science in perspective. The historian of science has a rather different approach, often confused with it. He stands back from science in a different way; by re-creating what he finds fossilized in the past, he can often throw new light on our contemporary problems. As an academic subject history of science is comparatively new. Two recent publications deal with a field known up to now only to specialists, that of medieval science. Marshall Clagett's *Science of Mechanics in the Middle Ages* (O.U.P.; 50s.) at last provides essential texts, and allows us to see how much of what is still attributed to Galileo was in fact anticipated in medieval thought. A shorter but still authoritative introduction to the subject is provided by Fr Weisheipl's *Development of Physical Theory in the Middle Ages* (Sheed and Ward; 4s.), the latest in the series of short studies for general readers sponsored by the Philosophy of Science Group of the Newman Association.

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FRENCH OPINION

THE French are perhaps better at articulating their political ideas than at implementing them: the Cartesian *idées claires* have left a heavy legacy. Certainly there could hardly be a clearer summary of the major dilemma of our times than the special number of *Esprit* (March) devoted to Co-existence and Peace. Arranged with logical precision, some seventeen articles discuss the problem as a matter of recent history, analyse what has been argued and consider what hope there is of moving forward 'from co-existing to co-operating'.

Léo Hamon optimistically suggests that 'Rather than dreaming and speaking of an illusory simplification of the world, our efforts should be devoted to a pacific but inevitable convergence of national and social differences'. But Jean Conilh, in an article which is plentifully sprinkled with such headings as 'Categorical refusal' and 'Universal solidarity', nonetheless sees that 'Global politics has as its necessary corollary a taking root on the part of men and nations in that natural and traditional setting in which spiritual values have their origin and are fed. . . . The politics of the human race, far from destroying national families, should on the contrary compel them to be revealed at last in their true form: the continuity of a tradition, transmitted from age to age, whose personality is indispensable to life, beauty and the harmony of the whole.'

La Table Ronde (March) provides a whole number devoted to a similar topic, namely an enquiry into the new nationalisms. Denis de Rougemont points out that modern nationalism is largely an assertion of independence, proclaimed as a protest against western colonialism. The European phenomenon is more complex, and he provides an anthology of texts to justify his description of it as an ideology and not the play of economic forces. He finds national egoism to be an essential element in the French Revolution: