REVIEWS.

An Enquiry concerning the Principles of Natural Knowledge. By A. N. Whitehead, Sc.D., F.R.S.—Cambridge: University Press, 1919. —Pp. xii + 200.

The theories of physics, as summed up in its differential equations, are in terms of the points of absolute space, the moments of absolute time, and the distribution of point-masses or point-charges. Long before the theory of relativity arose to trouble the simple-minded, it might have struck observant persons that all these entities are removed by many stages from anything that we do or can perceive. They are remote from perception, not merely in the sense in which a light-wave or a molecule is so, viz. that our senses are not acute enough to perceive such small objects. A light-wave or a molecule is at least thought to be more or less like objects that we can and do perceive; it has *some* extension and lasts for *some* time, just as a wave in the sea or a cup on a table does. But an unextended, instantaneous mass-point is something utterly different from anything that we perceive, and it cannot even be regarded as a part of a perceived object in the sense in which a little bit of matter may be called a part of some bigger bit. The position of space and time is even more peculiar. Physicists, indeed, did lip-service to the theory that these are only relative, *i.e.* that they are simply relations between objects and between events respectively. But in practice they contented themselves with stating this as a pious opinion in the preface, whilst in the body of their works they always presupposed a space of geometrical points and a time of moments without duration within which particles formed now one configuration and now another. The spatial relations of particles and the temporal relations of events to each other were never, in fact, treated as ultimate, but were regarded as compounded out of the relations of particles to points or of events to moments, and of the relations of these points or moments to each other.

Yet of course physics is an empirical science, and its laws must begin from what is observed and end by predicting truly what will be observable under given conditions. This curious discrepancy commonly struck the idealist philosopher rather than the physicist. The latter, through the "bias of happy exercise," would naturally, in dealing with the traditional concepts of his science,

> "Be to their virtues very kind;
> Be to their faults a little blind."

The former, having quite different interests, was under no such temptation. But he unfortunately had as a rule neither the desire nor the knowledge needed for reconstructive as distinct from purely destructive criticism. He contented himself with saying that the concepts of physics were merely "descriptive instruments," and hurried on to prove the existence of God without condescending to tell us what they described, or how, if they were completely out of accord with the facts, they happened to describe them so successfully.

Even in those early days, before Einstein had tactlessly produced the most original and sweeping modification in physics since Galileo, in face of the dictum of our "patriotic" scientists that "the Hun is merely a sedulous elaborator of the genial ideas of the French and English," Professor Whitehead had seen the real problem, and, with his unrivalled equipment of boldness in philosophic speculation, endless patience in working out detailed consequences, and complete command of modern mathematical logic, had started to solve it. An early effort in this direction is his difficult but extremely powerful paper, "Mathematical Concepts of the Material World," in the *Phil. Trans.* for 1906, where he is already sitting very loose to the traditional concepts of space and material, and suggesting a number of new alternatives which will do their work equally well, though he still holds pretty fast to the traditional concept of time. Somewhat later he began to develop the Method of Extensive Abstraction, which is the keynote of the work now under review. A foretaste of the results of this method was given to us by Mr Russell in the *Lowell Lectures*, and Professor Whitehead himself gave an actual example when he showed how moments could be defined in terms of certain series of events, in a paper on "The Relative Theory of Time" in the *Revue de Métaphysique et de Morale.*

The theory of relativity, with its denial of a single time-system common to all sets of spatial axes, added to the perplexities of the traditional concepts, and thus provided an additional motive for a root-and-branch reconstruction of the foundations of physics. This is what Professor Whitehead has attempted in the present book. Three factors have gone to the making of it:—(i.) The attempt to discover and describe as accurately as possible the crude data which are actually observable and from which empirical science must actually have started; (ii.) the conviction that the results of physics are substantially true of nature, and that the real problem is to show in detail the precise logical connection between the concepts employed in its final statements and the crude observable data which are its ultimate subject-matter; and (iii.) the recognition of the fact, brought home to us by modern geometers, that entities of very different types may function as points or as straight lines, and that what is a straight line or class of straight lines in one set of relations may function as a point in another set of relations, and conversely. It is the last fact which makes the Method of Extensive Abstraction, to be described later, so powerful an instrument for Professor Whitehead's purpose.

The *Principles of Natural Knowledge* begins with a severe criticism of the traditional physical concepts. According to this traditional view the "really real" things in nature are momentary configurations of mass-points, and change is just the fact that at different instants the same mass-points are differently distributed in space. Now, in order to predict configurations it is not enough to know one of them; you need to know not merely the positions, but also the velocities, accelerations, etc., of the particles, at the instant. But the notion of "a velocity at an instant" certainly cannot be counted as one of the "really real" facts; it is actually the limit of a series of ratios of distances travelled to time taken, and this is simply nonsense if you confine yourself to a single unextended instant.

There is much the same objection to taking unextended particles for ultimate facts as there is to instantaneous configurations. How are we to interpret interaction on such a view? The tradition is to regard space as a principle of disconnection and to hold that things separated in space cannot directly affect each other. Action must then be interpreted as stress across an intervening medium. But where does the stress act? We naturally answer: Across the boundary between the medium and the body. Now, since space is continuous, there will be no point within the boundary that is *next* to the latter; if any point within it be taken, there will be another between it and the boundary. Thus the stress must act on points at a finite distance within the boundary if it is to act on the matter within it at all; and so *actio in distans* returns. The fact is that one is obliged to think of a *finite* volume of matter as a single unity whose behaviour is partially determined by surface stresses.

Finally, all the characteristic properties of the special sorts of matter take time to show themselves. This is most marked in an organism, since *the* characteristic of an organism is its behaviour and life-history. A "momentary cat" would simply not answer to the definition of a cat at all, since one of the characterising marks of a cat is to climb trees and catch birds, and this characteristic takes time. This is most marked in an organism, but it is no less true of a molecule, if molecules be systems of electrons circulating with characteristic periods. The upshot of the matter is that the ultimate facts of nature are spatio-temporally extended events. And their most important relation is their total or partial overlapping.

Again, the classical concept of space is thoroughly incoherent. If we assume absolute space we are at many removes from anything observable. If, as most scientists profess to do, we accept only relative space, we shall have as many spaces as there are instants, since each instantaneous configuration is an instantaneous space, and, on the relative theory, is all the space there is. At once there arises the difficulty of correlating these spaces with each other, and the further difficulty that, since all our observations take time and are on objects of finite extension, we never perceive any of these spaces. Moreover, the classical theory assumes our ability to identify a piece of matter through time; but how could one know that what is at P_1 in the instantaneous space of the instant t_1 is the same as what is at P_2 in the different instantaneous space of t_2? If you say that it has been under continuous observation, you must allow that the ultimate data are not instantaneous, but are the contents of a specious present. The moral once more is that we must give up the point and the instant as ultimate facts, and start with extended events and their observable relation of overlapping.

Lastly, the classical concept is faced with the difficulty of connecting what we do perceive with what it supposes to be really real. As we know, it generally adopts a causal theory of perception, and supposes that movements in what is physically real cause us to become aware of colour, sounds, etc., which are not themselves physical facts. This theory is a mass of inconsistency; it leaves the connection between the sense-data which we do perceive and the particles which cause our perceptions utterly obscure, and, when fully worked out, it leads to a highly agnostic attitude towards the physical world. For the latter is only known to us by a precarious inference from our sense-data. If such scepticism about particles, points, and instants is to be avoided, they must be shown to be, not *inferences from* our sense-data, but logical *functions of* our sense-data.

Before working out his own theory in detail in Parts II. and III., Professor Whitehead concludes Part I. with a very clear statement of the results of modern dynamical physics and of the theory of relativity. It is these results that he has to connect with the crude data of sense, and therefore it is important that they should be stated at the beginning as simply and clearly as possible. He finds that reflection on Maxwell's equations reinforces his objection to instantaneous configurations of unextended points as ultimate facts. For (*a*) they involve vectors, all of which need *two* points to define their direction; (*b*) the density of electric charge which enters into these equations is meaningless if you literally confine yourself to unextended points; and (*c*) the differential coefficients with respect to time are meaningless if you literally confine yourself to instantaneous configuration. The assumption of an ether amounts to no more than the assumption that "something is going on always and everywhere," and the continuity of the ether is simply an expression of the fact that all events overlap and are overlapped by others. Thus Professor Whitehead admits what he calls "an ether of events," but rejects an "ether of material" on the ground that, like Full-Private James in the *Bab Ballads*,

> "No characteristic trait has it
> Of any distinctive kind. . . ."

This part contains much the best account, from a philosophic point of view, that I know, of Einstein's first theory of relativity. Whitehead accepts the Lorentz-Einstein transformations for axes in uniform relative motion, as being necessitated by the negative results of the Michelsen-Morley and other experiments to detect motion relative to the ether. He then points out that the main paradoxes to which they lead are only paradoxical because we are not in earnest in our professions of giving up absolute space and time. *E.g.*, the events P and Q are observed from two sets of axes α and β which are in uniform motion relative to each other. In strictness it is only the events themselves, not the points at which they happen, that are common to the two systems. To a consistent relativist the point P_α, where P is in α, cannot be the same as *any* point in β, and therefore cannot be the same as the point P_β, where P is in β. Now there is obviously not the least paradox in holding that the distance $P_\alpha Q_\alpha$ is different from the distance $P_\beta Q_\beta$ when we remember that P_α differs from P_β and Q_α from Q_β. But, when we forget this and suppose that, because we are dealing with *events* common to two systems, we are dealing with *points* common to both, $P_\alpha Q_\alpha$ and $P_\beta Q_\beta$ become simply the names for the same distance, and so the paradox arises that the same distance has different lengths in α and in β. The other paradoxes, that there ceases to be a common time-system, and that the velocity of light becomes an absolute maximum, are dealt with later.

Nevertheless Whitehead is not satisfied with Einstein's passion for light-signals as the ultimate test for simultaneity in different places. He interprets Einstein to hold that the very *meaning* of simultaneity at different places is given through light-signals. On this interpretation, of course, Whitehead scores an easy triumph, for it is perfectly certain that no one *means* by simultaneity anything to do with light-signals, and that in fact it is not usually determined in this way. Personally, I doubt whether there is really much difference between the two authors on this subject. I suspect that Einstein simply meant that we have a vague notion of simultaneity at different places, but that the only criterion for its presence or absence that can be made definite enough for scientific purposes is that based on light-signals. But Whitehead is *specially* concerned to show that all judgments of congruence rest ultimately on the immediate recognition of identical factors in different circumstances. These judgments are not infallible, but any one of them can only be tested and corrected by others of the same kind, so that the class of such judgments is irreducible and ultimate. Such judgments play an important part in his theory of objects, and judgments about congruence are only a small sub-class of judgments of recognition. He also blames Einstein's theory for failing to account for the fundamental position of Newtonian axes (*i.e.*, if we reject definitions that involve absolute space, axes relative to which accelerations obey Newton's third law of motion). I take it that Einstein would reply that, if all matter gravitates and all axes be material, there really are no Newtonian axes, and that his extended theory of relativity (which Professor Whitehead does not treat in the present work) is an attempt to deal with this situation.

We are now in a position to explain Whitehead's positive theory. This is expounded verbally in Part II., worked out in formal logico-mathematical detail in Part III., and completed in Part IV. I shall try to state it, so far as I understand it, in my own words. There are two fundamentally different factors in nature, events and objects. Events are of the type of particular individuals, and objects of the type of universals. Common-sense and natural science often confuse the two; so that properties, such as recurrence, which only apply to objects, are asserted of events, and properties, such as having parts, which only belong to events, are asserted of objects. Corresponding to these two types of entity are two ways of knowing, both essential to knowledge—the apprehension of events and the recognition of objects. Under these two headings there are numerous sub-groups corresponding to the different kinds of events and the different kinds of objects. Let us begin with events, and illustrate them and the apprehension of them.

An event, as I understand it, is a bit of the content of a specious present. It has extension in space and time, or, more accurately, it has an extension out of which what we know as spatial and as temporal extension are to be developed. The total content of nature contemporary with a specious present is called a *duration*. It thus includes all that we discriminate in a specious present and all in the universe that is contemporary with this. A duration may thus be regarded as a "slab of nature" of limited duration but unlimited spatial extension. Perceived events are the parts of a duration which the percipient discriminates; he knows them, never as isolated facts, but against a background consisting of the undiscriminated remainder of the duration, with which they are felt to be continuous.

The characteristic relation of events is that of extending over each other. If one event extends over another, the latter is a physical (and not merely a logical) part of the former. A duration extends over all the events in it, and one duration can extend over another. The extension of durations over each other leads to the definition of moments, in a way that will be described later.

There is, however, another relation of events to duration. This is called *cogredience*. There are events that are temporally coextensive with a duration, but which all the time occupy one and the same spatial place in it, and are spatially only parts of it. Such events are said to be cogredient with the duration. Cogredience is obviously not reducible to overlapping; it is this relation that enables us to define sets of spatial axes.

Events are to be regarded as pure particulars; they neither recur in time nor occupy different parts of space. (*E.g.* two events of precisely similar character are still *two*.) Strictly speaking, events do not change. As the course of events advances, one event is seen to be a part of another that extends over it and beyond it into the future.[1] This fact is referred to as the *passage* of events, but it does not involve change in the strict sense. Change belongs to objects, with which we have yet to deal.

Among the events cogredient with a duration, one stands in a special relation to it; this is called the *percipient event*, and, so far as I can make out, consists of the course of the percipient's conscious life throughout the specious present. The peculiarity of this cogredient event is that it is *here* in the duration, while all other cogredient events are *there* in the duration.

There are certain assumptions that must be made about events if our knowledge of them is to give rise to a science of nature independent of particular observers. In the first place, events as known to us do not have perfectly sharp outlines; you cannot say exactly where an event of one kind leaves off and an event of another kind begins. In order to apply logical thought to them we must assume that in nature there is a determinate answer to such questions. This does not imply either (*a*) that there are atomic events, or (*b*) that events do not overlap. It merely means that if a characteristic be assigned it must in *fact* be quite definite what events in nature have it, and what events do not, even though there are marginal cases where *we* cannot definitely decide. Again, we are immediately aware only of the contents of the specious present, and only from a definite position among those contents. We have to assume that there is such continuity between the contents of successive specious presents and between the events perceived by different observers from their different positions that the knowledge of a nature common to all can be inferred from our immediate knowledge.

We can now leave events for the present and deal with objects and our recognition of them. Many of Whitehead's statements—*e.g.* that a chair is not really in space or time, and that the leg of a chair is not strictly a part of the chair—will appear very puzzling unless the reader bears in mind that objects for Whitehead are universals. Objects characterise events, and the events that they characterise are called their situations. Precisely the same object can characterise events separate in time and in space; thus, in the only sense in which objects are in space and time at all, the same object can be in many places at once. Let us reflect on what Whitehead means by saying that the leg of a chair is not strictly

[1] I understand the view to be that an event only changes in the sense that later events are juxtaposed on to the front end of it.

a part of the chair, but that the event which is the situation of the leg is extended over by the event which is the situation of the chair. It sounds odd to say that the leg of a chair is not part of the chair, yet it does not sound odd to say that the apron of an archdeacon is not part of the archdeacon. And the difference clearly cannot lie merely in the fact that an archdeacon can take off his apron, for a chair can lose a leg also. The puzzle vanishes if we remember that Whitehead means by a certain chair the fact of being this chair. Now the fact of being a leg of this chair *is* connected with the fact of being this chair, but it is not connected *as part to whole.* But when we talk of this chair we often mean the set of events characterised by being this chair, and these *are* connected by the relation of whole and part. Being this leg and being this chair are objects (or universals) (*a*) of a low degree of abstractness, and (*b*) of the same degree. Universals of a very low order are liable to be confused with the events which are their particular instances. But being an archdeacon and being an apron are (*a*) universals of different orders, and (*b*) the former is of a much higher order of abstractness than the latter. Thus we are much less inclined to confuse an archdeacon with the event characterised by the fact of being this archdeacon than to make the same mistake about a chair or an apron. We have, therefore, little temptation to speak of the apron as part of the archdeacon.

We can clearly split up the continuum of events in various alternative ways. The events that emerge as the results of these alternative methods of analysis will have different characteristics, and these will be different types of objects. There is nothing subjective in the results of this; whatever course of analysis you pursue, you can only analyse out events that really are in nature. But some methods of analysis may be much better adapted for giving a knowledge of the laws of nature than others. Corresponding to different modes of analysis we get sense-objects (sense-data), perceptual objects (the chairs and tables of common-sense), and scientific objects (the electrons of the physicist). Many errors arise from either (*a*) confusing objects of different types, or (*b*) supposing that the reality of objects of one type (*e.g.* electrons) excludes the reality of objects of other types (*e.g.* sounds and colours).

In one way sense-objects, *e.g.* a perfectly definite shade of colour, are the simplest objects. It will be noticed that they are universals of the lowest type in the sense that their instances are necessarily particulars. And they cannot be reduced to relations between simpler elements. A coloured patch is the event which is the situation of a sense-object; its colour is the sense-object in Whitehead's phraseology. The recognition of sense-objects is sensation.

Perception is a more complicated business. A perceptual object is an universal of a higher order, since it means a more or less permanent association of sense-objects of various kinds. Absolute permanence is not required; allowance is made for objective changes and for the different appearances presented from different situations. In general when a perceptual object is perceived all that we directly apprehend is a few sense-objects (*e.g.* in seeing a chair and not touching it we only literally *see* a coloured patch). These sense-objects, however, *convey* the remainder which we do not at the moment directly apprehend. This conveyance is not in itself judgment, though judgment nearly always supervenes on it, and the judgment that supervenes may actually modify what is conveyed.

(The last fact seems to me to be clearly illustrated by the changes in the appearance of solidity which happen when we gaze at certain combinations of lines.) Conveyance is doubtless what psychologists refer to as complication and acquirement of meaning. Perception is not, however, complete until a perceptual *judgment* has been made. The content of such a judgment is (*a*) that an analogous association of sense-objects (with certain admissible modifications) can be recognised in the same situation by percipients in other situations, and (*b*) that this common situation is a necessary condition for the perception. If the perceptual judgment be true the perceptual object is physically real, otherwise it is delusive. Delusive objects are just as real as any others in their own way, but not in the way in which the person who believes in them believes them to be real.

Psychologists have underrated the complexity of the relation involved in perception; it cannot be dealt with as a two-term relation, but has at least four terms. It is of the form $\Pi(\sigma, e, p, c)$, where this means: The sense-quality σ characterises the event e from the standpoint of the percipient event p subject to the conditioning events c. The conditioning events fall into two sets, generating and transmitting, and in all non-delusive perception the situation of the perceived object is a generating condition, or, as we say, "an active cause" of its being perceived. Now sets of conditions tend to recur pretty often; hence when we recognise a sense-object of a certain kind (*e.g.* the visual appearance of a rat) we almost automatically assume the presence of the normal conditions (viz. events which are characterised as forming part of the life-history of real rats, and transmission of light from their situation to ours). Generally we are right, but, if we happen to have *delirium tremens*, our uncritical faith in the uniformity of the conditions for recognising a given kind of sense-object betrays us into a delusive perception, since the generating condition here is not rats but alcohol.

The perceptual object is the result of the natural and normal way of analysing the continuum of events, and it is the most useful for everyday life. But it does not admit of much scientific elaboration, (*a*) because such objects are constantly being confused with the events which are their situation, and (*b*) because the identity of character that constitutes a given physical object is so very vague (*cf.* Sir John Cutler's stockings). For this reason science finds it necessary to analyse events in a different way, and the events that are fundamental on this method of analysis are the situations of *scientific* objects. These objects are reached by reflecting on the generating conditions for the recognition of sense-objects. Our perceptual judgments always assert that what we perceive could (with certain modifications in some of the associated sense-data) be equally perceived by anybody else from any other situation. Hence arises the notion of *common* generating conditions, which, in combination with differences in situation of the percipients and differences in the transmitting conditions, will account for the substantial identity and partial differences in the perceptions of different observers. These common generating conditions are what we mean by scientific objects. Thus, as Whitehead puts it, perceptual objects are the connecting link between nature as perceived (chairs, tables, etc.) and nature as conditioning its own perception (electrons and ether). The ultimate scientific objects are (at present) electrons. The electron is just an expression for certain recognisable permanences of a highly abstract kind throughout the course of nature; while the ether, as we have seen, is not, in Whitehead's sense, an object, but is the whole continuum of overlapping events which make up the course of nature.

Finally, we must notice that the electron by itself does not fulfil all the conditions needed for being recognisable. It is certain fairly stable combinations of electrons or certain recurrent modes of behaviour of such groups that are recognisable. These stable groups with a characteristic rhythm in their charge are molecules or sets of molecules.

We have now seen how Whitehead answers two of the three questions that he has put to himself, viz. (i.) What are the final results and concepts to be accounted for? and (ii.) What are the data from which we have to start? It remains to see how he answers his third question, viz. How is (i.) connected with (ii.)? Evidently space and time must be connected with the extension and cogredience of events, and material with the permanence of objects. It is impossible in a review to explain in detail how the connection is made out, but it is possible to give a rough idea of Whitehead's method and of some of its results.

The method is that of Extensive Abstraction, so often mentioned but not yet described. When we consider the relations of events which have a large extension in time and space we find them intolerably complex, and it is hopeless to try to disentangle their laws. But, as we consider shorter and smaller events, the relations become more manageable and the laws more obvious. Still, you will, of course, never arrive by this process at *momentary* events of *no* volume; and Whitehead will not allow us to say that they are at any rate convenient fictions, and leave it at that, for his whole object is to keep the *convenience* and eliminate the *fiction*. Accordingly he adopts a device which was no doubt originally suggested by the definition of real numbers as segments of rationals. You cannot define, *e.g.*, a particle as the limit of a series of volumes one inside the other like Chinese boxes, because there is no such limit; but you can define a particle as the series of volumes itself which careless people would say "converge to a point." Particles thus become certain series of events with certain properties; other series with other properties (*i.e.* converging in different ways) are taken as what we mean by lines or by planes. The merits of this procedure are (*a*) that such sets of volumes do have all the properties which are wanted in points, lines, etc.; (*b*) that if this is what you mean by points, lines, etc., there is no doubt that they exist, since the volumes do exist and do stand in the required serial relations; and (*c*) that you are not thereby assuming the existence of anything unextended and therefore utterly different from the events that we perceive. Points of space and instants of time are of course a degree more abstract than point-particles, but it is possible to define them in analogous ways into which we need not enter now, and, with these definitions, their existence is as certain (in their own appropriate type, which is, of course, *not* the type of particular existents) as is the existence of extended events in *their* type. I think we might sum up the difference between a consistent believer in absolute space, etc., and Professor Whitehead as follows. Both would say that points, instants, etc., exist. The former would mean that they are particular individuals as much as anything that can be perceived, only that we cannot perceive them. The latter means (*a*) that he can define entities which have all the properties required by science for points and instants; (*b*) that they are certain classes of series of extended events;

(*c*) that extended events do in fact fall into such series in nature; and therefore (*d*) that points and instants "exist" and are "real" in the only sense in which an entity of the type of a class can be accounted to do this, viz. (i.) these classes have members, and (ii.) these members are particular events that actually exist in nature, related by serial relations in which they actually do stand to each other in nature. A person who can truly give this sort of answer, as Professor Whitehead can, does seem to me to have kept the *convenience* and got rid of the *fiction* in these concepts.

This review is already far too long, and I will therefore close it by mentioning one interesting and important result of Whitehead's detailed deductions. In dealing with nature there are three different meanings to be attached to space, and it is most important not to confuse them. (i.) The whole course of nature gives rise to a four-dimensional "space-time" whose points are event-particles. (ii.) For a given time-system (that is, for a given set of durations such that any pair in the set are extended over by some third duration in the set) there is an instantaneous three-dimensional space corresponding to each moment of this time-system. (iii.) For a given time-system there is also a three-dimensional space which is timeless, in the sense that it does not refer to any special moment in the time-system. Of these spaces (ii.) is the space approximated to by our observations as we make them take less and less time, and (iii.) is the space (and the moments of its time-system constitute the time) of an admissible set of axes for stating the law of physics. For a given time-system (ii.) and (iii.) are exactly correlated. Any point in the instantaneous space of a given moment is an event-particle which occupies one and only one point in the timeless space of the same time-system.

To mathematicians Professor Whitehead's deduction of the Einstein-Lorentz transformations, and his account of the geometry of these three sorts of space, will be of intense interest; but the subject is too technical to be discussed at the end of a review. I have perhaps said enough to show that this book is of the utmost importance; there are very few men indeed who combine the various gifts needed to write such a work, and we must be grateful that such a combination happened to exist at a time when the practical and theoretical advances of physics have made a reinterpretation of its fundamental concepts an absolute necessity.

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The Idea of Immortality. By George Galloway, D.Phil., D.D. T. & T. Clark, 1919.

Of the making of books on Immortality there is no end. A few of these may be of permanent value; others, no doubt, have served a useful though temporary purpose: the majority might be consigned to the flames without any serious loss to the moral and spiritual life of mankind. For the best things that have ever been said on this subject are not to be found (except in inverted commas) in formal treatises, or studies, or courses of lectures, but in the utterances of the seers and in the songs of the poets. How could it have been otherwise? Eternity presents no "problems"