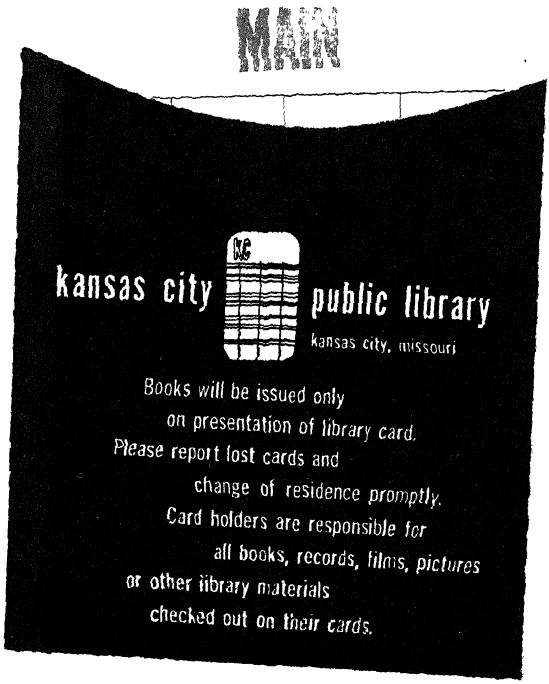

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THE CONDITIONS OF KNOWING

AN ESSAY TOWARDS A THEORY OF KNOWLEDGE

by

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LONDON

ROUTLEDGE & KEGAN PAUL LIMITED

BROADWAY HOUSE, 68-74 CARTER LANE, E.C.4

First published in 1951

Printed in Great Britain by
Latimer Trend & Co Ltd Plymouth

In piam memoriam
J. S.

PREFACE

THIS book is an essay towards a theory of knowledge, and an attempt to detect and identify some changes of general outlook in the epistemological field which seem to be taking place in our society.

For reasons referred to in the text, to formulate a 'theory of knowledge' or to discuss the 'nature of knowledge' in the strict sense of these words is impossible. What purport to be discussions of the nature of knowledge are in fact discussions of the various kinds of conditions under which we know whatever we do know, or, where they are not so, are meaningless. The title is thus intended as a recognition that what we conveniently but loosely call epistemology or theory of knowledge is a humbler inquiry than its name would indicate, and is in effect a study of these conditions.

I should like to express here my thanks and sense of indebtedness to many fellow-philosophers and friends for their stimulation, criticism, disagreement and other assistance, consciously and unconsciously given, and in particular to the following for their personal help:

Professor A. C. Aitken, Messrs. E. Rowan Davies, Alan M. Fairweather, P. B. R. Forbes and H. W. Heckstall-Smith, Professors Norman Kemp Smith, R. D. Maclennan and John

Macmurray, Mrs. Constance Maund, Miss Jean Mill, Mr. C. K. Ogden, Professor A. D. Ritchie and Messrs. W. F. M. Stewart and T. D. Weldon.

W. A. S.

Edinburgh
July 1950

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PART THREE. ESSAY TOWARDS A THEORY OF KNOWLEDGE

INTRODUCTION

THIS Introduction is an assertion of the unique and overriding importance of epistemological inquiry, and may be passed over by the reader if he agrees with that assessment.

To justify it, consider some examples of what are usually called 'attitudes of mind'. A scientist and a man without scientific training differ in two distinguishable ways, for in the first place the scientist knows innumerable scientific facts and theories which the other will never have heard of, while in the second place he has an outlook on all scientific matters which is characteristically different from the ordinary man's. They have different attitudes of mind.

The attitude which a man holds towards any field lays down limits within which will fall all his opinions in that field and such of his actions as follow from these opinions. It constrains all his opinions and actions within its range of relevance to be of certain general kinds or types. For instance, if we know that a man has this scientific outlook we can forecast that his opinion on any given scientific issue will be one formed with strict regard for all the available evidence. What precisely a man's opinions and actions will be depends of course on many conditions, and his attitudes of mind constitute only one of these.[1] By itself an

[1] Cf. page 148. Chapters 1 to 15 are concerned mainly with what are here called attitudes, while the other and equally important conditions are discussed from Chapter 16 onward.

attitude does no more than lay down limits; it determines the opinions and actions only in the sense that if it were different they would be different also.

A man may hold an attitude without being aware of holding it, and even if he is aware of holding it he may be unable to describe it accurately. The plain man in the example is almost certainly unaware that he has an attitude of his own, though he is probably dimly aware that the scientist has. The scientist is aware that he holds the characteristic scientists' attitude and has little difficulty in detecting whether others hold it or not, but he may well be at a loss if asked to give an account of it.

(The precise meaning of 'attitude' is discussed *passim* in subsequent chapters and specifically in Chapter 15. At this point it is not practicable to do more than emphasize that in this context the word is used in the most general sense, and not in the technical one which it has acquired, or to which it has been restricted, in modern psychology. 'A man's attitude' may be read as 'a view, opinion, belief or the like which he holds, without necessarily being explicitly aware of holding it.' This is the explanation of the use of phrases which would otherwise seem odd, such as 'the view or attitude that . . . so and so is the case', and 'holding an attitude'.)

As further examples, consider two common attitudes on what is or ought to be the structure of society. On the one hand there is the equalitarian view, that all men have equal rights, duties, dignity and worth, although they admittedly have different capacities; that in consequence it is wrong that any one section of the community should be specially privileged even though it is thereby enabled to live on a higher cultural level than would otherwise be attainable; and that it is possible to organize society so that all its members can in fact live on a high cultural level, provided that they have the native capacities to do so. On the other hand there is the view that society is an organism, consisting of different orders of men with different rights, duties and functions, and that a high cultural level can be achieved only by restricting the opportunities for it to a small class kept in the necessary leisure by the labour of the mass.

According as a man holds one or other of the above attitudes, so (for instance) will he approve or disapprove of the abolition

of ancient and privileged educational corporations with closed scholarships. He may have difficulty in giving an account of the attitude he holds, and may even say and honestly believe that he holds a certain attitude, while a disinterested observer may detect that in fact he holds a different one. Middle-class intellectuals who believe themselves to be equalitarians treating working men as equals are not always pleased when working men take to treating them as equals.[1]

In the same way we all hold philosophical views or attitudes, such as the view or attitude that there is a dependable regularity in the succession of natural happenings. Almost all the opinions a man holds, and certainly all the purposive actions he carries out, would be different if he did not hold it. This is so whether or not he is aware of holding it and whether or not he is capable of giving an account of it. A student of philosophy is well aware of holding it, and is more or less capable of describing and defending it; a man in the street is almost certainly unaware that he holds any such attitude, or is at most only vaguely aware of doing so, but he shows that he holds it whenever he strikes a match or talks about to-morrow.

In the same way we all hold attitudes about the nature of knowledge and kindred matters, as we show by the opinions we hold on more particular points. If a farmer says that there are nine piglets in a litter and his pigman says that there are ten, and if they settle the matter by going to the sty and counting, they show themselves to hold the epistemological attitude that on questions of this kind they cannot both be right when they disagree. If one of them says that porridge with salt is better than porridge with sugar, and they are content to leave the matter as a difference of taste, they show themselves to hold the epistemological attitude that on such matters they may disagree and yet both be right.

Epistemological attitudes are in one respect unique. They are unlike all other attitudes in the range of their relevance, for it is all-inclusive. All opinions whatever are affected to some extent by the attitudes we hold about the nature of knowledge; the limits they lay down are limits within which must fall all our

[1] Other examples of what is meant here by 'attitudes' are given in Note 1, page 233.

opinions. There seems indeed to be a hierarchy of attitudes, or pyramid of them. That is to say, the attitudes that a man holds are not separate and independent, but can best be understood if regarded as ranging themselves in a hierarchical system, those of lower generality falling within the limits set by those of higher generality, these in turn falling within limits set by others of still higher generality, and so on. We can make a survey of this hierarchy or pyramid, noting attitude after attitude, of progressively higher generality and wider range of relevance, until we come at the top to those about the nature of knowledge and kindred matters. These last have therefore a unique and supreme importance. If they are inadequate or misleading, we are committed to misunderstanding on many sorts of points, both in the abstruse sciences and in commonplace affairs, which at first sight have nothing to do with theory of knowledge.

We do not see the lenses of our spectacles though we see everything else through them; and epistemological attitudes are probably the most difficult of all to recognize and describe. To do this and to assess their adequacy, and to replace them by more adequate ones if required, is probably the most arduous and incalculable of all intellectual labours.

The relation in which knowledge of particular facts stands to more general outlooks or attitudes or views is thus an inversion of what it is commonly taken to be. The generally accepted view is that simple facts are known as such without reference to wider issues; that a simple fact is what it is in itself; and that we can at least be definite about the simple facts though we are inevitably uncertain about the wider issues. But this is not so. On the contrary, our knowledge of simple facts depends to some extent on the attitudes or views we hold about more general issues, in the sense that if these attitudes were different then the facts we know would be different also.

Save in exceptional cases we all hold the same or similar attitudes about very general issues, and are hence unaware of our dependence on them. Normally it is only when they vary or when we disagree about them that they are detected, and only then do we recognize that they have been influencing us in the preceding periods when they were unnoticed. 'The Owl

of Minerva takes not her flight till the shades of night have fallen.'[1]

The function of philosophers in a community can therefore be regarded as one of identifying and examining such general attitudes or views, and, where these are judged to be inadequate or misleading, saying so and offering less unsatisfactory ones in their place. This is what is being attempted in this book, as far as concerns one particular kind of those general attitudes, namely those about the nature of knowledge and kindred topics.

Since these are in a special and indeed unique position, it is desirable to clarify the relation in which they stand to other highly general attitudes. This can best be done by introducing a stricter use of the names *epistemology*, *metaphysics* and *philosophy*. I shall therefore use *epistemological attitudes*[2] for 'attitudes about the nature of knowledge and of truth; about language, other systems of symbols, and meaning; about statement, inference and explanation', and *epistemology* for 'the deliberate and systematic inquiry into, and if possible improvement of, these'. Similarly I shall use *metaphysical attitudes* for 'attitudes about the nature of the universe and of man and his place and destiny in it', and *metaphysics* for 'the deliberate and systematic inquiry into, and if possible improvement of, these'; and *philosophical attitudes* and *philosophy* as wider and looser titles comprehending both of the preceding together with other such topics.

The relation in which a man's epistemological attitudes stand to his metaphysical attitudes is complex and subtle, involving mutual interdependence, when examined in detail but is one of plain superiority and inferiority when examined in the large. Men holding certain types of metaphysics observably

[1] Hegel, in the *Vorrede* to the *Philosophie des Rechts*.

It may be objected that the foregoing passages ignore the fundamental difference between 'beliefs' or 'views' which may be true or false, and 'attitudes of mind' which are simply what they are, and likewise the parallel difference between 'simple awareness' and 'knowledge that . . .'

This objection can be made only if a certain kind of theory of the nature of statement and of truth is held, and this is expressly rejected in later chapters, particularly 12, 14 and 16.

[2] The adjective ought strictly to be *epistemic* or *epistemical* (i.e. *cognitive*), but the accepted usage of *physiological* will serve as a precedent.

tend to hold certain types of epistemology, but it remains the case that our epistemological attitudes determine to some extent all our other opinions and are not so determined by them. Moreover, our metaphysical attitudes appear to be influenced to some extent by dispositional or other psychological factors which are not affected by evidence. It may therefore be impossible to achieve, and hence foolish to strive for, any end which requires agreement on these metaphysical issues. This does not seem to apply to epistemological issues. Although there is a strong tendency in us to allow our metaphysics (and dispositional factors working through our metaphysics) to influence our epistemology, it seems to be at least possible to escape this entanglement. At least it is not impossible that general agreement on epistemological questions may be reached, however astonished we should all be if it ever were.

For these reasons I believe that the academic tradition is wrong where it treats 'theory of knowledge' as one among the various fields which together constitute the realm of philosophy. It has a special, unique and paramount status.

The epistemological attitudes at present commonly held in our society are, I believe, mostly misleading and at bottom naïve. The consequence is that there is a great deal of confusion and ineffectiveness, and sometimes of perverse dogmatism, both in theoretic inquiries and in practical affairs, which does not arise from difficulties in these fields themselves, but is created by the epistemological attitudes which misleadingly set the limits within which the findings of these several inquiries must fall. This is perhaps most conspicuous in the more rarefied fields such as the higher physics and philosophy itself, but it applies with equally deleterious if perhaps better concealed effect in the more workaday fields, including those of political and administrative action and the opinion and behaviour of daily life.

Often, for instance, a point is reached in an inquiry at which no further progress can be made unless there is some more or less substantial change in the epistemological attitudes which set the limits within which the inquiry is proceeding. Often the effect of unsatisfactory epistemological presuppositions is to create, in philosophy and in other subjects, problems which

appear to be genuine but are not, since they arise only from accepting some attitude of high generality and applying it without inquiring into it. A man who attempts to solve such problems and is puzzled by his failure is therefore in the position of an old-time chemist who accepted the phlogiston theory, would not inquire into it, and then complained that the chemical reactions he observed were hard to understand.

Nevertheless, however inadequate and misleading our epistemological attitudes may now be, they are in some respects much better than they once were. For instance, it is no longer believed that we experience visually only a two-dimensional field and that we obtain our experience of the visual third dimension by a kind of inference, nor is it believed that memory consists in present images of past conditions, nor that particular facts can be deduced from general principles independent of experience.

Such improvements appear to come about in two ways: either indirectly and without purpose, by the repercussion of changes in other attitudes (i.e. as a by-product of advances in other fields of inquiry), or directly and of purpose, by explicit and deliberate inquiry. These are not distinct and mutually exclusive methods, but extremes between which any particular change in any particular attitude may fall, according to the degree of conscious purpose which motivates or accompanies it.

How changes come about in the first way we do not understand, but they observably take place. A chemistry professor makes his students carry out numbers of experiments, not to acquaint them with the results, which they could learn more quickly, accurately and cheaply from a textbook, but in the hope that they will emerge from the experience with something of the scientific outlook or habit of mind. The same method is applied in various ways throughout the higher learning generally, as for instance in *The Golden Bough*, in which Frazer altered the outlook of his readers by enormous accumulations of examples. This method is not of course always successful, and every university has among its senior members some monuments of erudition without judgment who incarnate its failure, but on the whole it is dependable. There is a very strong

tendency in all of us, both in inquiring and in teaching, to evade the difficulties of dealing directly with a problem of high generality by dealing instead with some of its more particular exemplifications, leaving the desired modifications to come about, mysteriously but dependably, by this repercussive method.

Most of the improvements in the epistemological attitudes held in our culture have come about in this indirect way, but the second or direct method also has been followed with varying vigour for some two and a half millennia. This essay attempts to follow the direct method, but in practice it is not possible to follow it exclusively, and we may be compelled to fall back from time to time on the other.

PART ONE

PROLEGOMENA

Chapter I

THE PRESENT POSITION

It appears to me that underlying the various epistemological views or theories or attitudes characteristic of the European-American culture is some fundamental epistemological attitude or assumption, or complex[1] of attitudes or assumptions, which is or are inadequate and misleading. The epistemological writings of recent times can be regarded as a record of the progressively clearer recognition that this is so, and of the progressively clearer indication of some better alternative.

A note is required at this point on the language we are compelled to employ in the discussion. The English language, like all languages, has been developed by the use of it for practical purposes, and only within a comparatively recent period, which in its long history is barely distinguishable from the present, have men made any attempt at reflective thinking and at the use of language to express it. We are thus restricted to a medium which has been developed by and for altogether different purposes, and consequently any discussion of topics such as the nature of knowledge is a string of metaphors and cannot be anything else. We do not always remember this, as we are so familiar with the words we use in such connexions that they do

[1] Using this word only as meaning a 'complication' or 'number of more or less complexly inter-related assumptions', and not in its technical psychological sense.

not strike us as metaphors, e.g. *understand*, *express*, *comprehend*, *inference*, *explanation*, *conclusion*, *proposition*. Where the use of metaphors is unavoidable, it seems that the best way to escape being misled by them, especially by one's own favourites, is to use as great a variety as practicable. This at least reduces the risk of coming to unwarranted conclusions by assuming that a characteristic which is peculiar to some one metaphor is a characteristic of the situation which the metaphor is being used to describe.

The position in which we find ourselves at the outset of this inquiry can be described in one metaphor as follows. When we survey the higher learning,[1] not in its present state only but throughout the twenty-five centuries or so of its articulate existence, we find on the one hand that the advances in many fields (notably in the special sciences but by no means in them only) have been enormous and spectacular. On the other hand we have a general impression that in the whole course of European learning and science there is not the progress in deepening and more comprehensive general understanding that we might expect when the advances in particular fields have been so considerable. The general results of the labours of first-class minds (as distinguished from those of the incalculable geniuses, of whom this does not hold) do not always seem commensurate with their ability. Admittedly we have no standard by which to justify such an assertion, but most students of the history of the sciences and the humanities would at least sympathize with this estimate.

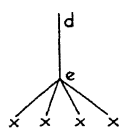
This suggests that there is something wrong with the attitudes of high generality which set the limits within which these inquiries are pursued. Some of the confusion and ineffectiveness is no doubt due to our metaphysical attitudes, and as such is perhaps inevitable, but much of it, and probably the bulk of it, is due to inadequacies in our epistemological attitudes. Instead, therefore, of thinking of the history of European and European-American philosophy as a record of various different attempts to account for the data of our experience, these attempts form-

[1] Using this as a convenient, noncommittal name for the sorts of inquiries fostered nowadays in universities.

ing a number of separate family groupings and having nothing common to them all, we ought to think of it as a record of successive attempts to account for these data on the assumption of some fundamental attitude or complex of attitudes about the nature of knowledge which is not itself discussed. As this fundamental attitude or assumption[1] is misleading, the various successive theories of knowledge and of general philosophy, and their applications in all fields, are themselves restricted and unsatisfactory. They represent sincere and ingenious attempts to reconcile the data of experience with a fundamental assumption which in fact will never square with them. They are thus mostly incompatible with one another, and are all inadequate except in so far as they may happen to serve interim practical and explanatory purposes in limited fields.

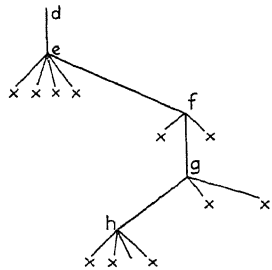
We, the philosophers, have therefore been for nearly three thousand years in the position of fundamentalist seamen who persist in navigating the high seas on the assumption that the earth is flat. We have devised ingenious and elaborate theories of navigation based on that assumption, and have in consequence all lost ourselves, each in his own way. Nobody knows what the theory of knowledge would be which would correspond to discovering that the earth is an oblate spheroid; this essay corresponds to asserting that the earth is not flat, whatever it is, but seems to be more or less roundish.

The same point may be stated in a second metaphor by describing the normal history of any theory and its successive modifications as they are developed and retained or abandoned. If we represent any given theory at any given point in time by *d* in the diagram below, we usually find that it continues more or

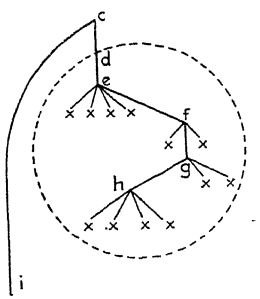


[1] The use of the singular here and later does not imply that there is any one isolated assumption. It is an abbreviation for 'assumption or assumptions or complex of assumptions', since what is being referred to can be described with equal propriety in any of these ways.

less unchanged until some later point *e*, by which time a crop of fresh data has appeared which it cannot account for. Various alternative modifications are then excogitated and tried out, the first attempts being usually failures. In time modification (*f*) is found which does explain the data; and then more data will accumulate which even the modified theory cannot account for and the same process will be repeated, over and over again, until the chart of descent looks something like the following.



At last a point is reached where every variant that can be excogitated is a failure, and no further progress seems to be possible. The investigators then find themselves turning their attention to the assumptions which were involved in the earlier formulations of the theory, discovering them, questioning them and trying to detect possible alternatives to them which had been overlooked. In time somebody lays bare some such assumption at an earlier point *c*, and devises an alternative to it (*i*) which does account for the accumulated data.



When this happens, the variants previously held disappear from the living science and are henceforth found only in the histories of it. All within the dotted ring ceases to be of interest except to the historian.

It may in some cases be necessary to go much further back than the original explicitly stated theory to find a misleading assumption and work out an alternative to it, and even to go back to some unconsciously-held attitude of which the original theory was an application, and then to excogitate an alternative to it. If we succeed in doing this we advance the science in question by one of those convulsions that occur only infrequently.

The epistemological attitudes normal in our culture, however diverse in themselves, are, I suspect, all derivatives of some such unconsciously-held epistemological attitude or complex of attitudes, which is primitive and misleading, and to it we have to find an alternative. This, though not under these names, some philosophers and others in recent generations have in various ways begun to do.

The same may be said in a third metaphor by describing the way in which we come to the preceding conclusions. As we ruminate on the many different epistemological theories, current and abandoned, which appear in our philosophical literature, we begin to detect here and there that several apparently independent theories are only different applications or developments, in different contexts with different emphases, of some assumption or complex of assumptions common to them all though not ordinarily recognized to be so. This process of detection continues, first with other groups of theories and then with groups of groups. Each of these steps consists in getting outside the parochial view of one particular theory by itself, and we begin to suspect that a greatly enlarged understanding would come if we could get outside our little parish of twenty-five centuries and could discover if there were perhaps some very highly general assumption or theory which we all hold in common, and of which we are unaware for that very reason. The inquiry ends in the conclusion that there is, and that it is misleading.

We in the European-American culture are now, I believe, at a point at which the change from that surmised underlying assumption or attitude to some more adequate alternative, which has already taken place sporadically, is beginning to take place more comprehensively. Each of the philosophers and other thinkers of the past, and each of us to-day, represents some stage, on many different and not necessarily intersecting lines, in the progress of that substitution of one kind of general epistemological attitude for another.

According as the reader has or has not made that substitution, or has partially made it, so will this essay appear to him to be either a totally wrong-headed denial of plain facts, or merely a statement in rather more general terms of what has already been said at various times by various writers, or partly the one and partly the other.

Chapter 2

SEQUENCE OF THE DISCUSSION

A SEQUENCE of discussion which is at first sight inverted and unnatural is forced upon us in this inquiry. The natural sequence would be: first to produce an explicit statement of the surmised fundamental presupposition or attitude (or complex of these); then to prove it unsatisfactory; and then to propound some alternative hypothesis and to justify it and apply it. This is impracticable for two reasons. In the first place it is not possible at this stage, if ever, to give an explicit account of that attitude or presupposition, since the attitudes we hold about the nature of knowledge are the most difficult of all to recognize and describe. In the second place an epistemological inquiry differs from less general inquiries in the following respect. When theorizing about some limited point it is often possible to advance by clear-cut steps, because it is possible to have no theory at all about that particular point during the interval between abandoning one theory about it and adopting another. In epistemological inquiry, on the other hand, a man cannot abandon his general epistemological theory or attitude as unsatisfactory and then for a time do without any at all while he excogitates some fresh alternative. The excogitating process itself is carried out in terms of, or within limits set by, some epistemological theory or attitude whether he is aware of it or not. Naturally, the attitude which thus continues to influence him is the one he already holds, even at the moment when he is

explicitly attempting to reject it. An onlooker may observe him still tending to think within limits set by it, even though he may no longer advance it as a theory, even though he may in all honesty say that he has abandoned it, and even though he may be in the very act of formulating some fresh theory to replace it.

In epistemological inquiry as in any other inquiry of high generality, the abandonments and replacements are therefore not clear-cut and separate stages. Improvements come about in some more involved way as we go along. The only workable method is not to discuss the surmised supreme presupposition or attitude itself but the less general theories or attitudes on what we can call the level next below, in the hope that this will result in amending the supreme attitude by its repercussive effect.

There is nothing extraordinary about this. In serious philosophic inquiries (as distinct from essays in the scholarship or anecdotage of philosophy) the sequence is not that highly general theories or views or Weltanschauungen are disproved and then abandoned. They are abandoned and then disproved. It is only when they have in fact been abandoned, and can thus be contemplated 'from the outside', that the arguments in disproof of them become for the first time fully intelligible, even to those who have been struggling to formulate them, and it is only then that they carry full conviction to others. Indeed it is a commonplace that the alleged proofs which abound or used to abound in philosophical writings do not in fact prove anything. In themselves they convince and convert nobody. They are held to be conclusive only by those who have been predisposed to believe their conclusions for other reasons or by other causes.[1]

Readers other than professional philosophers will find the gist of the book easier to follow if they read the whole of it in serial order, regarding Part Two as preparatory to the main discussion in Part Three. The effect of any book of this kind is not to add some facts to a reader's stock of information but to change the way in which he looks at all facts, and such changes cannot simply be stated. We do not change our general outlook on life because a new one has been announced to us. Instead we find one day that, as a result of experience and meditation, the

[1] Cf. page 202 on 'proof'.

old outlook has in fact been abandoned and that we now have a different one. Thus, as we work our way through a succession of more or less particular epistemological topics such as those discussed in this book, we shall *find* (provided that the general trend of it is not wholly uncongenial) that the surmised supreme attitude or complex of attitudes has been quietly changing, or that we have come to recognize more clearly that it has already changed.

These successive discussions will therefore not form links in a chain of argument. Essays in which the discussion consists in working out the consequences or applications of some general theory or attitude on which agreement is presumed, as is the case in most philosophical writing, fall or can fall into a series of links or steps. Here, on the contrary, we are concerned to question and replace a highly general theory or attitude which we mostly already hold, and no such linked chain of argument is possible.[1] Moreover, no one of these discussions is likely to be clear if read by itself in isolation. For instance, it is not possible to discuss our knowledge of particular facts except in the light of some theory of the nature of predication and language and truth, while it is not possible to discuss predication and language and truth without presupposing some theory of our knowledge of particular facts.

The topics discussed in Part Two can be regarded either as approximations to the general epistemological theory maintained in Part Three, or as applications of that general theory to these particular topics. Here they have been treated in the first way, for the special purpose of leading up to Part Three in the interests of the general reader.

The professional reader could therefore pass direct to Part Three, and might later refer to Part Two for some instances of its application. I would ask him, however, to look at the first and the last chapters of Part Two[2] before passing on, as they indicate some points which are presupposed in the later discussion.

[1] It would be possible, of course, to cook the discussions into the appearance of forming such a chain. Cf. Chapter 20 on the nature of inference.

[2] Chapter 3 which follows, and Chapter 11 (Qualities), page 83.

PART TWO

APPROACH TO PART THREE

Chapter 3

PROGRESS

THE chapters of this Part are not intended as direct accounts of their titular topics, and if taken as such will appear to be a series of insufficiently pursued discussions of separate philosophical questions. Each is an account of the general epistemological theory or attitude which sets the limits within which must fall any particular theory about its titular topic. That is to say, they do not purport to give theories about the nature of progress, order, purpose, probability, time, etc., but are discussions of the epistemological conditions of all theories about the nature of progress, order, time, etc. They are introduced here as successive discussions of the same fundamental epistemological issues, as they present themselves in successive different instances.

(For similar reasons, neither in this Part nor in Part Three are there any systematic discussions of the various important philosophical schools or -isms which are usually considered and criticized as such in philosophical essays like the present. The fundamental presuppositions on which these severally rest are the subjects of inquiry, and from the writer's comments on the latter his attitudes to the various philosophical schools or -isms will be apparent.)

Consider some very highly general belief which some men hold and some do not, such as the belief that there is a continu-

ing progress in civilization. The outline history of its tenure is that it was not held at all until the Renaissance period; from then until the beginning of the eighteenth century it was held only by an uninfluential few; by the middle of that century it had become fairly widely accepted; by the end of the nineteenth century it was almost universal in educated circles save for some vigorous and some uneasy dissentients; and by the middle of the twentieth century it had been largely abandoned.[1]

When I think over the past of mankind in this connexion, and feel justified in my belief whatever it may be, I pay attention to an astonishingly small proportion of all the events and conditions which are open to me to notice. This does not refer to the fact that comparatively few records survive, but to the less conspicuous fact that, out of all the records of men that do survive, and out of all the evidence that is available about the conditions under which they lived, I neglect nearly all. I take notice that on a certain winter day Oliver Cromwell signed the death warrant of Charles I, but I do not take notice that on the same day he drew on his boots, nor that somewhere on that day a labourer cut a fence-post, nor that innumerable millions of other human beings did innumerable other things. I take notice that an east wind was blowing when William of Orange set sail to cross the Channel from the Low Countries, but I do not take notice that a west wind was blowing a few days later, nor that a bough fell from a particular tree in Clarendon woods.

This arouses the natural comment that of course I pay attention only to the signing of the death warrant and the blowing of the Protestant wind, for these were historical events and affected the future, whereas the innumerable other events and conditions did not affect the future and would be merely confusing if introduced into the story. This is precisely the point. It is only because I neglect all the rest that those events and conditions which I do not neglect stand out sufficiently in my attention to let me have the historical knowledge that I do have. Unless some selective process of this sort had taken place I should have been overwhelmed by a mass of detail. I should not have known any history at all as we understand it, and

[1] Amplified in Note 2, page 235.

references to there being or not being progress would have been meaningless to me.

At the same time, some process of 'thinking together' or 'grouping together in attention what has been thus selected for attention' must also have taken place. When I think of the progress in the British social services from 1850 to 1950 I do not think of each event and each state of affairs as separate by itself, but think of them all as forming one historical sequence which exhibits progress. I do not think of the disappearance of the custom of visiting the poor with bowls of soup and discarded clothes as an isolated fact in itself, but as one step in a development. Unless I grouped those events and conditions together in my attention in some such way, any reference to them as forming a historical sequence of any kind would be meaningless.

To refer thus to 'selecting' and 'grouping' is crude metaphor, and most misleading if taken literally. It does not, for instance, imply that there are two distinct processes, carried out one after the other in time. What seems to be happening can be described from one point of view as selecting and from another as grouping, and either of these could with some ingenuity be described in terms of the other. Again, it does not imply that they are conscious processes carried out deliberately. No doubt we can sometimes contemplate them in retrospect as if they were, but normally we are conscious only of their results, i.e. of the situations we in fact experience; and it is only when we have carried out these processes in ways noticeably different from those of our neighbours that we realize that we have been carrying them out at all.

What is thus loosely describable as the selecting and grouping which each of us carries out is not an act done once and thereby completed, but is a continuing process which must be sustained if our experience is to continue as it is. If for any reason it is not sustained, i.e. if for any reason a man follows a different way of selecting and grouping in his attention, then the experience he has will be different also. Further, this requires some effort. Normally we are not aware of making any such effort, but we may detect it in special cases, as for instance when, in studying the barbarian invasions, we first realize what was meant by the dictum that Rome fell because the Chinese built a wall.

Knowing is not a passive contemplation, but a continuously effort-consuming activity.

The ways of selecting and grouping which I follow in any particular historical case are clearly not the only possible ones. If I am a Marxist I select one sort of events and conditions for attention; if I am a follower of Toynbee I select a different sort. If I am a socialist I group the events and conditions connected with the social services as forming a development to our present organization of these on a state basis, and beyond. If I am not, I may group the end of the custom of visiting the poor in the nineteenth century together with later instances of the increasing impersonality of social relations in our community, regarding all these as steps in one historical development from status to contract and then to status again.

The possible different ways of selecting and grouping are endless in their variety, but in any given situation each of us does in fact select and group in his attention in some one particular way or complex of ways. As this is presumably not a matter of chance, there must be some criterion, or principle or canon or standard, by reference to which one way is followed (or is seen to be followed, for there is ordinarily no conscious reference) rather than any other. The nature of this criterion is discussed in Chapters 19 and 21.

These ways of selecting and grouping in attention may have variously wide or narrow ranges of relevance. The ordinarily cautious professional historian who cannot admit the wider patterns seen by 'historicists' and by Toynbee is following ways which are comparatively limited while these latter are following ways which are enormous in their extent and range of relevance. It is not the case that the more cautious historians on the one hand and Toynbee and the historicists on the other are working by radically different methods, the former merely observing while the latter are speculatively generalizing. They are all speculatively generalizing. The difference is that the latter are attempting much more comprehensive generalizations; and the greater the comprehensiveness of the generalization the greater the prospect of doing it badly. There is no doubt that those commonly called 'historicists' have done it badly, and it is as yet

unknown whether or not Toynbee has. But, whether well done or ill in any particular case, this effort towards more and more comprehensive generalization, towards finding ways of selecting and grouping which are wider and wider in their range of relevance, is in essentials the same whether expressed in speculations explicitly recognized to be such, as in Toynbee's case, or in what are not usually admitted to be speculations, but are called observations of historical fact, as in the case of the cautious research historian.

When now we ask whether in fact there is or is not a continuing progress in civilization, we find that we cannot answer either 'yes' or 'no'. This does not mean that we cannot *prove* either the one or the other, but that under discussion the situation has changed from one in which a 'yes' or 'no' answer appeared appropriate to one in which any such answer is seen to be inapplicable. We find that what we are discussing is not civilization, but alternative ways of selecting and grouping in attention. When I make what seems to be an assertion about civilization, namely that it progresses, and somebody else makes the contrary assertion that it does not, it now appears (to express the point in a colloquial over-statement) that neither of us is making an assertion about civilization in itself, for in this sense *no* assertion about civilization in itself can be made, but that each is indicating which he is following of two conspicuously different ways of selecting and grouping in attention some of the constituents of the historical field which lies open to us.

Chapter 4

ORDER AND SYSTEM

THE common-sense view of the nature of order or system is that any situation is orderly or systematic in itself, or not so or partially so as the case may be, and that if men disagree about it they do so because some of them know what the situation really is while the others do not. Thus the usages of the House of Commons in debate appear to an uninstructed observer to be in many cases absurd, and on the whole incalculable and based on no common principle, while to another observer who has read some constitutional history these same usages appear as having arisen naturally out of past crises in the interplay of the powers and weaknesses of the institution, and, as such, to be orderly and systematic in a high degree.

When I sit in the Gallery of the Commons and watch the proceedings, I am most selective in my attention. I disregard the other human beings present and pay attention only to the Members. I notice that when the Member for the South Riding of Yorkshire rises to speak a large number of other Members rise also and walk out, but I do not notice visitors coming and going in the Galleries unless they are very near me or are very clumsy. I neglect the distant traffic noises, the fog-horn hoots from tugboats on the river, the shuffling of feet on carpets, and so forth. This requires a certain effort. If through weariness or for any other reason I do not sustain that effort, then I cease to have a clear-cut experience of the House debating, and am conscious only of a confused blur of movement and murmuring.

Also, I group in my attention, not only in obvious ways such as in thinking of all the Members as forming a class distinct from the other human beings who happen to be in the Chamber, but also in other ways more subtle. For instance, I group together in my attention the phrase now being uttered by a Member and those he has just finished uttering; if I did not, I should not understand his speech. Here again an effort is required and must be sustained. If from mild boredom it is not sustained, then I do not experience the speech as a continuous and coherent discourse, but as a succession of unconnected phrases.

I could follow other ways of selecting and grouping, such as selecting for attention fair-haired persons only, or grouping together in my attention the various characteristics of the ventilating system, but the penalty for doing so would be confusion in my attempt to understand the usages of the House of Commons. Indeed, if I followed any way of selecting and grouping in attention which was substantially different from the way that I do follow, I should not have the experience of the House of Commons that I do have.

As I sit in the Gallery, I understand the procedure up to this point fairly well, and find it quite orderly. Then some Member rises to speak and is told that he may not do so, as he has spoken already on the subject under discussion. This appears to me far from orderly, as I remember that on a previous visit I heard a Member speak three times on the same subject. Later I learn of the distinction between the House sitting as the House and as a Committee of the whole House, and am told how this procedure was evolved in the sixteenth century and why the rules are different in the two cases. I am then able to regard the procedure as orderly after all. I am able once more to select and group in my attention in a way that is orderly.

This does not tell us what the criterion is by which I prefer the second way to the first, but it at least gives one suggestion of what it may be.

An objection may be raised here. Although it might have been allowed that the assertion that there is progress in civilization is in effect an indication of the way of selecting and

grouping in attention followed by the observer and is not strictly an assertion about civilization at all, it may be objected that here we are dealing with a situation which *is* orderly in itself, even though at one time I failed to detect that it is.

This objection is crucial. To answer it would require an explicit account or theory of the nature of statement, truth and error, and therefore cannot come before the discussion of these topics in later chapters, but an indication of what is intended can in the meantime be given as follows. When I said that the usages of the House were disorderly, and later said that they were orderly, the situation that I was talking about the first time is not the same as the situation I was talking about the second time. In any colloquial sense of course it is, for 'it's the same House of Commons that I am trying to understand on both occasions', but in a stricter sense it is not, for the situation I am talking about the first time is one constituted by what I select for attention and how I group what I select in the first way, and the situation I am talking about the second time is a different one constituted by what I select and group in the second way. 'The House of Commons' is a name not for some reality independent of me, but for a certain very narrow selection which I take and group in certain ways in my attention. (What I select it from is discussed later.)

In most cases of our saying that a situation is or is not orderly, we select and group in much the same sorts of ways as our neighbours, as is shown by our being able to co-operate with them in action and discussion, and we therefore fall into the delusion that we are dealing with one situation which exists as such in itself and is common to us all. But each of us experiences his own situation, which is what it is as the outcome of (among other conditions[1]) the ways of selecting and grouping in attention that he follows. Any other intelligence, even an immensely superior one, which did not select and group in my ways or in ways more or less like them would not experience anything resembling what I call the House of Commons and would find references to it and its order or disorder quite meaningless.

The same observations hold of any system of any kind and of anything that we can call systematic. That from which certain

[1] Discussed in Chapter 16.

constituents are selected for attention and grouped in attention cannot be said to be in itself either systematic or not systematic; what each man thus selects and groups forms a situation which may or may not have what we call the characteristic of being systematic.

To follow ways whose outcome is an experienced situation which is systematic may be easy, in some cases so easy that no alternative is seriously considered, as in the case of a living animal body which is ordinarily regarded as one systematic whole. On the other hand it may be difficult, especially at an early stage, as Aristotle found it in his cosmology, where he was unable to consider the celestial and the sub-lunary as parts of the same system and was reduced to regarding them as realms independent of each other.[1]

For me to speak of an order or system, or indeed of anything, which is independent of my knowledge of it may or may not be an inherent contradiction, but it does involve the assumption that I can have some knowledge of that order, etc., in a special way different from the normal. It amounts to assuming that there is a special kind of knowledge which students of epistemology can have when on duty as such, by which they study the normal kind that other people have and that they themselves have when off duty. This assumption may be called the epistemologist's fallacy. The danger of falling into it is ever present, and in this chapter and this paragraph as much as in any other discussion of epistemological questions. There seems to be no way of avoiding it entirely, and the best we can do to prevent its misleading us is to be warily conscious of it all the time.

The danger is exemplified, here in this chapter, in a possible tendency by the reader to interpret what has been written as a form of representationism (and, the reader might suspect, in a tendency by the writer to slip back inadvertently into representationism while explicitly rejecting it). But in no sense is a representationist view intended. What a man experiences is no doubt in one sense private, but it is not in any sense a private

[1] Cf. page 77 ff. for further examples.

situation created in his mind by an external situation and thus representing it. There is no such external situation. What is selected and grouped in attention constitutes a situation, but that from which the selection is made, whatever it is, is not in this sense a situation. When I say that a situation is orderly, I am not saying anything about that from which the selection is made (which cannot meaningfully be said to be either orderly or disorderly), but am saying something about the selection (i.e. about what is or are selected).

The difficulty at this point lies in the meaning to be attached to the phrase 'that from which selections are made'. This is discussed *passim* in Part Three, particularly in Chapters 13 and 16. At the present stage we can only say that our knowledge is direct and not mediate. To put the matter very crudely, what we know or experience is reality and we know it directly, and when we disagree we do so because we are experiencing different bits of it, or bits of it differently grouped.

Chapter 5

PURPOSE[1]

THE belief that the material universe has been designed seems to be as old as man's thinking about such matters, and its subsequent history is that it was not doubted until about a century ago except by a few questing and unregarded spirits, but that since then it has declined until to-day it has almost passed out of educated acceptance except among those who have some special theological or other reason for retaining it.[2] Parallel with this decline in the acceptance of teleological explanations in cosmology but antedating it, there has run since the seventeenth century a decline in the acceptance of them in particular fields. In physics, for instance, teleological explanations abounded prior to Descartes, but since his day no educated man could feel happy with a teleological explanation of any strictly physical phenomenon. A similar abandonment has taken place in subject after subject during the last three hundred years, and has been rapid and conspicuous during the last hundred. A biologist to-day would never be content with an explanation of growth, healing and adaptation

[1] Cf. page 33; i.e. this is a discussion of what is involved in any teleological explanation, and the distinctions ordinarily drawn between 'teleology' and 'design' or between teleology in the Aristotelian sense and in that of Archdeacon Paley are not relevant, as we are discussing the more general theory of which these are different special cases.

[2] Amplified in Note 3, page 237.

in purposive terms. Such phenomena look purposive if anything does, and yet he tries to find non-purposive explanations of them. The work of a modern psychologist, as contrasted with that of many of the earlier ones, could be described not unfairly as a constant striving to replace teleological explanations of human behaviour by explanations in terms of causes and effects.[1] A similar change has taken place in the outlook of ordinary folk. They are not surprised, as their grandfathers would have been, to be told that the eye was not designed but has developed partly because the animals which, in more or less similar circumstances, did not develop light-sensitive spots out of heat-sensitive ones were unable to survive, or, as their fathers would have been, to read that some juvenile delinquent's cruelty was caused by the emotional circumstances of his childhood.

Nevertheless, teleological explanations are still commonly employed in two ways. In the first place, we use them in attempting to account for phenomena which are not yet explicable in causal terms and as far as we know never may be fully so, such as the behaviour of those with whom we feel in close personal relations.

In the second place, we use them as interim explanations in fields in which they are no longer seriously held. A biologist knows that he cannot at first consider what is happening in the cells in an embryo which are going to form an eye some day, unless he regards them as growing with the end or purpose of forming an eye which will *later* be sensitive to light. No doubt David Hume himself once explained to his small nephew that the iris of the cat's eye gets bigger in the evening so that it can see better in the dark. Even the teaching of anatomy to medical students in its introductory stages is conducted to some extent in such terms.

There seems to be a tendency in all inquiries to replace teleological by causal explanations as far as possible. In the physical sciences this replacement is now a completed achievement; in the biological sciences it is not perhaps entirely an achievement but it is an aim; in the psychological field it is still less an achievement and it is not even an agreed aim; in cosmology and such inquiries there is no agreement.

[1] Example in Note 4, page 238.

It is observable, however, that even the objectors who would deny that the replacement is an aim in, say, psychology (including our daily understanding of our fellow men and of ourselves) never replace a satisfactory causal explanation by a teleological one, other conditions remaining the same, but frequently replace an otherwise satisfactory teleological explanation by a causal one. Whether this replacement can ever be universal is unknown, but the trend towards it seems to be irreversible.[1]

Here again processes of selecting and grouping in attention are involved. When I think of the human ear as designed to hear with, or of my typewriter as designed to type with, I am selecting for attention only a very little of what confronts me; and it is only because I do so that I am able to distinguish an ear or a typewriter amid the mass of all else that I might have attended to. I group each of these along with other things and events in a special way, and it is only because I do this that I am able to think of them as having been designed. Archdeacon Paley explaining why the natural creation is as it is and a schoolboy explaining why a particular screw is in a particular place in the carburettor he is taking to pieces use forms of discourse which indicate fairly clearly the processes that are being carried out.

What I am aware of is not, of course, an ear or a typewriter in isolation. Of either of these in isolation it would be meaningless to say that it was designed or not designed. The situation in which design can intelligibly be said to be involved is a wider one including, in the case of the typewriter, the designers and manufacturers and the whole social and economic structure in which typewriters are made and used. In the case of the ear, it is a wide situation including a designer, even though the nature of this designer is not necessarily personal and is not specified in any way. 'The ear' and 'the typewriter' are names for subsituations within these wider situations.

It is meaningless to say that there is either design or the absence of it in that from which the selections are made. There

[1] This does not imply that all explanations will be, or ought to be, in causal terms. Cf. page 212.

can be design only in the situations which men make, or take, for themselves by following their several ways of selecting and grouping.

It may be objected that, although this perhaps holds of the ear and the material universe as a whole, it cannot hold of the typewriter. It may be allowed that when I say that the ear or the material universe was or was not designed I am not saying anything about the ultimate reality but am indicating which of a pair of interpretative attitudes I am holding or which of a pair of ways of selecting and grouping in attention I am following, but the common-sense objection will be made that when I say that the typewriter was designed I am doing something quite different, for the typewriter *was* designed, whatever anybody happens to think about it. The answer to this is that the objector is in effect asserting only that he and I and everybody else that he comes in contact with all follow ways of selecting and grouping in attention in this field which are the same or sufficiently similar for us all to co-operate.[1]

Where we do not all follow the same ways, as when one man thinks that the ear was designed and another does not, or where I at one time think that a certain item of behaviour was purely spontaneous and later come to think it was caused by some impulse provoked by circumstances, there must be some criterion by which the one way is followed and not the other, though these examples give no suggestion of what it is.

[1] This objection is essentially the same as that on page 40, and it will reappear later in various contexts. A fuller answer is given in the course of Chapters 12, 14, 16 and 19.

Chapter 6

SCIENTIFIC HYPOTHESES AND LAWS OF NATURE

A MODERN scientist, asked to give an account in epistemological terms of his work, would say that it consists in finding hypotheses explanatory of his data. He would point out that this includes discovering more data, and that the kinds of data he discovers are to some extent prescribed for him by the hypotheses he already holds. He would add that his hypotheses are not claimed to be complete or certain. They explain the data so far accumulated, but fresh data will from time to time appear, of which some will be explicable by the hypotheses in question and some will not; and the existence of these latter will require him to amend or even abandon the hypotheses with which they are incompatible. He would further add that not only are his hypotheses not the final truth about reality, but in one sense they are not about reality at all. What reality really is, he would say, we cannot know, or at any rate he cannot tell us. All that he can tell us is that if we adopt his hypotheses, then events and conditions will turn out as he foretells—up to the point where they do not.

This view, though regarded as characteristic of science, is so only in the restricted sense of 'science' as meaning the observational physical and biological sciences, and even of them only comparatively recently, for it has been held for only about one-eighth of the time that has elapsed since Thales. The scien-

tist or natural philosopher of earlier times than ours thought of himself as finding out more and more about the real nature of things like the theologian or metaphysician, except that he was concerned with material things only. For various reasons and causes, this long-held view was qualified, altered, and finally replaced by the view characteristic of the observational sciences to-day. In this development two stages can be roughly distinguished. In the first stage, which ran from about the end of the sixteenth century to the beginning of the twentieth, it was held that most scientific assertions were hypothetical in character, and as such open to amendment or even to total rejection in the light of fresh evidence, but that in addition there were some principles or laws which were not open to amendment. A man who is trying to understand the behaviour of nerves and muscles or the order of deposition of rocks in a complicated area is bound to be impressed by the hypothetical and tentative nature of the different theories he makes and tests, while at the same time he is equally impressed by the independence and immutability of certain general principles, such as Newton's Laws of Motion. In the course of the seventeenth and particularly the eighteenth century it became customary to dignify with the title of 'law' any scientific statement of fundamental importance to which no exceptions were known or considered probable. These were then regarded not as hypotheses but as statements of what simply is, and deductions from them were drawn and applied with unquestioning confidence, notably in denying the possibility of occurrences otherwise vouched for, on the ground that they would be contrary to some law of nature.

Throughout this period, however, it was being discovered that law after law in the observational sciences did not hold. Indeed a history of the advance of these sciences could be written as a record of such discoveries. The second roughly discriminable stage, which has run from the end of the first to the present day, is one in which it is explicitly recognized that all these laws are hypotheses like any other hypotheses, except that their range of application is unusually wide and their record of previous acceptance unusually respectable.

Although workers in the observational sciences would agree

with the preceding, by no means all those working in, or holding views about the nature of, the non-observational branches of the higher learning would do so. Some pure mathematicians and a considerable number of philosophers would expressly reject it, as would those few workers in certain other fields who try to treat their subjects as non-observational and *a priori*, such as economists of certain schools. This can be interpreted as indicating that some of those concerned have passed into the second of the two stages while others remain in the first. At the present day the older view has been abandoned by all workers in the physical and biological sciences; by almost all workers in subjects such as economics; but not by a number of pure mathematicians nor by a considerable number of those who philosophize about mathematics.[1] These exceptions would thus delay pure mathematics in the earlier stage out of which the other sciences emerged some forty or more years ago when they finally abandoned the misconception that the more venerable of their hypotheses were immutable laws or principles.[2]

The differences in the points at which various subjects and sciences reach the second of the two stages seem to be due to differences in the extent to which it is possible to apply the major hypotheses current in them before coming upon data which these hypotheses are inadequate to explain. It has been possible to do only a limited amount of work in biology and physics without coming upon data which the hypotheses originally current could not account for, and this impresses upon a man that they are hypotheses. In mathematics, on the other hand, it has been possible to work for well over two thousand years without any such experience, because the major hypotheses which were formulated or at least presupposed by the early mathematicians were so impressively adequate. If those remote thinkers had not been geniuses, the hypotheses they formulated would have been less adequate and would have looked like

[1] As far as I can gather from personal contacts, the view in the text is much less uncongenial to pure mathematicians themselves than to those who philosophize about mathematics (saving the exceptions on both sides). In this respect the owl of philosophy does not take flight until considerably after sunset.

[2] These remarks are to be read in conjunction with pages 188 ff. on the nature of inference.

hypotheses much sooner. If the early biologists, physicists, economists and others had been as outstandingly successful in inventing hypotheses of wide comprehensiveness and high adequacy, then modern biologists, physicists, economists and others would probably have thought it unreasonable and uncomprehending to regard their principles and axioms as merely hypotheses. Indeed this has in fact occurred in a small way in various of the admittedly observational sciences whenever any of their fundamental hypotheses have remained for a long time unquestioned. The sorts of comment made to-day by some pure mathematicians (but only by some) and by some philosophers about the absoluteness and independence of observation of the principles of pure mathematics were at one time made by some biologists about biology, by some physicists about physics, and even by some economists about economics.

Chapter 7

CAUSALITY

UNTIL near the end of the eighteenth century it was believed that an effect is in some way bound up in or with its cause, and that we can forecast the effect if we know enough about the cause,[1] but Hume then pointed out that we cannot. We fall into the delusion that we can, because in most cases in everyday life we can foretell what the effects of given causes will be, and we fail to notice that in so doing we are depending on previous experiences in which similar causes were observed to produce similar effects. If we have a genuinely new cause, of a kind which we have never before experienced, we are entirely unable to foretell what the effect will be. When Father Schwarz pounded in a mortar three materials, none of which will explode and only one of which will even burn, he could not possibly have foretold the explosion which signalized his discovery of gunpowder. All that he was able to do was to observe a sequence of events or situations. He observed that mixing together his three constituents and abrading them was

[1] In some Epicurean and other writings (and also, I understand, in some Arabian writings) there are scattered remarks which may indicate a recognition that this view is too simple. The seventeenth-century Occasionalists seem to have been the first to make the point that the cause cannot in any way contain the effect, but they discussed this only in connexion with the mind-body problem and made no serious attempt to deal with the general issue involved.

followed by an explosion, and this mere sequence was all that he could observe of the relation between the two events. He could not possibly know what was going to happen until it did happen, though of course after he had once experienced this new sequence he would expect the same next time.

This seems to be the limit of our knowledge of any instance of a cause and its effect; we know nothing of any relation between them except that the second is observed to follow after the first, and that we expect the same to happen again in similar circumstances. But what ground have we for this expectation? We cannot draw it as a conclusion from observing such regularity in the past. Admittedly there has been such a regularity as far as we know, but the only conclusion we can draw from this is that there has been such a regularity—up to the present. That nature will still be regular to-morrow, or even that there will be a to-morrow, cannot be deduced from our observation of regularity in the past. For all the rational ground we have on which to base our expectations, anything or nothing might follow after any given event.

The objections to this view which were and still are made can be classed as frivolous or serious. The first mainly take the form of picturesque accounts of the absurd situations which would arise if men attempted to apply in daily life the belief that there is no continuing regularity in natural happenings. Such objections are neither right nor wrong but irrelevant. We do believe in a continuing regularity and we plan our lives accordingly. What is denied is that we have any strictly rational ground for doing so, which is another matter altogether.

The serious objections run on fairly well defined lines. The most obvious is typified in the case of Schwarz and his gunpowder by arguing that the reason for his incapacity to foretell an explosion was not lack of experience of the effect but lack of knowledge of the cause. It may be argued that a modern chemist or physicist, who understands the atomic and subatomic structure of sulphur, saltpetre and carbon, would be able to foretell an explosion from his knowledge of these alone. To this the reply is that the knowledge which would enable him to foretell an explosion turns out on examination to depend on

experience of other sequences involving explosions whether called by that name in those other contexts or not.

Another such objection is that this account fails to distinguish between a cause and a mere occasion. The reply is that this distinction is one drawn between an antecedent event which is found to be invariably so and one which is not. If an event which is at first considered to be only an occasion is found to be invariably an antecedent, it comes to be regarded as part of the cause.

It may be objected that we sometimes conclude that a given event is caused by some other event after only one instance of the sequence. The reply is that this does not in fact occur. Instances which appear to be one-time occurrences can be seen to be similar in their relevant particulars to other sequences which have been familiarly experienced.

It may be objected that in certain cases we consider two events or conditions to be cause and effect even though the cause coexists with the effect and does not precede it. The reply is that there is a succession of two states of affairs, the first being the previously existing conditions including what we call the cause, and the second being the new conditions including what we call the effect.

It may be objected that we do not merely observe the following of one event or condition upon another, but believe that in certain cases it must follow. When a gunner fires his gun he does not believe that the shell will merely proceed up the barrel and through the air. He believes that it *must* do so, and he feels that there is some force which *compels* it to do so. To this the answer is as follows. In certain sequences we certainly do feel compelled to expect the second event to follow when the first has happened, and should be astounded if it did not, but this does not imply that there is anything more than mere sequence. It only shows that we have become so accustomed to the sequence of these two events that when the first happens we find ourselves expecting the second. If I hear someone referring to 'the Prime Minister of the dark days in the Second World War after the fall of France when Britain stood alone, the Right Honourable Winston . . .', then I expect the 'Churchill' to follow. No one would maintain that the words 'the Right Honourable Winston' were

the cause of the word 'Churchill', and yet we all feel this compulsion to expect 'Churchill' to follow. In the same way, if I throw a stone into the air I feel a compulsion to expect it to come down again. In this case the sense of compulsion is imputed to the stone, so that I say that there is a compulsion in the stone to come down again, instead of saying that it does come down again, and that I feel a compulsion to expect it to do so because I have for so long been habituated to stones coming down again. To this answer itself the objection may be made that the words 'the Right Honourable Winston' and the word 'Churchill', though not themselves related as cause and effect, are the effects of other causes in the mind and body of the speaker, and that these causes are themselves causally related. This is so but it is not an objection, since it merely moves the whole discussion one stage further back, and the same considerations apply as before.

It may be objected that what we are aware of is not a series of discrete events but a continuing flow, and that Hume has manufactured the whole difficulty by misrepresenting this flow as a series of items between which no relation other than mere sequence can be found. To this the answer is that even so the essential problem remains, why this continuing flow should have continuing uniformities in it.

The other objections which are usually advanced are special cases of the preceding ones.

We are thus in the disconcerting position that we all live our lives in the belief that events and conditions in the physical world will continue in the future as in the past even though we have no principle and no evidence from which we can deduce that they will. Hume explained this by his doctrine that beliefs such as this one are not based on evidence, but are 'natural beliefs' inborn in us. This is at least an honest recognition of the observable fact that we hold the belief without understanding why, but it is no more than this. To account more adequately for the belief we must approach the problem in a different way.

When a small boy stands in puddles and has a cold the next day, the cold is regarded by his mother as the result of loitering with wet feet. At the time of his splashing in the puddles,

innumerable other events and conditions were in being. One stage of the whole cosmic history was being enacted. Of all this, only a most minute section could possibly have been noticed by her, and of even those contemporary events and conditions which it was possible for her to notice she disregarded all but a very few, and selected for special attention his having wet feet. Similarly, from the further stage of the whole cosmic history which was being enacted the following day she selected for special attention only his coughing and sneezing and having a high temperature. That is to say, out of the first of these enormous complexities she selected for attention one event or complex of events only, and out of the second she selected one event or complex of events only, and she grouped this pair together in her attention as being what we call cause and effect.

The same holds of any abstruse scientific example, such as a physiologist's understanding of the same case. His selections would be much more complex and extensive, but they too would be most exclusive, for it is only because he, like the child's mother, disregards most of what lies open to him to notice that the 'cause' and the 'effect' are distinguished by him as such.

That is to say, there are no causes and no effects existing as such in themselves. When I speak of a cause and an effect, i.e. of a pair of events and conditions and their being so related, they form a situation within which what we call a causal relation holds, this situation existing (subject to some other conditions also[1]) only because I am carrying out processes of selecting and grouping in my attention in my own particular way. Thus 'striking a match' and 'its lighting', and 'splashing in puddles' and 'having a cold', are names for certain selections which I take and group in my attention from the range before me at the given time in the given conditions. Any other man forms his situation by selecting and grouping in his way. When he asserts that the striking of the match really is the cause of its lighting and that all this about selecting and grouping is only another example of the notoriously perverse ingenuity of philosophers in obfuscating matters that would have been clear enough if only they had been left alone, he is in effect asserting that all other people follow ways of selecting and grouping in their attention

[1] Cf. page 148.

which are so similar to his own that nobody notices any differences between these ways and therefore does not notice the ways themselves. Any other intelligence which did not in the main follow these or similar ways would have no experience of what we call a match and its going on fire, or of what we call puddles and colds in the head, and references to relations of cause and effect among these would have no meaning to it.

Even though we all follow the same ways in the main, in detail we do not. The man who thought that the building of a steeple on Tenterden Church was the cause of the formation of the Goodwin Sands selected for himself two events much as other people do, but he grouped them in one way as forming together one causal sequence, whereas other people would have grouped them in another way, each of them severally with other events as forming two separate causal sequences independent of each other. This begins to throw some light on the criterion by which we follow one way rather than another, and thus to indicate an answer to Hume's question why we are justified in our belief that natural happenings will continue in the future as in the past.

This question can be divided into two which are, at least superficially, distinct:

(*a*) The general question: What ground have we for accepting a principle of causality, and for believing in a continuing regularity of nature? That is, why do we group events and conditions in our attention as causally related?

(*b*) The particular question: Why do we believe that some particular event or condition causes some other one? That is, why do we group the one with the other as causally related?

To the first of these no so-called rational answer can be produced. The only way in which any principle of causality and any belief in a continuing regularity can be justified is by going about it in quite another fashion and saying, in one form of words or another, 'We must believe it, because look what happens if we don't.' If a man did reject that principle and that belief, and acted accordingly, he would find that instead of living his normal life he had involved himself in utter confusion. He could not take any action of even the simplest kind because,

on the view he had adopted, anything or nothing might be the consequence of it. He could not attempt to understand anything, for the same reason. What a man would experience if he seriously abandoned the belief would be so unlike our ordinary experience that it could hardly be called by that name, and indeed cannot even be imagined by us. To regard events and conditions as causally determined and as continuing to be so in the future is necessary if we are to have experience of the sort we do have.

The second question has to be dealt with in the same way. If a man does not hold the particular belief concerned, and thinks and acts accordingly, he involves himself in confusion—not in total confusion as he would if he refused to admit causal regularity at all, but local confusion in the field concerned. If I do not regard striking the match as the cause of its lighting, or the little boy's cold as the effect of his loitering in wet clothes, then I cannot understand what is happening or take measures to deal with it. If I regard the building of the steeple as causing the formation of the Sands, then I create confusion for myself in two fields. Mill's Canons of Inductive Logic, the rules of scientific method laid down in textbooks, and similar principles whatever their titles, are best understood as instructions by the observance of which such confusions can be avoided.

This process of selecting and grouping in attention is, like others, not an act once done and thereby completed, but is a continuing process which must be sustained if our experience is to continue as it is. If for any reason it is not sustained, then our experience will itself change in certain respects. The effort which this process requires is not usually detected, but sometimes can be; anyone trying to understand Gresham's Law, or a complicated piece of mechanism, or unexpected behaviour by a friend, is aware of having to expend some effort in picking out and pairing off what he then distinguishes as the various causes and effects.

There is additional evidence on this line from the study of mental disorder. Certain types of psychotic breakdown are marked by an incapacity to experience events as causally related in the same way as normal people experience them, i.e. by

an incapacity to follow normal ways of selecting and grouping in attention; and the same is often found more specifically in neurotics. There is also confirmatory evidence from child psychology, for young children's experiences of causes and effects appear to be much as we should expect them to be if the children had not yet fully made the effort that adults make and that neurotics and psychotics formerly made and are unable to sustain.

The causal principle, the belief in a continuance of regularity in natural happenings, and the beliefs that specified particular events are the causes of other specified particular events, are thus of the same kind as scientific hypotheses and natural laws. Like them they are not inevitable. We can hold them or not hold them; but the penalty for not holding them is confusion, in all fields or in many or in one, as the case may be.

It would generally be agreed that particular beliefs that some specified A is the cause of some specified B are hypothetical, and these are ordinarily referred to as hypotheses. It is not at first so obvious that the causal principle that every event has a cause is an hypothesis, for the same reason that makes it not at first so obvious that a 'law of nature' is an hypothesis, namely that it is of such general application that alternatives to it are not normally within our consideration.

To take this view is not to 'disbelieve in causality'. It is no more disbelieving in causality than to agree with Newton's *Principia* is disbelieving in gravity. To take this view is not to 'reject the causal principle', but is to hold that this so-called principle is a working hypothesis which works well in most fields and that in these fields there is no alternative hypothesis which works at all, even though there are some other fields in which it does not seem to work in spite of our perpetual efforts to make it do so.

The fields in which it does work are vastly more extensive than those in which it does not. In other words the range of application of this way of selecting and grouping events and conditions in attention is very wide indeed, so wide that it is sometimes held to apply to the whole of human experience, i.e.

to the whole of every situation which each man experiences as the outcome of (among other conditions) the various attitudes he holds. Perhaps it ought always to be so applied, but it is not. Most men ordinarily do not apply it to much of human behaviour; the mentally ill apply it very erratically; and it is an ancient joke that determinists do not apply it to their saying that it applies to everything else.

What then is the relation between the realms of the determined and the undetermined? If we are asked casually whether it is true that striking a match causes it to light, or that building a steeple on to Tenterden Church caused the Goodwin Sands to pile up, we answer 'yes' to the first and 'no' to the second, but if we ask ourselves as philosophers whether the lighting and the piling up were 'really' the effects of these causes, we find that we cannot properly answer 'yes' or 'no'. We are in the same position as when we asked whether there is progress in civilization and whether the human ear has been designed. We find that in discussing causes and effects we are not saying anything about some independent reality, whatever that may be, for it is meaningless to say either that there are or that there are not causal relations in it, but are instead discussing the situations we severally experience as the outcome of holding our attitudes or following our ways of selecting and grouping in attention (in which situations there are or may be causal relations), and are indicating what these attitudes and ways are. That is to say, the realms of the determined and the undetermined are not radically or absolutely distinct, but are related in such a way that the cases of the second are limiting cases of the first, i.e. cases where it has not yet been possible (and for all we know never may be possible) to follow a way of selecting and grouping the particular relevant data as causally related or determined, i.e. ways of picking out from the vast complex of events and conditions those groups of events and conditions which in fact succeed one another and are regularly found to do so.

The question whether causal laws hold of human thoughts and actions is of course only one constituent of the complex problem which is discussed by philosophers and others under

the name of 'freedom' or 'moral freedom', and to treat this complex problem as only a question of determinism versus indeterminism is naïve, but those further issues cannot be discussed with hope of understanding unless the question of determinism and indeterminism is considered first.

It can be dealt with on the same line as the question of determinism and indeterminism in other fields, in that we come to a recognition that the plain question whether a man's thoughts and actions are or are not determined cannot be answered because it cannot properly be asked. If we ask the question in that form we presuppose a theory of causality which is untenable and which thus renders insoluble any question asked in terms of it. On the alternative theory, the situation becomes comprehensible, i.e. when I say that a man's thoughts and actions are or are not determined, I am not making any assertion about the nature of his thoughts or his acts independent of any observer, but am indicating the particular way of selecting and grouping in attention in this field that I am following.

We observably try to find causes for human thoughts and actions, and the tendency to do so appears to be irreversible in this field as in others. Those thoughts and acts which we regard as undetermined are those limiting cases in which we have not succeeded in finding causes.

This is not a doctrine of determinism, but on the contrary a doctrine that determinism, in the ordinary sense of the word, cannot properly be asserted and equally that indeterminism cannot properly be asserted. We have to recognize that we cannot hope to understand what human nature *is* (or what anything else *is*, for that matter), but can observe its behaviour, and can progressively discover causal explanations for more and more of it, though there seems no likelihood that we shall ever discover causal explanations for it all.

At this point two recurring questions will again be asked and a general objection raised. The questions are: What precisely is it that we are selecting for attention and grouping in attention? and 'What precisely is that from which these selections are said to be made or taken?' The objection is that the writer appears to be maintaining that, although the situations a man

experiences have a structure and a character, reality itself has no structure and no character, and that he is in effect maintaining a totally subjective relativism; in other words that he is giving an account of the nature of knowledge which amounts to asserting that there is none. These matters are discussed in Chapter 16 and later chapters.

Chapter 8

PROBABILITY[1]

THE ordinary views of the nature of probability presuppose a distinction between probability in fact and probability in knowledge. By the first is meant a probability in the nature of things that such and such an event will occur, the event itself being uncertain. By the second is meant a probability that we may be right in expecting such and such an event to occur, the event itself being determined and the uncertainty being our uncertainty about it. Scientists other than those physicists who maintain a principle of indeterminacy hold that probability in the sciences is of the second kind. Those who maintain this principle hold that part at least of what they deal with under the heading of probability is of the first kind. A third meaning of probability is used in the theory of probability worked out by pure mathematicians, which may or may not be identified with either of the other two.

A preliminary clarification can be made by reference to the connexion between indeterminacy as a principle in physics and probability as a theory in pure mathematics. Pure mathematicians worked out a theory of permutations and combinations as a development of arithmetical and algebraic theory, in the calculation of the numbers of different ways in which various distributions can occur. They then went a very natural step further and stated these findings in terms of what they called

[1] Cf. page 64, note.

'probability', saying that if the total of possibilities is x, then the chance that any specified one of them will occur is 1 in x, or that the probability of its occurring is 1 in x. This was an intelligible use of the word and not misleading in that context. Then physicists working in the very different realm of the sub-atomic came upon a whole range of phenomena in which it was impossible to foretell that a given event would occur in any specified instance, but possible to foretell that it would occur in a certain proportion of the total instances. A mathematical theory in terms of which these findings could be expressed was required, and one was ready to hand in the technical apparatus of the classical calculus already developed in the study of combinations and permutations which had by this time come to be called the theory of probability. Some sub-atomic physicists, when they took over and applied this theory, interpreted it as a theory of probability in the first of the above two meanings, i.e. of probability in the nature of things, which it was not.[1] The so-called mathematical theory of probability has nothing to do with probability in that first sense.

If I toss a penny there is no special reason why it should fall one way rather than the other. We may say that the chances are as much in favour of the one result as of the other, or that the probability that it will fall heads is one in two, and that it will fall tails the same. At first appearance this is so; but the statement that there is no special reason why it should fall one way rather than the other is not true. What would be true is that we do not know what are the special reasons or causes which determine it to fall one way and not the other. When a man tosses a coin, we know little about it and about the field in which it is tossed; but we could find out more. The weight of the coin and its centre of gravity could be found, making allowance for its asymmetry of head and tail; the direction and magnitude of the various components of the very complex flick he gives it could be found; the effect of gravity on it could be measured, allowing

[1] For confidence in this interpretation I am indebted to Professor A. C. Aitken, who also informs me that certain distinguished physicists such as Schrödinger have been at pains to emphasize that probability in the context of quantum mechanics must be in some way different from probability as understood by the successors of Laplace.

for the diminution in this when the coin was at the top of its throw; and so on. From all this we could calculate the position in which the coin would come to rest. Recourse to tossing a coin to settle a point is not recourse to an event which is undetermined, but to one which is as determined as any other, though some of its determining conditions are so complex as to be beyond ordinary powers of detection. Reference to the probability of a coin's falling heads or to the probability of being dealt four aces indicates our ignorance of some of the determining conditions, not an absence of them. That is to say, in fields such as this there is no probability in the first sense (cf page 62), but only in the second.

In another field, that of sub-atomic physics, it would be maintained by some physicists that there is probability in the first sense.[1] They would maintain, for instance, that in certain circumstances it is possible to foretell that a certain proportion of electrons in a given total will be dislocated, because this is determined, but not possible to foretell which ones, because this is undetermined. Such assertions, however, are not justified. The position is rather that the physicist knows enough to forecast that a certain proportion of the electrons will behave in a specified way, but not enough to forecast how any one electron will behave. This does not justify any observations on the question of indeterminacy, with which it has nothing whatever to do.

To this there are two likely objections. In the first place it may be objected that this account is worthless as it ignores the unquestioned findings of quantum mechanics, in which it has been shown that certain sub-atomic events, such as the break-up of a radium atom, are unpredictable not only in laboratory practice but in principle, not because we are ignorant but be-

[1] To forestall a likely complaint, it may be well to repeat (from page 33) that this chapter, like the others of this Part, is a discussion of the epistemological conditions of all theories about its titular topic, and not of these theories themselves. Whether the statements made in it are sound is a question for decision on epistemological grounds, and is not affected by the absence of reference to particular mathematical theories and particular physical theories concerning probability. It is a discussion of the general theory or attitude which sets the limits within which these more particular theories must fall.

cause they are undetermined. That is to say, it may be objected that modern physics has shown that in certain fields there is not a dependable regularity of succession of natural happenings, and that in those fields 'the principle of causality does not hold'. The answer is that these findings are destructive of the plain man's commonsense view of causal relation (as were Hume's arguments), but are not incompatible with the view maintained in the preceding chapter, provided this is taken in conjunction with the consideration of large numbers of instances as referred to below.

The second objection is that there is a further uncertainty—or perhaps the same in another guise—in that it is impossible to define both the location and the velocity of a sub-atomic particle at the same time. The answer to this is the same as to the first.

An indeterminist physicist, when he is enabled by new theories or fresh data to forecast events which he had previously regarded as undetermined, does not regard these forecasts as mere chance concomitants. He gives up his belief in the undetermined character of these particular events, even though he may retain his general belief in indeterminacy (but now with the frontier between the determined and the undetermined moved one stage further back). In this he is behaving as anybody else does in a like situation, as biologists of the vitalist schools did, as psychologists do, and as we all do in our daily efforts to understand our neighbours and ourselves. Statements in terms of probability are indications of our approaching without as yet attaining ways of selecting and grouping together in attention, from among the vast complex open to us, constituents (events and conditions) which occur in regular succession, and neglecting those which do not.[1] When a man asserts that any event or condition, whether in the realm of ordinary material things or in the sub-atomic realm or in that of biology and of human behaviour, is undetermined or probable or determined, he is not making any assertion about the real nature (whatever that may be) of material things or electrons or human beings, but is indicating the degree of his success in finding and

[1] This does not imply that scientific advance consists wholly in finding causes. Cf. page 212.

applying a particular way of selecting and grouping in his attention in the field in question.

When very large numbers of events and conditions of any kind are considered, certain phenomena come to notice which appear to be of a different order from those found where individuals or small numbers are concerned. Although it is not possible to predict of any given radium atom whether it will disintegrate within a given time, nor of any one tossed coin whether it will fall heads, it is possible to predict with an impressive approximation to accuracy what proportion of a large number of radium atoms will disintegrate and what proportion of heads will result from tossing the coin many times. A similar dependability is found in fields where the alternative possibilities are vastly more varied and complex. The accumulated statistical data of fields as diversified as genetics, gunnery and life insurance, and even of such unexpected ones as the posting of letters with no addresses and suicides by particular methods, show astonishing constancy, so that we can predict the behaviour of proportions of a large total of individuals, though unable to predict the behaviour of any particular individual.

No explanation of this can be obtained from any mathematical theory of probability, for the cogency of any such explanation as an explanation depends on the principle that certain events are as likely to occur as certain others, and this is itself the point requiring explanation. Nevertheless, we rely on the occurrence of these forecast proportions, and if in any particular case the proportions do not occur as the mathematical theory of probability foretells, both mathematicians and plain men suspect that some other factor has entered unnoticed to disturb the normal distribution.

From this it would at first appear that in this regard there are two kinds of knowledge. On the one hand there is the kind that we have in classical physics and daily life, by which we can forecast the behaviour of individuals, as an astronomer can forecast where Saturn will be next month and I can forecast that my pipe will continue to lie on my desk and will not fall through it.[1] On the other hand there is the more mysterious

[1] Cf. page 78.

kind which enables us to forecast the behaviour of proportions of totals of individuals, though not of the individuals themselves.

But the two are the same, for it depends on our point of view, or way of selecting and grouping in attention, whether any given entity is a unit or a total of units; whether it is one briar pipe or a vast number of sub-atomic entities; whether it is one population or many individual human beings; whether it is one salvo or a number of shots; whether it is one total number of tossed coins or many individual tossed coins.

It is therefore possible to regard the increase of knowledge as a development by which we begin with knowledge of the behaviour of proportions of totals while not having knowledge of the behaviour of individuals; and that we then discover more about the individuals until we are able to forecast their behaviour; at which point we discover that the individual itself can be regarded as a statistical total of constituents; and we are then able to forecast the behaviour of proportions of them but nôt of the individual constituents; and so on, one stage further forward. For certain purposes it is convenient to regard non-statistical methods as special cases of the statistical, namely those in which certain statistical totals are considered as themselves units.[1]

[1] This suggests a speculation on the relation between the physical sciences and the biological, including the psychological. Perhaps the next major advance in the realm of science will be the discovery of some relation between the 'A' and 'B' sciences, similar in kind to that devised by Descartes between geometry and algebra by the propounding of analytic geometry but immeasurably more widespreading in its effects.

On the views now generally held, the behaviour of living organisms and the behaviour of material things appear to be radically and unbridgeably different, e.g. when a machine suffers damage, it stops; when an organism suffers damage, it adapts itself and goes on. As far as I can see it will never be possible from this approach to formulate laws or theories explanatory of the behaviour of both.

If, however, we regard the laws or theories of the physical sciences as statements of the behaviour of proportions of totals, and also regard the laws or theories of biology and psychology as statements of the behaviour, not of individual animals or individual men, but of proportions of totals of animals and of men, then we may come upon laws applicable to both, which at present are unguessed at, e.g. the occurrence of mutations may be found to follow laws similar to those followed by quanta changes.

Chapter 9

TIME[1]

THAT time is absolute and the same for us all whatever our different experiences of it may be is taken for granted by all within the European-American culture, with the exception of modern physicists, some mystics, some philosophers, and those influenced by them. There is a familiar and explicit statement of this, as applied in one special field, in the account of time in the Newtonian physics. According to it there exists an instantaneous present, plus a past which no longer is and a future which is not yet. The only real existence on this view is the present fleeting moment. In the sense in which it is real, the past and the future in their several ways are not. Whether the same attitude is held in other cultures, and whether the Newtonian account could ever have been formu-

[1] We are not concerned here with any particular theories about the nature of past, present and future, or about our experience of these and of events and conditions as being in them, but with the epistemological conditions of all such theories. I.e. this chapter is a discussion of the more general theory or attitude which sets the limits within which all such theories about time must fall. (Cf. page 33.)

For this reason, certain distinctions which would ordinarily be made between different meanings of 'time' need not be introduced here, for instance the distinction between 'time' envisaged as a bird gliding over a series of hedgerows and 'time' envisaged as the hedgerows. Thus this chapter is not an erratic alternation between the discussion of time in one sense and time in various other senses, but is a discussion of the more general theory in terms of which alone it is possible to distinguish these various senses.

lated in any culture different in such respects from our own, is at least open to question.

'Time' is a name for certain characteristics of what we experience, and we experience it as having those characteristics because of the attitudes in this field that we hold, which in the case of most of us are those expressed explicitly in the Newtonian account. Until very recently this account was so strikingly adequate to explain all the relevant phenomena then known that it was regarded not as a theory or hypothesis but as the announcement of a plain fact. This view of its status was abandoned by physicists about the beginning of the twentieth century on the discovery of phenomena incompatible with it, and replaced by the view that it is a theory like any other theory. As such, it is adequate for keeping appointments or running a railway, but not for explaining certain recently discovered physical phenomena.

It presupposes a distinction between real or absolute time, as studied in the classical physics, and the time or times experienced by men and investigated by psychologists. The classical physicists were able to carry out their work without reference to an observer, but this was no longer possible after about 1905. Fresh data, themselves strictly physical, had to be accounted for, which were inexplicable except by abandoning the older theory of time as an absolute which is the same for us all and by referring instead to time as being time for a particular observer. (It may be objected that this is a confusion of physics and psychology, as the data concerning the observer produced by modern physicists in their discussions of time are altogether different from the data produced by psychologists in their discussions. The reply is that this would indeed be the case, if the original distinction and the consequent split into separate fields were sound, but not otherwise.)

This means that the problem of the nature of time is misstated when it is formulated as the problem of (*a*) giving a philosophical account of the nature of time itself, on the assumption that it is absolute as Newton described it, and (*b*) giving an explanation of the various different personal experiences which men have of the passage of time and of events and conditions in time, and giving also an explanation of the relation to absolute

time of these various different personal experiences. To the problem as thus formulated no solution can ever be found, because the theory in terms of which it is formulated is inadequate; or, in colloquial language, because time, whatever it is, is not as Newton described it.

In the light of this, consider historical knowledge of past events and conditions. The plain man's unthinking view is that history is or ought to be an account of what actually happened, and that any interpretation which the historian may choose to put upon the facts ought to be kept distinct from the account of the facts themselves. No historian nowadays would agree with this, though it was once the explicit doctrine of the schools of 'scientific' historians, and there is now a general recognition that fact and interpretation are not independent. The interpretation that the historian has already set, even tentatively, upon his period determines to some extent the facts that he will detect therein. Of course in much historical research work, as in a court of law, it is possible to discriminate for practical purposes between the events which actually occurred and the interpretations to be put upon these, but this turns out on examination to be a discrimination between interpretations which are agreed by all concerned and hence are not mentioned, and interpretations which are not agreed and hence are explicitly discussed.

It is nowadays a commonplace that the historian must select and that in so doing he has already interpreted, but different historians have different canons of selection. We wonder whether the history of the world really would have been different if Cleopatra's nose had been a little longer.

It is also a commonplace that the longer historical periods that we distinguish, such as the Pleistocene Period, the Periclean Age or the First World War, are time-spans which have their integrity because we choose to regard them so, in other words because we follow ways of grouping in attention which make those periods stand out as periods. The same holds, though this is not so generally recognized, of what we call events and acts, for these are names for the occurrences within certain time-lapses, usually brief, which have the appearance of an exceptionally close coherence and are therefore conveniently treated

as units, i.e. which are the outcome of ways of grouping in attention which we find convenient to follow.

Other ways are always possible, and one could regard a man's falling from the roof half-way to the ground as one event and his falling the other half as another event, but nobody would attempt this any more than a historian would write a history of Europe beginning on 27th December 1905 and ending in the middle of the Battle of the Somme. It could be done, but the penalty for doing it would be confusion.

Now consider time-spans which include the present. The simple view of the nature of our knowledge of the present, according to which we know the present only, as the flow of events passes over the knife-edge of the instantaneous present from the future to the past, is entirely inadequate. No such simple knowledge of the instantaneous present is possible. Memory of the past is required. If I were aware of a flash of lightning and of nothing else whatever, I could not know that it was a flash. It is only because the flash follows upon a period in which to my knowledge (by memory) there was no lightning, and because it is followed by a period in which to my knowledge there is no lightning (by which time the flash itself can be known to me only by memory) that I am able to recognize it as a flash. If we knew the present only, then we should not know even the present, just as I do not see sticks and leaves floating down on a stream if I look down at it through a narrow slit in the planking of a bridge, but only a rushing blur.

Whatever the nature of our knowledge of the past in memory may be, it must be in some way immediate and direct, at least it must be no more and no less describable as such than our knowledge of the present fleeting moment.[1] This means that what-

[1] There is an obvious objection to any theory of memory as mediate or inferential. If my memory of past states of affairs consists of present-moment knowledge of memory-images or the like which represent the past, and if *ex hypothesi* I cannot know that past state of affairs directly, then I have no check on the reliability of my memory-knowledge, for I cannot compare the memory-image with the past state of affairs which it purports to represent. Moreover, the further inconvenient question arises, how am I entitled to believe that there ever was any such state of affairs? As far as I can see, no attempt to evade this objection succeed.

ever the nature our knowledge of the present may be, it is not the case that we experience an instantaneous present together with memory of the past.

There is further evidence of a different kind, some of it from the experiments of psychologists on the specious present and some from the common experience of men, which leads to the same conclusion. If, for instance, we hear water being splashed from a jug, what we experience is not an instantaneous present plus a memory of the immediately preceding past. What we hear has succession in it, and yet it seems to be heard all at once. The same phenomena are found in our experience of time-lapses which are considerably longer by ordinary measurement, as in listening to music. Even an unmusical man, if he ruminates on his hearing a simple melody, may be astonished to discover how long is his specious present, i.e. the longest period which gives the impression of being 'all at once'.

Similar observations hold of experiences of many other kinds. Whenever we are enjoying ourselves, our experiences have this same mysterious combination of succession and simultaneity. In experiences of danger or delight this is vivid, and on introspection impressive. In the descriptions by mystical writers of the experiences they call 'illuminations' or the like, there are repeated references, explicit or implicit, to the experiencing of more or less long successions as yet being all at once. It is of course arguable that these ecstasies which mystics describe are in fact quite normal ones which they do not recognize, but this does not affect the point that there are many experiences of varied kinds which combine succession and simultaneity.[1]

We have therefore to find a theory of time in terms of which

[1] What we describe as the specious present in one experience can differ from the specious present in another not only in its length but in other ways also. Indeed, to describe one specious present as being longer than another is merely a metaphorical way of describing a difference which may be much more complex. The length, as we call it, is the only constituent of the difference which psychologists and philosophers have so far been able to pick out for special consideration and study. Various other constituents of these complex differences have so far been commented on only by poets and literary men, much as the length of the specious present was commented on by them long before psychologists and philosophers made any special study of it.

it is not absurd to say that the present has in it both what we call succession and what we call simultaneity.

Our experiencing the present can be described in metaphor as the outcome of a way of selecting and grouping in attention. This way is in some respects unique, but it is of the same general kind as the others previously discussed. The present which a man knows is determined by the way he follows, or the attitude he holds, in the sense that if he held or followed different ones the present he would know would be different also. There is no present as such in itself, with a natural or real or independent beginning and end, any more than those periods in the past which we isolate and distinguish by special names had beginnings and ends in themselves. The present moment which I experience exists for me only because I select and group in my attention in ways which make the present moment stand out in my attention as such. Any other person similarly has his present moment, and when he asserts or tacitly assumes that what he calls the present moment (which is only the present moment for him) is the 'real' present moment, he is not in fact saying anything about an independent reality, but is indicating the particular way of selecting and grouping in this regard that he is following. There cannot intelligibly be said to be a present moment in some independent reality, whatever that may be. There is a present moment only in the experience which each man makes or takes for himself by his ways of selecting and grouping in his attention. When a man expostulates that of course the present moment is the real present moment and that to say anything else is to use language that looks as if it had a meaning but has not, then he is in effect asserting that everybody else follows in this regard the same or similar ways, as indeed we mostly do. An intelligence which was markedly different from us in this regard would not have any experience of what we think of as the present moment.

Unlike the ordinary man, the physicist is aware that alternative ways are possible (i.e. that it is possible to hold different attitudes or theories about the nature of time), because comparing them is part of his work. He would add that there is a criterion here and that it is the same as that by which any scientific theory or attitude is preferred to any other.

A general objection to this whole approach to the question of time may be made here as follows. These processes of selecting and grouping must themselves be in time, and there must therefore be a real and independent time, or at least another time, in which they are carried out. Even if it be granted that our temporal experiences are 'made' by us by grouping in our attention in certain ways what we have selected for attention from something unknown which itself is not in the strict sense in time, does it not follow that we and our ways are in time, i.e. in a time which is independent of us and our ways?

The reply to this is that it involves the epistemologist's fallacy.[1] It assumes that when we are considering the epistemological situation we are knowing that situation as it really is, and that our experience of it is not conditioned by processes of selecting and grouping in attention (or whatever other conditions may be set by any other theory of knowledge that we happen to hold), whereas the experience within that epistemological situation is so conditioned. If this assumption were sound the objection would be conclusive, but it is not sound. We are not justified in assuming what amounts to naïve realism as a theory of our own knowledge of epistemological situations and of theories about them, while holding different and incompatible theories about our own and other people's knowledge in these epistemological situations. Any theory is an attempt to account for the relevant phenomena, and among the relevant phenomena for which any epistemological theory has to account is that theory itself.

That is to say, an objection to the epistemological theory in question here cannot properly be made, if the objector in making it is holding an epistemological theory about his knowledge of the suggested theory which is itself incompatible with that theory. On the other hand, it would be proper to object to the suggested theory on the count that it is wrong altogether, and to offer in its place some different epistemological theory which is the same as the objector holds about his knowledge of epistemological theories.

Nevertheless, in spite of formal rebuttal of this basic criticism of it, any such theory of the nature of time and of our experience

[1] For which see page 41.

of it must remain unconvincing to those to whom it is uncongenial, for it cannot be proved—or for that matter disproved. (This is discussed in Chapter 20 on the limits of possibility of explanation and proof.) In the end we find ourselves holding it, or we do not.

Certain phenomena concerning the future and our knowledge of it, if any, must also be taken into account. According to modern physics, a given event may be in the past for one observer while for another it is still in the future. This does not mean that the one observer already knows that it has happened, while the other does not know yet. It means that the event has happened for one observer, and that it has not happened for the other; for the data of experiment compel the physicist to this conclusion. That is to say, any adequate theory of time must not only be such that it is not absurd or meaningless to say that the present has succession in it and is yet simultaneous, but also such that it is not absurd or meaningless to say that an event may be in the past for one observer and in the future for another.[1]

According to the general epistemological theory of this essay, there is no 'real event' existing as such in itself. What we call the event is the selection that each man makes or takes for himself, and groups for himself, according to the complex of attitudes he holds in the relevant fields. In the light of this and of all the other observations previously made on parallel topics, it is neither meaningless nor absurd to say that what different observers call the same event should be in the future for one and in the past for another.[2]

Time, and all connected with it, is found only in the situations which a man experiences as the outcome of holding his attitudes or following his ways of selecting and grouping. Except in reference to such experienced situations it is meaningless to

[1] There are also quantities of alleged foreknowledge, both of the immediate future in the specious present and of the more remote future, which pose a similar problem, but the evidence of them is as yet much too dubious to quote as data which must be taken into account.

[2] On this as not representationism, see page 41.

speak of time. Except in them there is no time; there is neither long nor short, neither before nor after, any more than there is order or progress or causal relation. Epistemologically considered, our way of knowing events and conditions as being in time is like any other attitude or theory or the like. It may be regarded as an attitude, and as such determinative (in conjunction with other attitudes) of all that comes within its range of relevance; it may be regarded as an hypothesis explanatory of the experience we do have; we may say that there is a law of nature that events happen in time; or we may say that 'time' is a category constitutive of the experiences we have.

There is one respect, however, in which this attitude, or whatever else we call it, appears to differ from all others, for it seems to hold of all experience without exception. We cannot have experience that is not in time. This 'way of selecting and grouping in attention' seems to be one that we are compelled to adopt. We could no doubt assimilate this case to all the others previously discussed by saying that the same criterion applies to it as to them, and that the confusion which would be the alternative to selecting and grouping in this way would be so great as to be impossible, i.e. that this way is constitutive of all experience, and is therefore necessary and *a priori* with reference to all experience whatever;[1] but this is little more than playing with words.

[1] A qualification may perhaps have to be added to this. Even though it appears to be impossible to have any experience whatever except in time, yet there are some mystical and religious experiences (and possibly others) which do not appear to be in time in quite the same sense as ordinary experience. To speak as mystics do of some of their experiences, and as theologians do of eternity and a life hereafter, is not necessarily to be dismissed by physicists and philosophers as meaningless.

I suspect that the explanation is rather that the mystics are having experiences which differ from ordinary experience not by being out of time, but by being experienced in a specious present which is markedly different from that of ordinary men in our culture.

Chapter 10

SPACE

If I contemplate some simple black-and-white design which is sheer pattern and is not meant to represent anything, I can regard it either as a black design on a white ground or as a white design on a black ground. If the black shape were moved about over the white background or over other backgrounds, I should find myself thinking of it as 'a thing' which endured as itself in varying circumstances.

It was possible for me to see a black shape only because I followed ways of selecting and grouping in my attention which made a black shape stand out as such in my attention. My 'seeing the black shape being moved about' was possible only because I continued to follow these ways. If I did not think of the black shape as a thing enduring in itself as such, then I should experience the whole as a changing, kaleidoscopic succession, in which there was no indication of what the next change would be, whereas if I think of the black shape as a thing, then the whole situation becomes simpler and more manageable, and I can forecast, within limits, what will happen next. Instead of a kaleidoscopic and incalculable melting of one pattern into another, I can forecast that one shape will endure, and will be visible as such, against the changing background. The penalty for not adopting this way of selecting and grouping is thus confusion—not extreme or entire confusion as in parallel cases in preceding chapters, but a degree of confusion

sufficient to show that the criterion or principle employed is the same.

When I look at some material object, such as a leather brief-case, I see it as a single, distinct thing, and should say, if questioned, that it *is* a single thing. I see it so because of the ways of selecting and grouping that I follow; if I followed any other ways I should not see a brief-case and could not stow my papers in it. The penalty for following ways other than the ordinary ones is confusion and unmanageability in the field in question. Of course, for special purposes I could adopt different ways, as I should if I were a production technician planning the work-room processes in the manufacture of brief-cases. I might then see the brief-case not as one thing but as three separate large pieces of leather and a number of smaller ones, namely one large folded-over main sheet and two gusset pieces, and various straps, reinforcements and the like. If I attempted to devise manufacturing processes while thinking of the brief-case as one single, distinct thing, I should fail.

I normally regard my pipe as a thing, surrounded by air, but I could regard the air which fills the bowl and the hole in the stem as a thing, surrounded by wood. I could also regard it not as one thing but as a statistical total of sub-atomic entities, and this I in fact do when I calculate that the number of possible distributions of them and of the sub-atomic entities composing the desk on which it lies which would allow of the interaction we should call 'the pipe falling through the desk' is so minute in proportion to the number of distributions which would not allow of it that we can forecast with almost absolute certainty that the pipe will lie where it is. If I want to smoke I think of it in one way; if I am working in physical theory I think of it in another. That is to say, I follow the way of selecting and grouping which is simplest and most convenient for my purpose.

In certain cases it is in practice impossible to select and group in any but the way whose outcome is experiencing one single, distinct, enduring thing, as for instance a tree. Perhaps a man could with imaginative effort force himself to regard the part of the tree above ground as one thing and the part below ground as another, but if he did this he would involve himself in extreme complexity and confusion. He would have to aban-

don our present comparatively simple theories of tree anatomy and tree physiology and devise new ones to account for the fact that the above-ground entity wilts when the below-ground one is damaged, and he would have to devise new theories of mechanics to explain why the upper entity does not topple over when the wind blows, and so on. The complexity and confusion in these and other fields would be so great that in practice nobody, except perhaps a deranged person, ever makes even the attempt.

'The tree', like 'the pipe' and 'the brief-case' and 'the black-and-white pattern', are not names for independently existing separate things, but only for certain selections and groupings within the situations which I experience because I follow these ways of selecting and grouping and not others. When a man asserts that there really is a tree, and that it was and is and will be a single, unitary organic entity whatever I think about it (although perhaps allowing that my way of thinking determines to some extent whether I experience a single unitary pattern or brief-case or even a single unitary pipe) then he is in effect asserting that all persons similarly situated do in fact make the same sorts of selections and groupings in attention as he does.

Further, not only does our experiencing this and that thing as this and that particular thing depend on our following certain ways of selecting and grouping, but so also does our experiencing them as things, and not as, for instance, series of events.

Ordinarily our experience is mostly of the former kind, and there is a very strong tendency in us all to have it so. We regard the cloud on the mountain-top as a single, enduring thing, and not as a continuing process of cloud-formation and cloud-dissipation. Of course it is possible for us, with an effort, to make ourselves experience particular things, and the world as a whole, as successions of events or continuing processes. Every student of philosophy has done this when he first read Heracleitus, and some philosophers and all physicists do the same from time to time in the course of their work.

In the independently real there are neither things nor no things, neither events nor no events. 'Things' and 'events' are names for certain kinds of constituents of the situations we

experience in consequence of our holding certain attitudes or following certain ways of selecting and grouping in attention. When I follow the one way in thinking of my desk as a thing and a physicist follows the other in thinking of its sub-atomic constituents as events, we do so because the alternative in each case would involve us in unmanageable complexity.

It seems probable that we in our culture are now moving into a stage of our intellectual development in which we are going to think more and more in terms of process and less and less in terms of things. Physicists no longer think of atoms and the like as things, in the manner of their predecessors as late as Kelvin, but in another way which can be described in terms of 'process', while a parallel change can be found in biology and psychology and a wide range of other subjects. It is reasonable to forecast that the old way will continue to be followed for most commonplace purposes but that the other will be more and more extensively adopted in the more advanced theoretic fields and in their applications.

Now consider space. That space is absolute and the same for us all is ordinarily taken for granted in our culture, under the same conditions and with the same sorts of exceptions as the corresponding assumption about time. This view of space is explicitly expressed in the accounts of space given in the Euclidean geometry and the Newtonian physics. Until very recently these accounts were so strikingly adequate to account for all the relevant phenomena then known that they were not recognized to be hypotheses, but the emergence of phenomena for which they cannot account has shown that they are, and that, although they are adequate for making machinery and mapping continents, they require amendment if they are to be satisfactory accounts of the nature of space as we now know it. This amendment has been provided by the physicists and the various non-Euclidean geometers, and further such amendments will in due course appear.

In the classical period of physics, physicists and geometers had been able to carry out their work without reference to any data expressly concerning man's experience of space, and they never found themselves discussing questions expressly involving

an observer. In the post-classical period this is no longer so. Fresh data, themselves strictly physical, have to be accounted for which cannot be explained except by abandoning the older view of space as absolute and referring instead to space as space for a particular observer.

This leads (by the same line as in the case of time) to the recognition that 'space' is a name for certain characteristics of what we experience, and that we experience it as having these characteristics because we hold certain attitudes or follow certain ways of selecting and grouping in attention. Space and all connected with it are therefore found only in the situations which each man experiences. In any independent reality—if we allow that this can be referred to at all—it is meaningless to say that there is anything spatial. In it there is neither here nor there, neither large nor small. It is not in space nor is space in it, any more than are causal relations or time. In such respects, our way of knowing or experiencing space, and things and processes as being in space, is like any other way or attitude or theory. It may be regarded as an attitude determinative of all that comes within its range, or as an hypothesis explanatory of the character of the experiences we have; we may say that there is a law of nature that things are in space; or may say that 'space' is a category constitutive of the experiences we have.

In one respect, however, this way differs from others, as it applies to so large a part of our experience. It does not apply to all our experiences, as time apparently does, but it applies to all save those that we explicitly except as being mental, or non-spatial for some other reason.[1]

To take this view of the nature of space and of our experience of it allows some understanding of the otherwise incomprehensible question of the epistemological nature and status of non-Euclidean geometries. It is commonly held of Euclidean geometry and, with apparently even greater cause, of non-Euclidean geometries, that they are not accounts of space but are bodies of strictly rational and *a priori* deductions of conclusions from premises which are independent of experience. This appears to

[1] Most of the comments in the latter part of the preceding chapter on Time apply here also and need not be repeated.

me to be erroneous.[1] If, therefore, we take the view that Euclidean geometry is an account of space and, up to a point, an adequate one, then we are left with the apparently unanswerable question what it is that non-Euclidean geometries are accounts of. This question has indeed no answer if we retain the theory or attitude about space and our experience of it which is normal in our culture. If, however, we take the theory or attitude referred to in this chapter and now increasingly held by physicists and philosophers, then the situation becomes comprehensible, on the following lines. On the theory suggested, there is no space in itself. 'Space' is a name for the outcome of a particular way of selecting and grouping in attention, and Euclidean geometry is the study of the outcome of the way which is normal in our culture, and perhaps in all cultures. But other such ways are possible, and the study of the outcome of this or that other possible way is this or that non-Euclidean geometry.

It would be presumptuous for us as philosophers to say that on epistemological grounds alone it can be seen that no theory of space by itself and no theory of time by itself will be capable of accounting for all the data in its own field, and that there is little prospect of accounting for these data unless the two fields are no longer regarded as separate and distinct but as both being abstractions from space-time, each slightly misleading if considered by itself. But now that this conclusion has been reached by physicists on physical grounds, we as epistemologists can see that this is a confirmation of a conclusion to which our own inquiries were tending.

[1] For the reasons given in Chapters 6 on hypotheses, 13 on the *a priori* and 20 on inference.

Chapter 11

QUALITIES

We all go about our daily affairs thinking and speaking of things and their qualities, and the philosophers among us classify qualities in various ways, such as dividing them according to one scheme into properties and accidents and according to another into primary and secondary qualities. On the other hand, there are some scientists and others who think and speak in their advanced work of what happens in the situations into which they inquire, rather than of the qualities possessed by the objects in them.

This state of affairs has been reached by a traceable historical development.[1] Our primitive forebears presumably thought mostly in terms of things and their qualities, as do primitive peoples to-day who think of a cooking-pot as being the same pot when it is hot and when it is cold, and this 'thing-and-quality' attitude has been predominantly held from those early stages up to the present. After the advent of philosophers in classical times there was progressively clearer and more explicit recognition of it. The earlier Greek philosophers expressly distinguished qualities as such, and later ones invented technical names for certain prominent kinds of them. The medieval philosophers made the point fundamental in their philosophical systems, stating it with clarity and completeness in their doctrine

[1] To describe this is to repeat the descriptions of changes of attitude in Chapter 7 on causality and Chapter 10 on 'things' and 'processes'.

of substance and attribute and its developments. The various doctrines in theology, philosophy and science which strike us to-day as characteristic of the mediaeval period (e.g. nominalism, transubstantiation, the traditional formal logic) could not have been developed but for this fundamental doctrine of substance and attribute, and are incomprehensible to us to-day unless we bear it in mind.

This continued for a very long time. In the writings of the great seventeenth-century thinkers, the point at issue is not *whether* there are substances and attributes, but *what* substances and *what* attributes there are.[1] Not until the eighteenth century is there any unambiguous evidence of doubt about the tenability of the doctrine of substance and attribute itself. Since then there has been continuous discussion by philosophers of various applications of it, and intermittent discussion of the doctrine itself.

In some of the sciences during the latter part of this period the doctrine has been silently abandoned. Since the end of the nineteenth century, workers in both the physical and the biological sciences (excluding the 'non-observational' among the former) have largely ceased to state their findings in the form of further information about the qualities of the things they deal with, as earlier scientists did, and instead give further information about what events are caused by what others.[2] If some modern physicist did have the perversity of ingenuity to attempt to state the findings of quantum mechanics in terms of substance and attribute he would find it complicated beyond present imagining. If, even so, he were to maintain that this is the way in which such theories ought to be formulated, there is no logical argument that can be advanced to gainsay him. The only way to deal with him is to tell him to go ahead and suffer the consequences..

At the same time, there are many fields both of daily life and

[1] Considered from the point of view of an inquirer into theory of knowledge, the relevant parts (not necessarily the most stimulating parts) of the writings of Descartes, Locke, Spinoza and Leibniz are better understood not as new philosophies but as essays in the application of the doctrine of substance and attribute to the solution of the new philosophical problems arising from contemporary developments in the sciences.

[2] This does not imply that giving information about causes is the whole of what they do. Cf. page 212.

of the sciences and humanities in which we still hold and apply the attitude or theory that there are things possessing qualities in the world around us. A physicist finds it simpler to think of a piece of lead as a thing when he is setting it up in order to experiment on it, even though in the experiment itself he will think of it as a field within which events occur. A philosopher ruminating on the nature of change finds himself thinking not merely of changes but of something which changes; and psychologists discussing personality observably think sometimes in terms of the one and sometimes in terms of the other.

To take the view given here is not to 'deny the doctrine of substance', but to hold that this doctrine is a working hypothesis which does work in certain fields, and that in these fields there is no alternative to it which works at all, while there are other fields in which it does not work. (The relation between these fields is discussed in Chapters 19 and 21.)

If in any society the theory or attitude is held that the world around us consists of things possessing qualities or of a substance or substances possessing attributes, then somebody sooner or later will draw up classifications of these qualities or attributes. In our society the most important of these schemes of classification have been those into properties and accidents, etc., and into primary and secondary qualities.

The classification into properties, accidents, etc. has been worked out by philosophers with great care, and as far as possible with completeness. For many purposes, both theoretic and practical, it is a most convenient working hypothesis or complex of hypotheses, but it is no more than this,[1] and if it is applied in other connexions, as for instance in the attempt to state and solve fundamental philosophical problems, then, although a superficial clarity is achieved at first, there soon emerge further problems which have no possible solution. Inquiries which presuppose a doctrine of substance and attribute are *ipso facto* comparatively superficial, even though they may have behind them a long tradition of being regarded as fundamental.

[1] See Note 5, page 239. on a survival of the belief that it is fundamental and absolute.

These observations are important negatively, but in themselves are of no positive assistance. There certainly is an important difference of some kind between what we call a property and what we call an accident, and on this they throw no light. (There is a discussion of the question later in Chapters 14, 19 and 21.)

The classification of qualities as primary and secondary can perhaps be found suggested in the European philosophical tradition from a very early date, and it has certainly been an explicit doctrine for some three hundred years. Throughout this period until very recently it was taken for granted by all philosophers except Berkeleians, the point at issue being not the theory that there is a distinction between primary and secondary qualities, but the nature and status of each of these as thus distinguished.

By scientists who had no special interest in these philosophical issues but who found the theory of the greatest service for their special purposes, it was taken for granted, sometimes in very crude form. For instance, some of them said that when a man sits at his table there are really two tables, on the one hand the private and subjective table in his mind, which has secondary as well as primary qualities, and on the other hand the 'real table' in the real world that physicists alone know, which has primary qualities only. On this view there is a complete division between the 'real' world of primary qualities common to us all, which is bare and uninteresting except to mathematical physicists, and the various subjective worlds severally private to each, which are vivid with secondary qualities and most interesting, but are unfortunately illusions.

By ordinary men and women the same theory is held and applied, though not of course consistently or explicitly. A saleswoman in a haberdasher's does not use the technical names, but she does distinguish between qualities such as the length of a piece of cloth, which appear the same to her and to her customer, and qualities such as its colour, which may not.

If this theory is held and applied, and its consequences faced, then problems emerge for which no solutions can be found, such as those associated with Berkeley's name. By many and

perhaps most philosophers in recent times it has therefore been abandoned, or amended so drastically as to amount to abandonment. That is to say, the fundamental epistemological presupposition or complex of presuppositions which we presumably all inherit, of which the doctrine of a distinction in kind between primary and secondary qualities is one explicit application, has been changed more widely in this respect than in almost any other, though the repercussions of this change may not always have been recognized.

These conclusions likewise are important negatively, but throw no light on the nature of the difference there certainly is between what we *call* primary and what we *call* secondary qualities. (There is a discussion of this later in Chapter 16.)

In the course of each of the preceding chapters of this Part, the subjects of inquiry have appeared to change. In every case we began by discussing some object or situation or entity and inquiring whether it had such and such a character, yet we ended by discussing theories or attitudes which we hold or ways of selecting and grouping in attention which we follow. The outcome of Part Two is thus a preliminary generalization that there are no situations or objects or entities which simply are what they are, but that these are dependent on (among other conditions) the theories or attitudes or ways held or followed by the man who experiences them, and would be different if these theories or attitudes or ways were different.

It may be objected that this no doubt holds of cases where the assertions made are really only indications of the interpretations which the observer sets upon the data, but that it does not hold of the basic data themselves, for these simply are what they are.

This is the point to which it was the purpose of Part Two to bring us, and from which Part Three may start.

PART THREE

ESSAY TOWARDS A THEORY OF KNOWLEDGE

Chapter 12

FACTS

It is ordinarily held that a fact is a fact whether anybody knows it or not, and that the study of how we come to know it, though no doubt interesting, is a separate inquiry with no bearing on its being a fact. Theories are theories about facts, but the facts themselves are facts independently of any theories.

Consider as an example the fact that horses are descended from eohippi. We all know that the race-horses and cart-horses we see living to-day are the lineal descendants of small animals about fourteen inches high which lived long ages ago, some few of which died in circumstances leading to the preservation of the forms of their bones in silt, which hardened and became the rock from which geologists have chipped out the fossils we find in museums.

The evidence on which this belief rests is remarkable. All that we have actually set eyes on are: some living horses; some skeletons of recent ones such as Eclipse; and a large number of fossils of widely various sizes found in widely different strata of rock.[1] We notice that the larger fossils which more closely resemble the modern horse were found in the layers of rock more recently deposited; that the earlier and smaller ones had a foot-formation with separate toes, and that as we work progressively through the later deposits we find that the fossils in

[1] Of course there is also a mass of evidence from embryological and other sources. but this was not known to those who first detected the descent.

them have a foot-formation approximating more and more closely to the modern hoof; and so on. From all this we conclude that horses and eohippi are the same race in different stages of development; and we now believe this so strongly that we venture to date newly discovered layers of rock by the fossils found in them. It would not occur to any educated person to-day to assert that there had existed in the remote past a very large number of different kinds of animal which happened to resemble each other in having a more or less horse-like skeletal structure but were genetically unconnected; that all of these had died out; and that the modern horse had no connexion with any of these and had no known progenitors. It is, we say, a fact that horses are descended from eohippi.

But the epistemological conditions of this fact and of our knowledge of it are the same as in the cases of our knowledge of order, causal dependence, objects in space, events in time and all the other instances discussed earlier. Subject to some other conditions also,[1] our experiencing horses and fossils as objects in space is the outcome of our holding the attitudes or following the ways of selecting and grouping in attention referred to in Chapters 7, 10 and 11; our experiencing them as related in time is the outcome of the attitudes or ways referred to in Chapter 9; and so forth. In addition, a further special grouping in attention must have taken place, for I do not think of each living horse as separate by itself, nor of Eclipse's skeleton nor of each of the fossils as separate by itself, but think of them all as parts of one genetic succession. If I did not group them all together in my attention in this very special way, they would all appear to me as specimens of different races, as indeed they did appear to pre-Darwinian observers, and as they do appear to uninstructed observers to-day.

It may be objected that this is nothing to the point since it concerns only what I think about horses and eohippi, and horses *are* descended from eohippi whether I choose to think they are or not, i.e. since it concerns only the evidence on which a man might conclude that horses are descended from eohippi and has nothing to do with the fact that they are. The answer

[1] Cf. page 148.

is that the objection assumes that there are facts which are facts *simpliciter*, independently existing and common to us all; and the whole trend of the preceding discussion has been towards the recognition that this is not so.

Facts exist only in the situations which each man experiences as the outcome of holding his attitudes or theories or following his ways of selecting and grouping in attention. In that from which he makes his selection there are neither facts nor no facts. In most cases of this kind we mostly follow much the same ways of selecting and grouping (as is shown by our being able to discuss the exceptions where we do not), and we therefore fall into the illusion that we are all dealing with one fact or set of facts which is independent and common to us all. But any other intelligence which did not follow ways more or less like those we follow would not experience horses and fossils at all, and references to an allegedly independently existing fact that the former are descended from the latter would be meaningless to it. That is to say, it is the theories or attitudes or ways of selecting and grouping in attention that are basic, and the facts that are derivative.

It may at once be objected that this cannot be so, for there is no denying that we frequently find ourselves dealing with situations in which there are facts which are simply facts, on which we base theories. For instance a photograph of the spectrum cast by a celestial body on the 1st of January may show characteristics different from those in a photograph taken on the 1st of July. These basic facts being so, a theory to explain them will be offered, such as that in winter the body was approaching the earth and in summer receding from it. Whether this theory is accepted or not, the facts remain that the two photographs differed in the specified respects, and these facts are independent of any theory that may be based on them.

The answer to this objection is to specify what theories, etc. are involved in each case. In any given situation, what we call the facts are dependent on certain theories, etc., but are themselves basic to, and in this sense independent of, certain others. Our experiencing the two photographs is a particular case of our experiencing any material objects, and is thus dependent on the theories or attitudes in this field that we hold. In refer-

ence to these theories, what we call the facts are derivative. On the other hand, these same facts are basic in reference to certain other theories, namely those which, in ordinary parlance, are based on them, such as the theory that the light-emitting body was moving in different directions when the two photographs were taken. That is to say, we are justified in saying that there are ultimate brute facts, if we all hold the same or similar theories in the field in question and thus experience the same or similar facts.

Advance in understanding, both in the most abstruse sciences and in the affairs of daily life, therefore takes two roughly distinguishable forms. In the first place, it may consist in finding explanations for agreed facts. This is the form taken by the many minor advances in understanding that we ordinarily make. From time to time, however, somebody recognizes that one of the unmentioned theories or attitudes, which have made the apparently independent and basic facts what they are, is open to question, and shows that it is inadequate. It is then abandoned and replaced by some fresh one, with the consequence that what were formerly regarded as plain facts are so no longer, and in their place fresh facts present themselves to us, which we then treat as brute facts on which to base further explanations. For instance, physicists long regarded the existence of atoms (i.e. indivisibles) as a fact and based theories on this. Then they made a major advance by discovering that this so-called fact depends on a theory or speculation, and moreover an unsatisfactory one. They then replaced this theory by another, and in so doing gave themselves new facts to deal with and to explain.

That is to say, the common view of facts as basic ultimates is misleading, except under the qualification that they are so in reference to some theories, namely those based on them, but are not so with reference to certain others, namely those whose outcome they are.

It is of course convenient, and indeed indispensable, in certain limited fields to avoid mentioning and querying these latter theories or attitudes, and to treat facts as basic ultimates. For such purposes, the facts are the facts, liars are liars, and that's that. To assert otherwise is pedantic. But to assume that this is

so without the qualifications referred to, and to base scientific and philosophic theories on this assumption, is naïve.

It may be objected at this and many other points that we are ignoring the fundamental difference of kind between simple awareness and knowledge or belief, i.e. between simple awareness of data, on the one hand, which is mere awareness and cannot be true or false but just is what it is, and on the other hand knowledge or belief or judgment that the data are this or that, which is true or false.

But it is a *theory* that there is this distinction. For many purposes, both theoretical and practical, it is a convenient theory, as for instance for a painter and for a beginner in perceptual theory, who can thus say that when I look at an orange with one eye I have a simple awareness of a pattern of shape, colour and shade, while I also know or believe or judge that there is an orange in a certain place. It is convenient to think in this way, precisely as it is convenient to think of facts which are facts in themselves independent of any theories, for the two ways of thinking are in essentials the same. The theory that there is a fundamental difference between 'awareness of . . .' and 'judgment that . . .' is untenable and misleading without this qualification. There is no simple awareness of what just is what it is, any more than there are facts which just are what they are.[1]

The same general point may be expressed in another way by saying that when a man knows or experiences or is aware of any object or entity or state of affairs, what he thus knows is always a wide situation within which is the object, etc., as a subsituation on which his attention is concentrated.

To say this is not merely to emphasize what is found in any elementary textbook of psychology on a focus of attention. More fundamental issues are involved. Consider my knowing or being aware of some particular object in space, such as my pipe on the

[1] The preceding paragraphs are no arguments for these assertions, for the theory that there is this distinction is an instance or application of a more general theory of the nature of knowledge, and the only effective argument against it is the exposition of an alternative to that general theory, as is attempted later in Chapters 14 to 19.

desk beside me. In the first place there is no pipe existing as such in itself. What I refer to as 'the pipe' is a part of the situation I experience because my attitudes or theories or ways of selecting and grouping in attention are what they are. In the second place, what I experience is not just a pipe, but a vast spatial situation within which is that particular selection, grouped in a certain way, which I call 'the pipe', in spatial relation to the rest of that vast situation, including my head and eyes, and the desk and the other furniture in my study, and the houses on the other side of the street, and Tristan da Cunha and the Milky Way.

Similarly, what I experience is a vast temporal situation within which, as a sub-situation, is the pipe *now*; and a vast situation of causally interrelated events and conditions, within which, as a sub-situation, is the pipe and its immediately antecedent causal conditions and consequences; and so forth.

The sub-situation may easily change, as it would if, for instance, the pipe were moved or broken or heated, but the wider situation remains relatively constant in more general respects, especially in those highly general ones which hold of my experiencing any material object, such as my experiencing it as an object and not as a series of events or flux of processes. I therefore pay no special attention to this wider situation as such, and thus tend to fall into the misunderstanding that what I am experiencing is the sub-situation alone (i.e. the pipe as an entity by itself and not as a sub-situation within a wider situation).

This distinction between wider situation and sub-situation is of course no more than relative. Any situation we care to consider is a wider situation with reference to more limited situations within it, and is contrariwise a sub-situation within one wider than itself.[1] To speak of situation and sub-situation as in the preceding paragraphs is only to distinguish two roughly discriminable stages out of an indefinite range, but these serve well enough for our present purposes.

In another metaphor, when I see the pipe I do so only because I am holding certain attitudes (or theories, etc.) which form a hierarchy of various levels (this being again only a relative distinction). Those on what we can call the higher levels

[1] This does not involve an infinite regress, on which see page 201 on the limits of possibility of explanation.

lay down limits within which what we call the wider situation must fall, and those on the lower levels similarly determine the sub-situations within it. Since we are normally aware of our lower-level attitudes only, and of our higher-level attitudes with difficulty if at all, we fall into the misunderstanding that what we experience are entities each by itself, instead of recognizing that each of what we thus distinguish is a sub-situation within a wider situation of which we are not so explicitly conscious.

As a more complicated example, take the fact that Mr. Baldwin was Prime Minister in 1936. In the first place, there is no such fact in itself. What I refer to as that fact is part of the situation I experience, and depends on the attitudes or theories I hold. In the second place, what I am aware of is not Mr. Baldwin in isolation possessing the attribute of being Prime Minister. When I am aware that he was Prime Minister, I am aware of a wide situation, namely one in which there are events in time and space; in which events are causally related; in which particular objects are objects and not series of events; in which personal individuality endures through time; in which there is an organized state called Great Britain with its social, political and constitutional structure; and so forth; while within all this is the sub-situation on which my attention and interest are concentrated, namely Mr. Baldwin in the position of Prime Minister.

To the whole of the preceding discussion it may be objected that, although the general contention of it no doubt holds of most experience, it does not hold of all, for there is at least one kind of entity which is what it is independently of any theories and which is or can be known in and by itself and not as a sub-situation, namely simple sensations, or elementary sense-data or sensa.

That there are such sense-data or sensa is often taken for granted in our recent philosophical tradition, the points which are discussed being the relations of the various kinds of them to one another, and of them all to the things or objects, if any, which are known through them (or in terms of them or by means of them in some other way, according to the particular theory of knowledge held). These sensa are, it is accepted by believers in them, known or experienced for what they are, and are in themselves unquestionable. Any development based on

them may be questionable, but they themselves simply *are*. What we experience them to be is what they are. For instance, when I look at the full moon on a clear night, we can argue interminably about whether I am really seeing the moon or not, and about the ontological status of what I am seeing if it is not the moon, but there can be no argument about my seeing a silvery-white coloured patch. It would not, I think, be maintained by any contemporary philosophers that we are ordinarily aware of such sensa *as* sensa, for it is only by careful analysis of normal experience that we can detect the sensa involved, but it is held by many that seeing, hearing or otherwise sensing a sensum is the simplest or most elementary possible kind of knowledge or awareness.

This is not so. My seeing a coloured patch, or sensing any other sensum, is no more simple or elementary than my seeing the moon or anything else. My seeing a simple, elementary, coloured patch is the outcome of epistemological processes and conditions which are no more and no less complex than those whose outcome is my ordinary unanalysed experience in daily life, or in scientific inquiry for that matter. Thus I experience it as a patch only because I hold the attitudes or theories referred to in Chapter 10 on space; I experience it as a single enduring patch, and not as a series of events, only because I hold other attitudes referred to in the same chapter; and so forth. If in any of these and other such respects I had held any of the innumerable other possible attitudes or theories, or had followed any of the innumerable other possible ways of selecting and grouping in my attention, I should not see a silvery-white patch of colour, and references to any such patch would be meaningless to me.

This is not of course a denial that what we *call* sensa exist, i.e. it is not a denial that in certain circumstances I see a silvery-white coloured patch which I am able to consider for certain purposes as an entity by itself. It is a denial of the theory that my sensing this patch is simple and elemental and independent of epistemological theories. The theories, or ways of selecting and grouping in attention, are basic, and the sense-data or sensa are derivative. Although for certain limited purposes it is no doubt convenient to retain and apply the theory that there are simple, elementary sensa, the theory is unsound and ought to

be abandoned for any other purposes. In any philosophical or psychological discussion of other than immediately practical import, the word 'sensum' ought not to occur. If it does occur, i.e. if the assumption is made in terms of which the word has a meaning, then philosophical, psychological and epistemological problems are created which have no possible solution, as is shown by the impasses in which such discussions invariably end even though the application of the theory may at first solve certain problems with a superficial clarity.

What is commonly called in contemporary philosophical writings the analysis of experience into its basic sensa and the propositions made about them, is not an eliciting of fundamentals on which knowledge rests, but is merely an examination of certain minor and derivative points within an experienced situation which is what it is because of conditions which are not laid bare nor even hinted at by an analysis of this kind. Any serious inquiry into what could properly be called the fundamentals would have to proceed in the opposite direction. It would be an inquiry into the attitudes of higher generality.

All the old and familiar theories of knowledge are untenable, according to which there are indubitable basic ultimates, sensory or otherwise. The attainment of certainty, which has been the end towards which so many philosophers—Cartesians, Logical Positivists, theological revelationists, Platonic Idealists and innumerable others—have devoted so much effort, by searching for ultimate and indubitable facts or sensa or the like, is a dream; and it can be dreamt only through a radical misunderstanding of the nature of knowledge.[1]

[1] This misunderstanding has a most ancient and unbroken tenure and the very highest authority; but no such belief could have been held as it has been (being irreconcilable with the evidence except by an effort approaching an act of faith), unless there were in addition some very strong predisposition to hold it, or some deep psychological satisfaction to be obtained from holding it. The Platonic teaching in this matter is not a peculiarly elevated conception to the full understanding of which only the noblest intellects can attain, but is a consoling belief which most men already hold, or fall back upon when unable or unwilling to face the harsher fact that we can never attain certainty and can never get beyond working hypotheses. The *philosophia perennis* is an escape mechanism.

(Cf. page 213, Qualifying Note.)

Chapter 13

KNOWER AND KNOWN

At this point it may be useful to insert summary references to some particular epistemological topics, because even a crude and unsupported statement of the view taken of them in subsequent chapters may prevent misinterpretation of those chapters by reading them in terms of a different view. (The following references are the merest indications of the views taken, and do not in any way purport to be arguments for them. Arguments, or at least the nearest approaches to arguments that are possible, are given in Chapters 14 to 19.) An indefinitely large number of topics could be selected for treatment in this way, but the following typical ones will serve:

(i) Subjective and objective
(ii) States and objects of the self
(iii) Cognition by symbols
(iv) Ideas and concepts
(v) Forms of thought
(vi) *A priori* and *a posteriori*
(vii) Knowledge and belief.

(i) That there is a distinction between the subjective and the objective is taken for granted nowadays by all plain men and probably by most philosophers and psychologists.[1] The matter ordinarily in dispute is not the tenability of this distinction itself

[1] Cf. page 26 for their relation to the few who do not.

but the nature and relation of the subjective and the objective as thus distinguished. The various discussions of perception and similar topics in our philosophical tradition since the Renaissance if not earlier, save some exceptions, have been carried out on the assumption that there is a subjective realm and an objective realm, and that this is so independently of any epistemological theory.

This assumption is unjustified. To distinguish between the subjective and the objective, whether explicitly or only by a passing use of the names, is not merely to recognize what is so, but is to hold and apply an epistemological theory. It is a *theory* that there is a subjective and an objective realm or order and that these can be distinguished. This theory has been so generally accepted in our culture that men seldom notice that it is a theory, and that it ought to be treated as such, and inquired into, and if necessary abandoned.

I believe that it has to be abandoned, as a consequence or concomitant of the general changes in epistemological attitude now taking place in our culture.[1] That is to say, the theory that there is a subjective and an objective realm is a development or application of the more general epistemological theory or attitude or complex of theories or attitudes commonly accepted in our culture and, when these are amended or abandoned, must itself be abandoned.

To abandon the distinction in epistemological and psychological discussion (i.e. to abandon the theory that there is a subjective and an objective realm and to adopt some other theory to account for the data for which that theory formerly accounted) means that we cannot say that some of what we experience is subjective and some objective, as most philosophers and others have maintained; nor that all that we experience is really subjective and that we are making a mistake if we think that some of it is really objective, as some extreme subjectivists have maintained; nor that it is all really objective, as some extreme realists have maintained. It means that all these statements are false in the sense in which it is false that bankruptcy is spherical, or not spherical, or partially so. This is not an assertion that there is no difference between the sub-

[1] Cf. page 26.

jective and the objective, for asserting this would amount to retaining the theory that there is the distinction and making a statement in terms of it which is indefensible. It is an assertion that the theory in terms of which alone we can think of subjective and objective is untenable. In other words, if our epistemological understanding is to advance, we require not new theories about the particular points concerning the subjective and the objective on which philosophers who use the terms do not agree, but a new theory about the general and fundamental point on which all of them do agree.

Of course, the distinction is most convenient for many limited purposes and for these it ought to be retained. It is convenient to say that the temperature of the liquid in a beaker is objective and that the experimenter's feeling of heat when he puts his finger into it is subjective; that the positions of the coloured lights in a device for testing colour-vision are objective and that the colours seen are subjective; and that the alarm felt by a normal man when he is in danger of slipping off a crag arises from objective conditions and that the alarm felt by a claustrophobe at the prospect of entering a small room is of subjective origin.

Apart, however, from such limited and more or less practical employments, the distinction is misleading. In any philosophical or psychological treatment of fundamental issues, the words 'subjective' and 'objective', unless thus qualified, ought not to occur. If they do occur, i.e. if the tacit assumption is made from which they originated and in terms of which alone they have a meaning, then philosophical, psychological, epistemological and other problems are created which have never had any answers, as the records of them in the literature of philosophy impressively show, and never can have any.[1]

(ii) It is commonly held that the nature of the self and the

[1] The preceding paragraphs are in no sense an argument for this conclusion, but are intended merely as an intimation, to a reader who no longer holds the theory that there is this distinction, that the writer does not do so either; and as a request to a reader who still does, not to interpret later chapters in terms of it. Arguments for it, or at least amplifications of it, are given in those chapters *passim*.

nature of knowledge are such that there are on the one hand states of the self and on the other hand objects which it knows. Philosophers and psychologists, with few exceptions, do not disagree about this (however widely they may differ about the manner of envisaging it) but do disagree about the nature and relation of states and objects as thus distinguished, and about the classifying of any particular experience as, in this sense, a state or an object.

This, however, is a theory, and like the preceding theory, and on the same grounds and under the same qualifications, it has to be abandoned. This is not, of course, an assertion that there is no difference between states of the self and objects of its contemplation, which would be to retain the theory and to make a most misleading assertion in terms of it. If we do retain the theory then there is undoubtedly a difference between what we call states and what we call objects. We have to abandon the theory itself, and with it all discussion in terms of it, so that to inquire, for instance, whether something that a man experiences is a state of the self or an object for it becomes meaningless. (This is further discussed in Chapters 16 and 17.)

(iii) It is commonly held that thinking of things in their absence, as distinguished from observing them in their presence, is in some way mediate or indirect, and that we have direct knowledge only of symbols which in some way symbolize the absent things. As our direct observations are inevitably meagre, intermittent and fragmentary, it is held that a large proportion of all our knowledge must be knowledge of symbols of some kind. Thinking, as distinguished from observing, is therefore held to be a kind of operating with symbols. On this view, many theories and indeed whole subjects have been based and brought to an advanced state of development.

This is, however, a theory and, in the same way as before, it has to be abandoned. To say so is not an assertion that there is no difference between observing a thing and thinking about it, or between observing an instance of a general law and knowing that law, or between observing things and making inferences about them. Undoubtedly there is a difference between what we call observing things directly and what we call operating with

symbols, but we cannot call them so unless we assume this theory. To do so is perhaps convenient for certain more or less limited purposes, but it is extremely misleading if applied in serious philosophical inquiry. (This is further discussed in Chapters 14, 19, 20 and 21.)

(iv) All plain men and nearly all philosophers in our tradition have taken for granted that there are ideas, using the term in many more or less different senses. Their disputes have been about the nature and status of ideas; about their origin or origins; about the relations in which they stand to each other and to that of which, if of anything, they are ideas; about the possibility of their being abstract, or innate, or otherwise; and so forth.

The usages of the word in its various senses can be roughly discriminated as follows:

(*a*) The usage of *idea* (or *concept*, etc.) in discussions of universals.

(*b*) The usage of *idea* (or *mental image* or *representation*, etc.) in discussions of theory of perception in the manner of Locke and others.

(*c*) The usage of *idea* (or *concept* or *notion*, etc.) as colloquially employed, mostly in ordinary conversation but also in philosophic discussion, as an indefinite name for 'theory', 'view', etc., and for anything mental as contrasted with anything physical.

(*a*) That there are ideas in sense (*a*) is a theory, and in the same way as in the three preceding cases (and also for other reasons discussed later in Chapter 18 on Meaning) it has to be abandoned. This is not of course an assertion of nominalism as contrasted with realism (i.e. an assertion that there are no concepts). It is the abandonment of the theory in terms of which alone these contrasts have a meaning. (This is further discussed in Chapters 18 and 19.)

(*b*) That there are ideas in sense (*b*) is likewise a theory and must likewise be abandoned. This is not an assertion of materialism but of the meaninglessness of the opposition of materialism and idealism. The theory that there are ideas, images, etc., provides a superficially acceptable explanation of disagreement and error in perception and memory, but it is so fundamentally

misleading and so destitute of any serious compensating advantages whatever that it ought not to be employed at all. (It may be objected that there is no denying that we experience illusory, hallucinatory and eidetic images and after-images. Certainly we experience what we call by these names; but in so calling them we commit ourselves to a theory that these are of an ontologically different order from that of which they are images, and it is this theory that is misleading and ought to be abandoned.)

(*c*) It is often convenient and perhaps not very misleading to follow usage (*c*) when a word is required sufficiently vague to employ colloquially in contexts such as '. . . hasn't had a new idea since he was elected' or 'the concept of extra-territoriality'.

That is to say, the words *idea*, *concept*, etc., ought not to appear in any discussion of fundamental philosophical issues, and ought to be restricted to studies in the scholarship or history of philosophy and to non-philosophical contexts.

(These topics are further discussed in Chapters 16, 17, 19 and 21.)

(v) It is held by some philosophers that there are forms of thought; but this is a theory and like the preceding theories it ought to be abandoned. This does not mean that thoughts are formless, but that the theory is untenable in terms of which alone it is intelligible to refer to 'thoughts' which could or could not have forms. (If it is objected to this that what are called forms of thought are really relational systems and have nothing to do with any man's thoughts, the reply is that this is no objection to the abandonment but an additional ground for it.) (This is further discussed in Chapters 14 and 20.)

(vi) It is ordinarily held that there is a fundamental and absolute distinction between the *a priori* and the *a posteriori*, even though both may be involved in any given instance of knowing or experiencing. Again, this is a theory and it has to be abandoned, and again this does not mean that there is no difference between the two, but that the theory is untenable in terms of which alone that familiar distinction has its meaning. (This is further discussed in Chapters 15, 16, 19 and 20.)

(vii) It is sometimes held that there is a difference of kind between knowledge and mere belief (often held in explicit conjunction with the preceding distinction), such that I know that I am hearing a certain sound now and that the internal angles of a triangle equal two right angles, while I only believe that the sound comes from the study fire behind me and that Tiberius lived in Capri. That there is this distinction is a theory, and it has to be abandoned, for the same reasons and under the same qualifications as before.

There is an additional and less remote reason, in that maintaining this distinction as absolute is to fall into the epistemologist's fallacy.[1]

As a working hypothesis for certain very restricted purposes, the distinction is no doubt convenient, as for instance for an anthropologist who speaks of the beliefs of Australian Blackmen about eclipses as contrasted with his own knowledge of their cause. If, however, the distinction is taken as anything more than one between beliefs that we consider subject to amendment and beliefs that we do not, then it is misleading. (This is further discussed in Chapters 19 and 21.)

The preceding are not, of course, seven separate topics. To discuss them is to discuss one fundamental issue in seven ways; that is to say, the view a man holds on each of these is a development or application of some more general epistemological attitude which is itself too elusive to discuss, and he will agree or disagree with the statements made here about these seven according as the general epistemological attitude or theory that he holds is the one surmised to be endemic in our culture, or has been changed to one with which the general epistemological theory of this book can claim something considerable in common.[2]

This chapter sums up to an assertion that it is without qualification misleading to think of knowing as a relation in

[1] Cf. page 41.

[2] This being not an entirely novel theory but an increasingly explicit recognition of a change in epistemological outlook which has been going on more or less unrecognized for a long time. Cf. page 26.

which a knower stands to what he knows. What is generally so described is a relation in which something that is known stands to something else that is known. It is, of course, doubtful whether such an assertion has any meaning or is only a philosophical aphorism of the kind that gives to him who writes it, if not to him who reads it, the feeling that something profound has been uttered; but it at least serves to indicate that this Part is written under the belief that most of the epistemological theories which have attained a place in our philosophical tradition depend on (surreptitiously) treating knowing as a relation between knower and known, and that to do so is fundamentally misleading.

It may be asked what then is the explanation of the origin and persistence of what is here alleged to be a fundamental misunderstanding. One contributory reason must be the custom of our languages, which use roughly parallel linguistic forms for 'He is learning the multiplication table' and 'He is eating an apple', but the principal reason is that sight and touch have been taken as typical of all perception. The theories of perception which have bulked largely in our tradition have been in effect generalizations of theories of sight and touch, or of one or the other of these. It has been remarked that there are 'visualizing' and 'tactual' philosophers, and that each of these has a special and characteristic insight, and that theories of perception and of knowledge based predominantly on either vision or touch alone are likely to be inadequate. But it has not been recognized that the characteristics common to vision and touch, which have been taken as typical of all perception, are perhaps peculiar to these two senses alone, and that general theories of perception or of knowledge based on what is peculiar to these two may in consequence be grossly misleading.

Admittedly, our possessing the senses of sight and touch has enabled advances to be made both in practical achievement and in understanding which are immeasurably greater than those that could have been made had we been restricted to, say, hearing, but this does not justify us in taking what is peculiar to these two as typical of all perception when we are concerned to formulate general theories about perceiving or knowing. If a

serious attempt is made to work out a general theory of perception or of knowledge taking, say, hearing as the norm and omitting sight and touch as ruthlessly as hearing is omitted from consideration in the various theories that have attained a respectable place in our philosophical literature, then it will be found that we cannot regard knowing as a relation between knower and known. In this respect, as in others, what is required is not answers to the questions about which philosophers have not agreed, but an alternative to the assumption about which they all have agreed.

The preceding will appear preposterous to anyone who is a predominantly visual or tactual type, unless he has had himself tested in a psychological laboratory or has by some other means been brought to recognize that he is so and that many other men are not. In regarding it as preposterous he is in a provincially-minded way taking a personal peculiarity to be an essential of human nature and a basic fact of the universe.

Since—as seems to be the case—most professional philosophers are predominantly visual or tactual types (and even if musically developed have not attempted to work out a theory of perception based on hearing to the exclusion of sight and touch) this is exceptionally difficult for us to detect. We should all save ourselves much unnecessary exploration of blind alleys if at an early stage we had ourselves examined to discover how far we are predominantly visual, tactual, auditory or other such types, how far we have verbal, visual, auditory, etc., imagery, and so forth; and how unlike we are in each of these respects to large numbers of our fellow-men.

Chapter 14

LANGUAGE AND STATEMENT

It is held by nearly all philosophers[1] that truth is stated in propositions; that these may be fully and explicitly expressed in words or other symbols, or may be only partially expressed, leaving the proposition partially implicit; that propositions are in some sense units, any proposition being a distinct entity in itself, whatever the relations in which it may stand to other propositions; and that any proposition is true or false as the case may be, and is so whether it is expressed in words or not, and whether anybody believes or has even heard of it or not. In other words, it is generally held that the nature of predication and of truth is such that the traditional Laws of Thought can be formulated and accepted. It is thus held that there are:

(*a*) the objects or situations about which propositions are asserted or denied,
(*b*) the propositions themselves,
(*c*) the verbal or other expressions of the propositions.

Plain men hold an attitude or view which is substantially the same, and would express it by distinguishing between:

(*a*) the objects or situations about which statements are made,
(*b*) what is stated about them,
(*c*) the words in which what is stated about them is expressed.

[1] Cf. page 26 for the majority who do and the few who do not.

This is ordinarily taken for granted, and the discussions in this field throughout the philosophical tradition, with hardly an exception until recently, are not about the justifiability of referring to propositions or statements as such, but about the structure of propositions, the relation in which these stand to the objects or situations about which they are asserted and to the verbal or other expressions of them, the systematic relations in which they stand or can stand to each other, and so forth. What is ordinarily discussed is not the threefold distinction itself, but the relations of (*a*), (*b*) and (*c*) as thus distinguished.

The number of philosophers who find this view uncongenial seems to be growing but is still small; i.e. the change from the surmised epistemological presuppositions has been made in this regard by these few only. Even those who have rejected this view are not in agreement on their reasons nor on an alternative to replace it. This field is one in which our ignorance and confusion are more than usually patent.

On some points, however, there is nowadays general agreement among those professionally interested. For instance, it is agreed that language has many other purposes and many other effects besides that of making statements, such as expressing the speaker's feelings and emotions; arousing feelings and emotions in others and in himself; making others act in certain ways; enabling the slight awkwardness of strangers' meeting to pass smoothly into easeful social communion (in our island mainly by what look like statements about weather); being a beautiful or pleasant sound; and so forth. In most cases these other functions are vastly more important. It is a naïveté to assume that language is primarily a device for making statements and that its other functions are mere minor concomitants; and much misunderstanding has in the past been created in philosophical and logical theory by that innocence. (Those other purposes and effects are considered specifically in Appendix A and elsewhere, and in this chapter we are concerned principally with the statement-making function.)

On the origins of language there is as yet no agreement. This seems to be mainly because there is no direct evidence, since no human communities are known in which language is in process

of developing out of what is not language (the most primitive languages known being of highly developed complexity), and each historian or pre-historian of language can read into that lost period of our past a succession of events which conforms to his particular view of the essential nature of language. There is agreement, however, that men, or their pre-human forebears, when interested in or reacting to any particular object or situation, made various movements and various noises. Among the many different effects of these was that of drawing the attention of others to the object or situation in question. In course of time the stage would be reached when men made these movements or noises with the conscious purpose of drawing attention in this way. (This is undoubtedly an over-intellectualized account of what took place, both in the imputation of an explicitly recognized purpose at an early stage and in the omission of the other effects referred to, but it will serve here, as this drawing of attention by movements and noises seems to be the earliest detectable stage of what is now the making of statements in language.) We can reasonably conclude that, after long ages, men would devise or settle upon more or less systematic and conventionally accepted patterns of hand and other such movements and of vocal noises which would suffice, either in conjunction or independently, to draw attention to the objects and situations to which at that stage of evolution it was ordinarily required to draw attention (as well as performing the above-mentioned other functions).

It seems to be largely an accident or by-product of evolution that the noises we make in this connexion are vocal, and indeed that we make noises of any kind in this connexion. In man and in most animals having lungs the noises made for these purposes and with these effects are created by expelling breath forcibly (as contrasted with, e.g. a grasshopper's rubbing of one limb across another), and the vibrations imparted to the expelled air are determined largely by the vibrations of the lip-like obstructions called the vocal chords. Such so-called 'vocal' chords exist in many species, but only in some of them (and in some of these only in the males) are they employed to create vocal noises. They have not been developed as sound-producing organs but

in some other way, and in their present form are perhaps vestigial only. This does not imply that seeing gestures is prior to hearing voices, or that seeing is prior to hearing, either in time or in importance. Whether it is prior in time is at least debatable (though articulate speech must have been later, as there is evidence from comparative anatomy and prehistoric archaeology that the human jaw and mouth did not assume, until comparatively late in the history of our differentiation from the other primates, shapes which would allow of articulate speech); and it is certainly not prior in importance for all men, even though it is no doubt so for the vast majority in our European-American culture who have made our metaphors for knowing predominantly visual and have unfortunately caused most of our theories of knowledge to take visual experience as typical of all.

It would be denied by some scholars that such a system of attention-directing vocal noises constituted a language, but granting for the moment that it did (the issue is referred to on page 118), the subsequent history has been that in some cultures the movements independent of the vocal noises (i.e. gesture independent of language) have been developed into systems of remarkable complexity and effectiveness for the specific purpose of directing attention to objects and states of affairs, as for instance among some North American Indians, whereas in all the cultures normally familiar to us gesture for this specific purpose has not developed much beyond pointing. For this specific purpose language has superseded gesture because of its generally greater effectiveness though, for many of the other functions mentioned above, gesture or movement has developed enormously in subtlety, as for instance in smiling; and for such purposes language cannot entirely supersede gesture.

At some very recent period the further stage was reached of employing visible marks on surfaces. This creation of writing came about in two ways. In the first, visible marks were made with the intention of causing the observer of them to think of spoken words which would in turn make him think of the objects and situations intended. In the second way, visible marks were made with the intention of causing him to think not of the

spoken words but directly of the objects and situations intended. In the English language, in all those of the Indo-European family and in many others, the introduction of writing followed the first way predominantly, although the second was followed in special cases and is increasingly so to-day, as for instance in the more abstruse sciences where written symbols are often invented which are directly referent. In practice, of course, all writing tends to become directly referent for each individual at any early stage after he has learned to read, except perhaps for those who have unusually vivid auditory imagery. In the Chinese and other such languages, on the other hand, the introduction appears to have followed the second way predominantly, which is why to-day all literate Chinese can understand their common script while they may be totally unable to understand each other's spoken languages.

We who speak and write the Indo-European languages tend to regard our way of 'writing a language' as normal and proper, and the peculiar way predominantly followed by the Chinese (which is the writing of what is not strictly a 'language', i.e. not a 'tongue-age') as an Oriental eccentricity, but there is nothing more normal in the one than in the other. Until recent centuries our way could fairly have been regarded by Chinese scholars as an eccentricity practised in its entirety only by a small, remote and unimpressive sub-section of the human race.

Language is undoubtedly the most generally useful and effective of all the various devices of the sort that men have contrived or stumbled on, and the most widely employed in all the cultures known to us, even though it is not the only one nor in all circumstances the most effective, as is agreed by artists, musicians, lovers and others who find words inadequate for their special purposes. It may be that in the remote future some other device will be contrived—possibly some evolutionary by-product like language itself—which will be even more effective, and will in turn supersede language as language has superseded gesture.

Consider now what is happening when these devices (gesture, speech and writing) are employed by men to convey informa-

tion to each other. When I point to my pipe lying on my desk and thus make somebody else aware that it is there, I am causing him to adopt certain attitudes or follow certain ways of selecting and grouping in his attention, and thus to have an experience of a wide situation within which is the sub-situation called the pipe.

If I am to be successful in this, certain conditions must be satisfied. Unless the low-level attitudes, or ways of selecting and grouping in limited fields, which my pointing causes him to adopt or follow are those which I intend him to adopt or follow, then he may experience the wider situation as I do, but he will not notice the pipe. This may well happen if I am unskilful in pointing, or if he is pre-occupied, or if he is one of those North American Indians who point not with the finger but with the lips, in which case he will probably look at my finger and not at the pipe, much as a cat to which one tries to point out a saucer of milk does not go to the saucer but inspects one's finger-tip. Unless his high-level attitudes, or ways of selecting and grouping in attention of a more general character, are more or less those which I assume that he, like me, already holds or follows (or unless I succeed in making him hold or follow these), then he will not experience that wider situation, and my gesture will have no effect on him.

That is to say, when I point I am not making a gesture to a man who is in a state of utter ignorance. He is already having a certain complex experience (of my study, and of the desk and of myself and of himself in it, and so forth); he is already holding certain attitudes or following certain ways of selecting and grouping; and when I make my gesture I do not add some new, separate and independent item to his experience, but rather cause him to alter in certain *comparatively* small respects the attitudes he already holds or the ways he already follows, and thus the situation he already experiences.

In this there is involved myself and what I select for attention and group in my attention from the range open to me, and the other person and what he selects and groups in his attention from the range open to him, these selections and groupings being sufficiently similar for the two of us to co-operate. If now we ask what is the item of information or the like which I have

conveyed to him, we find that this question cannot be answered. If we are to understand this 'conveying of information' by gesture, we must take into account the whole epistemological situation in which such gestures are made and produce their effects. We must take into account not merely 'the pipe' and my seeing it and making the other man see it, not even merely the wider situation and the sub-situation within it and my seeing it and making him see it, but the whole of the epistemological conditions under which I have the experience called 'my seeing the pipe' and under which he has the experience called 'his seeing the pipe'.

Consider my conveying by analogous methods the information that a particular man is Prime Minister. Suppose that I take a stranger for a walk in London across the Park and through Downing Street, and that we stop for a few minutes and join the small group of sightseers opposite No. 10. He will notice some men coming and going in whom they show a special interest. If when one particular man appears I nudge my companion and he notices that this man is treated with exceptional deference and arouses exceptional interest, then he will pay attention to him as occupying some special position, whatever it is. If now we follow this man throughout his daily round in the Commons and elsewhere, and if I persistently point out this same man and draw attention to the reactions of other men to him, then it will begin to dawn on my companion that this man is in a unique position, and that he is Prime Minister. That is to say, by my gestures and other actions I have caused my companion to adopt the low-level attitudes or ways of selecting and grouping in attention that I intended him to adopt (otherwise he would not detect that the man was Prime Minister), it being assumed by me at the outset that he already held or followed more general attitudes or ways more or less like my own (otherwise my efforts would have no effect on him, any more than my pointing had on the cat). Again, I am not dealing with a man in a state of total ignorance, and I am not adding a new, separate and independent item to his experience, but am altering in certain *comparatively* small respects the attitudes (and ways), and consequently the experience, that he already has.

If instead of making gestures which the other person sees I make noises which he hears, and say 'There is a pipe lying on the desk' and 'That man is Prime Minister', then these conventionalized and stylized noises produce similar effects on him. They produce the effects more precisely, more easily, and usually more cheaply, but these are differences in degree of effectiveness and not in kind. Speech is one means, as gesture is another, whereby a man can make other men change, to a greater or lesser extent, the attitudes they hold or the ways of selecting and grouping they follow.

Consider in this connexion the difference between words and sentences. The traditional doctrine is that words may have meanings but that only sentences can express statements which are true or false. If a single word or an isolated phrase appears to express a statement, it is regarded as being an ellipsis for a syntactically complete sentence of which only part has been pronounced. On this view the difference between words or phrases and sentences is fundamental and absolute. In grammatical theory and in ordinary logical theory this may be a defensible doctrine, but in epistemological theory it is not. In the Indo-European languages, though by no means in all other languages, it is usually necessary to combine words in certain conventional patterns in order to ensure that the hearers or readers are caused to adopt precisely, or as precisely as possible, the intended attitudes or ways, and no others. That is to say, we must sometimes talk, and nearly always write, in sentences if we wish to be understood. But there are innumerable cases, many of them very far from simple, where the intended effect can be produced by words in looser patterns and even by a single word. An isolated word or phrase stands related to a syntactically complete sentence much as a simple pointing with the finger stands related to a complicated series of gestures. The difference is one of degree of effectiveness in producing a desired result.

If now we ask what it is that is stated, or what is the item of information which is conveyed, or what is 'the statement' as distinguished from the expression of it, then we find, in the case of speech as in the case of gesture, that the question cannot be

answered. That is to say, the theory that there is the three-fold distinction[1] is untenable.

Similar observations hold also of written words which represent spoken language, of written symbols which do not, such as certain Chinese scripts, and of the enormous variety of symbols used both in daily life and in the higher learning which have the same sorts of effects as written words but have it directly, without any intervening reference to spoken language.

These observations amount in summary to saying that when a man 'makes a statement that such and such is the case', or when he 'predicates something of something else', he is making certain conventional noises or marks which cause other men to adopt certain attitudes or follow certain ways of selecting and grouping in their attention (which may or may not be the same as those he himself holds or follows). When he 'writes down his thoughts to record them', he is making marks which, when seen at a later time, will have these effects on himself and on others. When he 'writes down his thoughts to get his mind clear', he is making marks which will lead him to notice with greater clarity and concentration than usual the attitudes or theories he holds or the ways of selecting and grouping he follows, and will thus force him to recognize more clearly their adequacy or otherwise, as assessed by the criterion referred to in earlier chapters.

It would make us extremely long-winded if on all occasions of the above kinds we were to refer explicitly to the person who employs the various verbal or other contrivances and to the person who sees or hears them. We therefore omit such explicit references wherever we can safely do so, namely in all cases where the persons concerned hold general attitudes which are the same or sufficiently similar, and we refer to 'the statement' or 'the proposition' as if it were an entity existing by itself, independent of the persons concerned. Unless we did this, much of our ordinary conversation, much of our administrative, legal and business activities and a large part of our educational activities could not be carried on without an unmanageable additional com-

[1] For which see page 109.

plexity. This, however, is no more than a practical convenience.[1]

A general objection destructive of the theory of this chapter, and indeed of the whole book, may be raised at this point. It may be objected that this account of the nature of language totally fails to deal with the essential point, for in assimilating animal grunts and human language it ignores what differentiates the one from the other, namely the *symbolizing* function of the latter as distinct from any mere effect-producing function. No doubt it may be no more than an accident of evolution that the principal kind of symbolizing contrivance that men use is a kind of noise produced vocally, but anything that can properly be called language, however constituted, must be symbolic and not merely causative. That is to say, it might be allowed that the preceding account of the nature of language holds of cases where language is used to draw attention to what is or may be experienced there and then (as in the examples given above), but that such cases are very few in proportion to, and far from typical of, the ordinary uses of language. Further, it may be urged that the difference between human thinking and animal thinking lies precisely in this employment of symbols. 'Man is the symbol-using animal.' His thinking would be impossible unless he used words, etc., as symbols and not merely as pointing-out devices. Without some system of symbols, of which language is incomparably the most effective, what we call thinking, as distinguished from merely noticing this and then that, would not be possible.

The view of the nature of language, knowing and thinking of which this objection is an expression appears to me to be erroneous in general and in detail. Reasons for this have been indicated briefly in the preceding chapter and are discussed in succeeding chapters, i.e. in the remainder of this Part considered as a whole. It is to be emphasized that the view of the nature of language advocated in this chapter (briefly that language is one of a number of means whereby men can bring about changes in the attitudes that other men hold and the ways of selecting and grouping in attention that they follow) has no significance

[1] The consequences of taking it as anything more are discussed later in this chapter and in the following chapters.

except in reference to the discussions in an earlier chapter of fact and in later chapters of truth and error, of meaning, and of particular and universal. Unless the theories contained in those chapters are allowed, the account of language given here will appear to be a simple mistake, constituted by assuming that the use of language for drawing attention to something here and now is its only use and thus ignoring all that is essential, difficult and interesting in the topic. For instance, if the usual view that the world around us consists of particular things is retained, and the view given later of the particular-and-universal problem not adopted, then there is, as far as I can see, no escape from holding that language is symbolic, as maintained in the above objection, nor from holding that language as a symbolizing device is essential to thinking itself.

The same general objection may be stated in another way by saying that the account of language given here rests on a failure to distinguish between knowing (i.e. perceiving or otherwise directly experiencing) a silver coin, and knowing that the coin is silver. The answer is that this is a circular argument. These two can be distinguished only if a theory of language and predication is held which is expressly rejected here. If that theory is held, then the two must be distinguished, because the theory becomes chaotic if they are not; but the failure to distinguish them cannot be urged against the present account, which specifically excludes the theory of language and predication in terms of which alone the distinction has a meaning.

It seems that we can say little more about the essential nature of language than that it is one of the means (and as far as we know the most important of them) whereby men can change to a greater or lesser extent the attitudes that other men hold and the ways of selecting and grouping in attention that they follow, and can make clearer to themselves the attitudes and ways that they themselves hold and follow.

How these effects are produced is as yet almost entirely unknown. The attempts to explain why the sound 'dog' makes us think of one kind of animal and the sound 'cat' of another, and why shaking the head means assent in some communities and dissent in others, have not, as far as I know, advanced beyond

erratic speculation, though presumably they one day will.[1] As yet we have to be content with saying that speech, writing, gesture and other such devices[2] can cause men to hold certain attitudes; and that we do not know how.

The doctrines of language as symbolic and the emphasis on the importance of symbolization in all thinking, which are conspicuous in present-day philosophical literature, are, I believe, an indication of a partial emancipation from the older views of the nature of language and of a shift half-way to the view of language as causative.[3] These doctrines represent as far as one can get in taking account of the relevant data without abandoning the traditional views of fact, of universal and particular, and of meaning.[4]

We commonly refer to the form as distinguished from the matter of a statement or proposition. A great deal of labour and ingenuity has been expended by philosophers during the last twenty-three centuries and more on working out the detailed applications and developments of this distinction, but no comparable effort has been devoted to inquiring into the distinction itself.

If we retain any of the traditional views of the nature of statement, then it is intelligible to draw this distinction, and indeed inevitable to do so. If, on the other hand, we hold the theory advocated above, taking account of the whole epistemological situation involved, then it is no longer intelligible to do so. Instead we see not one distinction of form and matter, but two; and these two distinctions must themselves be distinguished. That is to say, it is no longer intelligible to speak of the form as distinguished from the matter of statements or propositions, but it is intelligible to speak of:

(*a*) the forms, as distinguished from the matter, of the devices (words, gestures, etc.) which serve to make a man who sees or hears them adopt certain attitudes or follow certain ways of selecting and grouping in his attention,

and of

(*b*) the forms, as distinguished from the matter, of the situa-

[1] Cf. page 195, para. (iv). [2] Cf. page 123, note 2. [3] Cf. page 216.
[4] Cf. page 23.

tions which he experiences as the outcome of holding these attitudes or following these ways.

The 'form in sense (*a*)' can be considered by itself and studied. In the case of a gesture of the hand, it is the form of the hand in that particular pose. In the case of a signpost or any similar material object, it is the form of that material object. In the case of speech or audible signal, it is the form of the sounds emitted. In the case of written language, it is either that of the written pattern itself or that of the sound pattern it represents or a complex of both, according to the language used and the characteristics of the individual reader, such as his having visual or auditory imagery. This concerns only the 'form in sense (*a*)', i.e. the form of the words, sentences, symbols, sounds, etc., as things or marks or sounds, etc., and has nothing to do with their meaning. There is no meaning 'in' them. By saying that they have meaning we indicate that, under certain conditions, they can have certain effects on men's attitudes or ways of selecting and grouping in attention.

The same comments apply also to things, objects, situations, etc., which do in fact produce such effects, whether or not they were intended to do so.[1]

Examinations of these forms constitute a substantial part of our cultural and learned tradition. For instance, the study of the forms of language in this sense (*a*) is grammar and syntax.[2]

[1] Further discussed in Appendix A.

[2] Grammar, like any other study of any other subject, is a complex of theories. English grammar is a complex of theories about the English language and Tungusian grammar is a complex of theories about the Tungusian language.

This is not always recognized, even by the pedagogues of the subjects, and it is assumed that there *are* verbs and nouns and other parts of speech and a sentence structure in which these stand related, and that this is so independent of any theories. But to assume this is to assume a theory about the language in question. In the case of English and similar languages, the theories traditionally assumed are in many ways satisfactory, as is shown by their adequacy in enabling us to understand the historical development of our own language and to learn similar foreign ones.

Unfortunately, the very adequacy of the theories worked out by scholars in the European tradition about the languages with which they are most familiar has led to the assumption that these theories hold of all languages (i.e. to the assumption that there are these parts of speech, etc., in every language), with the unfortunate consequences referred to later in the chapter.

Corresponding studies of the forms of signs and symbols of various kinds, and of the forms of natural and other objects and entities which happen to have similar effects, constitute large parts of the literature of criticism of music and the arts. Up to the present in our learned tradition, all these different studies of the forms of the different contrivances or entities in question have been conducted more or less independently, with little attempt to co-ordinate them.[1]

The 'form in sense (*b*)' can likewise be considered by itself. In the case of a man's 'being told something' or 'understanding a statement', the situation which he knows or experiences (as the outcome of his adopting the attitudes or following the ways of selecting and grouping in attention which he is caused to adopt or follow by the words or other devices whose form is 'form in sense (*a*)') has its own forms. The studies of these forms are the various special subjects of the sciences and the humanities, and the commonplace inquiries of daily life.

There is thus no 'form of statement' or 'propositional form'. When we think there is, we are referring either to 'form in sense (*a*)' or to 'form in sense (*b*)' or to some confusion of the two; and if we hope to understand the nature of language, meaning and statement, we must distinguish the two most explicitly.[2]

The gist of the preceding passages can be indicated in another way by considering the nature of 'knowledge' or 'information' or the like. In the phraseology of common speech, knowledge is an entity which can be possessed, shared, lost, carried by tradition, and so forth. We recognize that these phrases are metaphors, but nevertheless we tend to think of knowledge as an entity somehow distinct both from the men who know and from the objects or situations, etc., which they know or know about.[3] We think of each generation of chemists as adding something to the common stock of knowledge which is then handed on to the next; we think of the knowledge of local history and conditions which has been lost because it was not recorded in time;

[1] An essay towards this is made in Appendix A.

[2] Amplified in Note 6, page 239.

[3] This is a consequence or concomitant of the assumption that knowing is a relation in which the knower stands to what he knows. Cf. page 106.

we marvel at the burdens of irrelevant information under which some of our colleagues stagger; and so forth. But the epistemological situation is altogether different. There is no such entity which can be possessed or shared or conveyed. There are men or other sentient beings who hold certain attitudes or follow certain ways of selecting and grouping in their attention and who thus experience severally the situations which are the outcome of these. Each knows or experiences his own selection, grouped in his own way, and there is nothing common to them all except that[1] from which they each make their own selections.[2]

Five particular objections to the theory of language and statement given here are likely to be made. The first is that the whole of the discussion is irrelevant, even though some of the incidental observations may be sound enough as far as they go, since it fails to take account of the essential distinction between *what is stated* and *the verbal or other expression of what is stated*, and refers only to the latter of these; or, in more technical terms, since it refers only to sentences and omits from consideration the propositions which these sentences express. This objection would be cogent if the traditional epistemological theory[3] (in terms of which

[1] Cf. page 149, 'the third kind of condition'.

[2] That what is called telepathic communication does sometimes occur seems to me indubitable, both from my own experience and from the reports of others. Any epistemological theory according to which telepathic communications either do not occur or are abnormalities with which respectable epistemology is not concerned is thereby defective. An adequate general theory must at least render it not impossible to account for them.

We do not know how such communications come about, and can only observe that they do. In this, however, we are no worse off than in the case of language, for we do not know how certain words produce certain effects on their hearers and can only observe that they do. (Cf. page 119.) Alleged explanations of how they produce these effects are only records of the history of their producing them. The position seems to be that a man is able to make other men adopt certain attitudes or follow certain ways, and that this is mostly done by making noises which can be heard and marks which can be seen, but that it is sometimes done (and perhaps much more commonly than we at present suspect) in some other manner which we do not at all understand. We may call this 'direct', which is merely to give a name to ignorance, or may say it is due to some special senses not yet recognized to be such.

[3] As indicated on page 109.

alone we can intelligibly speak of propositions and sentences as thus distinguished) were sound, but not otherwise; and it is precisely the soundness of this epistemological theory itself which is under consideration. The objection is therefore not an argument against the theory given here as an alternative to the commonly held one, but is merely a fresh reiteration that the commonly held one is sound. On the other hand, to attempt an answer by pointing this out is equally no argument. This objection and this answer leave us precisely where we were.

The second objection is that the theory given here does not account for cases of falsity or fiction, such as my pointing to my desk or saying 'There is a pipe on the desk' when in fact there is no pipe there, or pointing out some man or saying 'He is Prime Minister' when in fact he is not. This is arguable as a genuine objection, and it is crucial. If it is sound, then the whole epistemological theory of this book is a misunderstanding. Some indications of the answer to it have already been given at intervals in earlier chapters where reference was made to the criterion by which one theory or attitude is adopted in preference to any other. This is discussed in Chapters 16 and 19.

The third objection is that the theory given here can provide no answer to the simple question 'What is a statement?' or 'What is a proposition?' The answer is that no simple answer is possible, because any attempt to provide a simple answer would commit the answerer to the theory of statement which has been explicitly rejected. The only way to answer is to give an account of the whole epistemological situation in which statements are made or propositions asserted.

The fourth objection is that this theory gives no account of the difference between merely contemplating a situation and asserting that such and such is a fact, e.g. between merely contemplating the situation in which there are three eggs in a basket and asserting that there are three eggs in it. The same answer as to the first objection may be made as follows. If we hold the traditional view of statements as being true or false in themselves, then we can and must distinguish between considering a statement and asserting that it is true. If, however, we take the alternative view, *together with* the theory of truth

indicated in the above references to the criterion, *and with* the theory concerning appearance and reality given later, then the matter appears in an altogether different light. The difference between what we describe as 'considering a statement' and what we describe as 'asserting it' is then seen to be of another kind. This is discussed in Chapters 16, 18 and 19.

The fifth objection is that this theory fails to account for purely formal statements of the kind *X is Y* or *Some S are P* or *p*. The answer is to turn our attention to the way in which the doctrine that there are such purely formal statements was developed. This is discussed later in this chapter.

Now consider the nature of description, i.e. consider situations in which a man who is already having certain experiences has to find or create the linguistic contrivances which will cause other men to have similar experiences.

If we ask the plain question 'What is a description?' no simple answer can be given. We must take into account the whole situation in which what we call describing occurs. Of course, for many practical purposes and for the sake of brevity in philosophical discussion, it is convenient to refer to 'descriptions' as entities in themselves, but this is only a brief phrase serving to indicate that here is a man, knowing some object or situation, and pronouncing sounds or making marks intended to have certain effects on other men, and that these do in fact have more or less these effects, subject to various conditions.[1]

Such descriptions vary in the degree of precision of the effects (of the kinds in question) which they produce. What are traditionally called 'definitions' are descriptions which can be depended upon to produce the intended effects with a degree of precision which is considered sufficient in the circumstances. That is to say, a situation in which what is called a definition is formulated is one in which a man makes sounds or marks which cause the other men concerned to hold attitudes or to follow ways of selecting and grouping in attention which are so nearly those which the formulator wants them to hold that no further sounds or marks by him are required to enable all concerned to co-operate in relevant discussion. The traditional

[1] Cf. page 148.

method of definition by genus and difference and the various more modern methods are techniques by which this can, in favourable circumstances, be achieved.

Normally the formulator of a definition does not need to include in his series of sounds or marks any whose purpose is to cause other men to hold the same high-level attitudes as he himself holds, since he takes for granted that they hold them already, i.e. any definition is intelligible only in a context of reference which is agreed, even though it may not be explicitly referred to. This is why technical terms (which depend on precise definitions) are found in any field only when the theories or attitudes of high generality in that field are accepted by all concerned, at least for the time being. If these theories are altered or questioned, then the system of technical terms may have to be scrapped. A comprehensive system of technical terms is a convenience in working out the consequences and applications of highly general theories which are not themselves questioned, but its very comprehensiveness tends to prevent the questioning of these theories, and thus obstructs great advances while encouraging little ones. This is why there are no technical terms in philosophical discussions which *raise* fundamental philosophical issues, and why the appearance in a discussion of an apparatus of precise technical terms is an indication that fundamental questions are not under consideration. The whole of the theme of Chapter 12 on Facts could therefore be repeated here in application to the nature of definition.

As the account of the nature of statement given here is so different from any form of the traditional view which has for so long been so generally and unquestioningly held, some explanation is called for of the persistence of the traditional view. It seems to be largely due to the age-old misunderstanding of the nature of language and of its relation to the various other sorts of contrivance which men have developed in communicating with each other. Until very recently there has been an almost entire failure among learned and simple alike to recognize that there are many such contrivances and that language is only one of them. There are two reasons for this, which can be distinguished as psychological and anthropological, though these

are of course only two ways of describing what is essentially the same reason.

The first is that to achieve this recognition is particularly difficult for those possessing verbal imagery, and that the majority of professional philosophers and logicians have this trait highly developed, as social observation of them shows as effectively as does study of their works. But not all people 'think in words' in this way,[1] and those who do so seem to have difficulty in understanding that other people may not be like them in this respect. They therefore regard as an epistemological truth of universal application what is only a biographical truth about themselves. For this reason, any strange view which involves regarding 'thinking in words' as a personal peculiarity is considered by them in all sincerity to be naïve and erroneous, or more commonly is not considered by them at all. It therefore does not occur to them that beliefs such as that in propositions as ultimate or fundamental, in epistemological problems as centring round the truth or falsity of propositions and in truth and falsity as being in some sense attributes of propositions, may all arise from some psychological trait which is peculiar to persons like themselves but is not noticed as such because the great majority of those with whom they converse possess it also.

The second reason is the primitive view of the nature of language which we know from anthropological report to have been widespread and presumably universal among primitive peoples, and which we find surviving to-day in modern communities in backward corners. According to this view, language is an independently existing entity or real thing, potent in itself, irrespective of whether anybody understands it or not.[2] This

[1] I do not do so myself. I am conscious of speaking and writing about anything as a process different from thinking about it and in variable degree subsequent thereto.

[2] As exemplified in, for instance, primitive customs concerning names. A man's name is believed to be a real thing, existing in itself and containing within it something of his personality or soul or spirit. If an enemy, either a human being or a spirit, should come to know this name, then part of the man would pass into the enemy's power. It is therefore common for a man to have two names, one of them being publicly known and used for ordinary social purposes, while the other, his 'real' name, is kept a close family secret. The city on the Tiber was called Rome, but its real name was kept a secret

primitive view was refined, clarified and sophisticated by Greek thinkers into the doctrine of propositions which passed into the educational tradition of Europe and is still overpoweringly influential there. It is one of the handicaps we inherit along with the benefits of the legacy of Greece; it is part of the damage the Greeks have done to European civilization by perpetuating primitive beliefs which would have been relinquished much earlier than in fact they were or will be, had they not been refined and clarified by the genius of the Greeks into formulations so majestic as to appear above questioning to later Europeans who had not their genius.[1] Our Western European ancestors therefore remained, as we in many respects still remain, under the influence of those primitive beliefs in their Greek formulations until prodded into recognizing their misleading character by the problems they create and by the accumulations of data for which they cannot account.

Among the consequences of that primitive belief about the

among the dignitaries, lest enemies by learning it might weaken the walls. The same view is exemplified in the stringent Old Testament prohibition of mentioning the name of the Lord in any circumstances (not 'taking the name of the Lord *in vain*', as it is erroneously translated, but merely mentioning it). The sacred tetragrammaton JHVH or YHWH, which would by ordinary rules be pronounced *Yahweh*, is never so pronounced by orthodox Jews to this day, but is, I understand, replaced by the pronunciation *Adonai*. The reason for this was not that the blasphemy might be offensive to the religious feelings of others, but that even an innocent uttering of the name was an invasion of the Divine personality, and as such was liable to provoke Divine retaliation on the blasphemer and his kin, and had therefore to be prohibited as a public danger.

The same outlook is shown in the belief, common among primitive peoples and still surviving vestigially in our fairy tales, that spells and incantations have their effect whether or not the speaker of them knows what they mean; and in the practice, which can be found to-day in India and Africa and elsewhere, of substituting for any unobtainable herb or other remedy the paper on which its name is written, and swallowing this as a pill.

It is observable—as one might expect if this belief about the nature of language was normal in primitive times—that children to-day pass through a period in which they appear to think of language in much the same way. Other instances in contemporary life will occur to the reader, not all of them among the uneducated.

[1] Cf. page 49.

nature of language, and of the concomitant failure to recognize that language is only one among a number of similar contrivances, has been the appearance in the European-American tradition from the earliest times to the present day of what are believed to be accounts of thought or of knowledge but are in fact only accounts of one among the many sorts of devices men have hit upon to lead other men to change the attitudes they hold. As it is believed, according to that primitive view as formulated by the Greeks, that knowledge (which is thus distinguished from mere awareness of sensa) consists in knowing propositions and in knowing whether they are true or false, so it is believed that in examining the structure of propositions we are obtaining further information about the nature of knowledge itself. Large bodies of traditional doctrine have been built up, and are still being built up, in this way, e.g. if it is agreed that propositions have a subject-predicate structure, as it ordinarily is,[1] and if it is therefore presumed that all thinking proceeds in terms of subjects and predicates, then it will be held that the understanding of a philosophical problem can be substantially advanced by discovering whether the statements concerning it are analytic or synthetic propositions.

This subject-predicate structure, which is found in the English language, in those of the Indo-European family, and in many others,[2] is not, however, found in all. In Chinese and in Maidu, for instance, there are not subjects and predicates, nouns and verbs in our sense. As we Europeans are brought up to think that the verb-noun structure of our own language is the structure of all, we have extreme difficulty in learning a language which has not such a structure unless we treat it as if, in spite of appearance, it had such a structure concealed within it. We therefore say that there 'really' are verbs and nouns in Chinese, and that the same Chinese word is 'really' a noun in one context

[1] The arguments for and against the various views about the nature of the subject and of the predicate and of the relation between them, form considerable portions of all but the most elementary textbooks of logic; but in them all it is taken for granted that there is a subject and a predicate and that they are somehow related.

[2] That is to say, the theory that the language has such a structure holds of these languages, at least for the purposes for which scholars have so far required a theory.

and 'really' a verb in another. As a pedagogic technique this is perhaps justifiable; as an epistemological theory it is misleading. Similarly, the innumerable other sorts of devices which men employ for similar purposes have no subject-predicate structure. It would no doubt be possible to treat them as having it, but this is not likely to be attempted seriously.

The theory that there are subjects and predicates and various kinds of relation between them is tenable only in grammar, i.e. it can hold only of language, and only of some languages, namely English and others like it. To assume that this theory is tenable in the field of epistemology, in the manner in which this has been assumed in our tradition, is therefore provincial-mindedness, for it amounts to assuming that all thought or knowledge has a structure or form which is in fact found only in the contrivances employed to direct attention, and only in one kind of them, namely language, and only in one kind of language, namely our own and others like it. To apply this theory of a subject-predicate structure in trying to answer the problems which arise in the fields of philosophy and epistemology is therefore futile.

Much the same observations hold of 'purely formal statements', the incapacity to account for which was urged as a fifth objection to the theory of statement advanced here.[1] If the common or traditional view of the nature of statement is held, then some philosopher sooner or later will detect that the many different statements made by men tend to fall into certain forms, whatever the subject-matter of the statements may be. It thus becomes possible to consider these forms by themselves, and if this is done, as it was by Greek, medieval and later logicians, then a new and interesting field of study is created, and can be extensively developed. As this body of doctrine is developed by failing to recognize that there are two forms and two matters involved, and not only one form and one matter,[2] we should expect that further theories derived from it would be convenient for certain purposes (otherwise nobody would have taken the trouble to derive them), and also that these derivative theories would end by creating problems for which there are

[1] Cf. page 125. [2] Cf. page 120.

no answers; and this is precisely what we find in the history of formal logic. The matter is further discussed in Chapter 20.

The attitudes we hold, and consequently the experiences we have, are to some extent conditioned or restricted by the language we have to use. The dictum that we think in words, which as a serious theory is naïve, does at least embody some insight into the extent of this restrictive influence.

If in my particular language there are no words which would bring about some particular effect which I intend, then I am to that extent restricted both in communicating with others and in making my own mind clear. Further, the grammar, usage and idiom of the particular language we habitually speak similarly determine to some extent the attitudes we hold, but we do not recognize this in the same way, since their influence is on our more highly general attitudes of which we are not normally so explicitly conscious. In the same way the structure common to all the languages ordinarily known to us determines to some extent our attitudes of very high generality indeed. For instance, since all the languages ordinarily employed by most of us have nouns and adjectives, we think more easily in terms of things and their qualities than otherwise; and when we have to think otherwise, as we must in sub-atomic physics or in psycho-analysis, we may have to manufacture a new language or system of symbols which is free of this tendency. This leads to the speculation that there may well be other characteristics of structure which are common not only to all languages, but also to all other systems of symbols, gestures and other attention-directing devices which we use, and that these characteristics similarly influence to some extent our attitudes on even higher levels of generality, without our being as yet in any way aware of them and of their doing so.

Of course, changes in the attitudes we hold react upon the language too, but less patently. Major changes in our higher level attitudes, however brought about, are generally followed by some changes in the usage of language, as historical grammar and etymology show; but for any given man (other than an originating genius) at any given period, the vocabulary and the forms of language determine the attitudes he holds, and

consequently the experiences he has, much more than contrariwise. An originating genius may free himself of the trammels of his inherited language and adopt fresh attitudes; and then, if these become commonly adopted, the language will correspondingly change and, as thus changed, will determine in the new way the thinking and experiences of the generations of ordinary folk who succeed him.

This allows of a concluding comment on the conditions of clarity of statement. In discussions in which all parties are agreed about the high-level attitudes involved (i.e. in cases where the statements made concern 'sub-situations' and not 'wider situations', i.e. cases where they concern the application or the working out of general theories which are not themselves under review), a man's success in producing clear statements is a matter of his technical skill in the employment of English and of his willingness to undertake the labour of writing, scrapping and rewriting, over and over again. On the other hand, where a man is dealing with matters about which the parties to the discussion have different high-level attitudes, and especially where he is discussing these attitudes themselves and is trying to make his hearers amend or abandon those they already hold and replace them by different ones (i.e. where he is concerned not with the working out of a general theory but with the examination and possible replacement of it) then it is not possible for him to make statements which could by any ordinary standard be called clear. He is compelled to fall back on metaphors and similar adaptations of language which, considered by themselves, are not only unsatisfactory but are mostly meaningless as assessed by conventional analysis. He has to employ many sorts of such devices until the intended result is achieved. When it is (i.e. when all concerned have adopted the fresh high-level attitude), then these metaphors cease to be regarded as metaphors, and the statements embodying them are regarded as clear.

If what a man says is clear, then he is accepting and not questioning the theories or attitudes of higher generality held by those to whom he is clear. If a man cannot make himself clear where the matters he is concerned with do not involve the

questioning of theories or attitudes of high generality, then he is either incompetent or idle; but to expect such clarity where the explicit examination of such theories or attitudes is being undertaken indicates a fundamental misunderstanding of the nature of language and statement.

Chapter 15

ATTITUDES

At various earlier points[1] it was remarked in passing that what could be described in one metaphor as a man's 'attitude' on any given topic could be described in another metaphor as a 'view' or as an 'hypothesis' or 'speculation', or as an 'explanation', or even as a 'way of selecting and grouping in attention'.[2] Some amplification is required to make clear that these assertions are not mere loose statements which reveal themselves to be meaningless or false when taken strictly. This is required on two points:

(*a*) How can what is described as an attitude of mind be also described as a theory or hypothesis or explanation?

(*b*) How can it be described as a way of selecting and grouping in attention?

To illustrate the first point, consider the circulation of the blood. When the statement of this was first propounded by Harvey, it was naturally regarded as an hypothesis explanatory of various phenomena, such as the difference in colour of venous and arterial blood and the fact that a cut artery spurted and a cut vein flowed. When we are explicitly considering the circulation of the blood, as we are at this moment, we speak of

[1] E.g. on page 76.

[2] It could not be given earlier because it depends on the discussion of the nature of the statement in words of attitudes, etc., in Chapter 14.

our view or belief that it circulates. When we are not specifically thinking of the blood as circulating, but are acting in ways which are not intelligible unless we believe that it does, as when we apply a tourniquet to an injured artery above the wound and to an injured vein below it, then we tend to speak of an attitude or unconsciously held theory, and we speak of this attitude or theory as the explanation of our actions. Similarly, if we consider the dependability of regularity in natural happenings, we speak of our view or belief that there is such a regularity. When we are thinking of the plain man's assumption that there is, we speak of his attitude of mind in this matter.[1] When we observe his purposive behaviour, we say that his belief in a continuing regularity explains it, or is required to explain it. Similarly, if the view that a divine providence governs the world and that the righteous man will not be forsaken is articulately held and expressed, we call it a belief or a religious tenet. If a man does not put this into words, but is observably going through life on the assumption that the world is so, then we speak of his attitude to life. If we try to account for the apparent teeming disorder of life and of history by reference to a divine providence underlying it, then we speak of this as an explanation, or as a speculation if we have less confidence in it.

To all this it may be objected that an attitude is a mental condition which is what it is and cannot be true or false, while a theory is of an altogether different order. This is certainly so, on the common or traditional view of the nature of statement, but not on the alternative view given in the preceding chapter. On this alternative view there are not attitudes and theories which can be considered by themselves and compared. Instead there are men, these men holding various attitudes of mind and using words or other devices to make other men change their attitudes; and what can be described as a man holding a certain attitude can also be described as a man holding a theory or hypothesis, according to the degree of his own awareness of it. In other and

[1] We seem to use the word 'attitude' when it is not very clear whether the belief is articulately held or is only acted on without any self-conscious, explicit statement of it, as when we speak of the ordinary man's attitude to Epstein's sculpture. (This is to be distinguished, of course, from the psychologists' technical use of the word.)

more colloquial words, what can be described as an attitude can also be described as a theory.[1] (The extension of this to include explanation is dealt with in Chapter 20.)

The second point is less simple. The discussion of it, if pursued sufficiently far, turns into a discussion of the nature and relation of knowing and acting, and this into the still wider discussion of mind and body. That is to say, the second point cannot be answered except in terms of some theory of mind and body. In discussing this here, we are concerned not with the merits or demerits of particular theories about the mind-body problem but with the epistemological conditions of all such, i.e. our question is not how minds and bodies are related, but what is involved in our assuming that there are minds and bodies to be related.

The theory that there are has been given up by many and perhaps most philosophers, psychologists and biologists, and by many theologians, but it is still held by other workers in these fields and presumably by most plain men. A decisive, if not very illuminating, argument against it is as follows. If the theory that there are minds and bodies is held, either as a theory or as an unexpressed attitude, then some philosophers sooner or later will produce the four following subsidiary theories, viz.:

(*a*) that the mind and the body interact,
(*b*) that the mind affects the body but is not affected by it,
(*c*) that the body affects the mind but is not affected by it,
(*d*) that each is entirely independent of the other.

[1] If it is objected that the preceding paragraphs give no information on what an attitude of mind is, or on what a theory or speculation is, then the answer is that we are not concerned here with the nature of attitudes, theories, etc., but with the general epistemological conditions of all such. If the objection is pressed, and if it is further asserted that the writer, on this alternative view, never can give any account of the nature of attitudes and theories and of the relation between them, except that they are what we speak about as such in the sorts of situations we have been discussing, then the only answer is to admit that on this view he cannot, and to add that neither can anybody else on any other view. What purport to be accounts or definitions of attitudes of mind or theories or hypotheses are so only in appearance. They all presuppose that we already know what an attitude of mind or a theory or an hypothesis is, and conceal this presupposition in one of the terms used in the definition.

It is a commonplace of philosophical discussion that each of these four theories accounts more or less adequately for some of the relevant data and fails to account for the remainder, and that the four are all incompatible, so that no attempt to account for all the data by two or more of them in combination can be accepted.

Provided that men had had long enough to think over the matter, *and* provided that the more general theory of which these four are subsidiaries or applications is sound, then we should expect to find that somebody had excogitated further theories and finally some one comprehensive theory which would account for all the relevant data and would thus replace the four incompatible and less adequate ones. This has not in fact happened, although men have been thinking over these four explicitly stated theories for more than two thousand years. What has happened is that they, and we to-day, with some exceptions, hold and apply sometimes one of these four theories and sometimes another, according as one or other can account for the data we are immediately interested in at the moment. Philosophers who do this may be aware of it, and ruefully admit as much by saying that the problem of mind and body is insoluble, but most of us go through life unaware that we are from moment to moment holding one and then another of four different theories of the relation of mind and body, no two of of which can possibly both be true. A small number of us avoid this by holding only one of them to the rigid exclusion of the other three, namely doctrinaire interactionists, idealists, materialists and parallelists, and thus evade the contradictions, but at the cost of failing to account for some of the data.

This suggests, and indeed indicates, that there is something misleading in the general theory or attitude of which these four theories are subsidiaries. That is to say, the common-sense theory that there are minds and that there are bodies may be convenient to hold for certain limited purposes, but it is, strictly, untenable, and therefore in any philosophical, psychological, ethical, theological or other discussion of fundamental issues, references to the mind and to the body as distinguished one from the other in the common-sense way ought not to appear, except under qualifications such as those mentioned here.

If this theory is abandoned, then radical changes must be

made in the views held by all of us who have not made these changes already. For instance, it becomes meaningless to hold that there are minds but no bodies, as presumably some extreme idealists have maintained; equally it becomes meaningless to hold that there are bodies but no minds, as presumably some extreme materialists have maintained; and equally it becomes meaningless to hold that there are minds and bodies, as many philosophers and presumably all plain men have assumed.

The alternative general theory to which we are brought is that what we are faced with and have to give an account of is not a body and a mind and the relation between them, but an entity or situation which is neither a body nor a mind in the ordinary and familiar senses of these words. We can say of it only that, whatever it is, it is such that it can be described in one way as a body and in another as a mind, each of these ways being sound enough for some purposes but very misleading for others. If it is complained that this does not take us very far towards solving the problem of mind and body, the answer is that it does not purport to do so, but only prevents our starting in a wrong direction.

There is nothing new or in any way remarkable about this general theory. Some philosophers have long maintained that no discussion of the self is possible except in terms of an embodied self, while many practical men, many biologists, sociologists and others observably do not think in terms of minds and bodies but of 'persons', or use some other such phrase to indicate something that can be described both as a mind and as a body and yet is neither the one nor the other.[1] That is to say, the

[1] It is at least arguable that Aristotle, Leibniz and Spinoza had abandoned the one attitude or theory and adopted the other, to quote only three of the greater figures of the earlier tradition. The reasons which led them to make this change may, of course, have been entirely different from those which lead a modern biologist, psychologist or philosopher to make a similar change. For instance, the evidence suggests that Leibniz came to anticipate later doctrine on the existence of unconscious mental processes, not by exceptional penetration but by lack of a sense of proportion in following out the implications of a baldly rationalistic assumption, and that his abandonment of psycho-physical dualism was likewise brought about not by his insight but by his limitations.

change from the general epistemological presupposition surmized to be endemic in our culture to an alternative has been made more explicitly and decisively in this respect than in perhaps any other, though the numbers who have made it are still small.[1]

This conclusion, though only negative, throws some light on the question of the relation between knowing and acting, knowledge and behaviour. The common view, held by all in our culture save the exceptions mentioned above and later, is that these are different in kind. So unquestioningly is this accepted that to very nearly all of us the questions requiring answers seem to concern the nature of knowing and the nature of acting, and the question whether they can properly be distinguished in this way seems not to arise. Nevertheless, that there is knowing and that there is acting and that these are different in kind is a theory. This theory cannot be held (i.e. a man cannot intelligibly refer to knowing and acting in the usual way) unless another theory is held also, namely the theory that there are minds and that there are bodies and that these are essentially different in kind. This latter theory is untenable and must be abandoned, and thus the theory that knowing and acting are essentially different must likewise be abandoned.

The objection may be made that even if it be granted that knowing is an activity, 'knowing-activity' is still different in kind from 'doing-activity', and moreover, it may be added, the more vivid an experience is, the more sharply do knowing and acting show up as different. This last assertion might be queried, and one could maintain that in a very vivid experience precisely the contrary is the case, but this is a lesser point. The

[1] The difficulty of making this change illustrates the limitations imposed by language which were referred to at the end of the preceding chapter. The language we have to use is so well suited to expressing and applying the older theory and so inconvenient for expressing and applying the alternative that we must either use old phrases in new meanings or devise neologistic contortions of language. These are either unfamiliar or, if familiar, consist of words which had their original meaning in terms of the old theory and have their new meaning by what is in effect a contradiction within the terms. A determined dualist can thus always maintain that the terminology of those who profess themselves not to be dualist is surreptitiously dualistic.

main point is that we are not concerned here with 'knowing' and 'acting' as we ordinarily discuss or introspect them. (If we were, then the two are different, except perhaps in debatable cases such as the one mentioned, and to maintain that they are not is to gloss over the difference in a way which the facts do not warrant.) We are concerned with the much more general conclusion that we mis-state the position from the outset if we assume that there is what we ordinarily call knowing and what we ordinarily call acting and that these are essentially different.

(It may be asked if this is behaviourism. It certainly is not, if by behaviourism is meant the doctrine that there is only acting and no knowing—which doctrine is an attempt to deal with the incapacity of a misleading general theory to account for the data, not by amending the theory but by retaining it and denying the existence of the recalcitrant data. At one time behaviourism did mean this, but I understand that contemporary behaviourists intend by behaviourism the repudiation of that general theory itself, in which case this is a doctrine of behaviourism, at least up to this repudiation.)

The alternative general theory to which we are thus driven is that there are not 'acts' and 'instances of knowing' but what can be described, in the narrow and misleading terms which we have inherited, in one way as acting and in another as knowing. Again, this does not take us very far, but it does prevent our travelling in the wrong direction.

There have been and now are some philosophers, moralists, psychologists, theologians and mystics who in their several ways deny that there is any essential difference between knowing and acting. It is difficult to be sure of the interpretation of their statements to this effect, as the language they are compelled to use generally leaves it uncertain whether they are maintaining the untenability of the distinction between knowing and acting or are accepting it and denying the reality of one of the pair thus distinguished.[1] At least it is certain that substantial numbers of thinkers in various fields have held the alternative

[1] E.g. it has been maintained that Socrates' teaching that 'virtue is knowledge' was, in effect, the rejection of the distinction. I should like to claim that his shadow falls on this side of the question, but suspect that doing so would be a misinterpretation of the much simpler doctrine that he intended.

general theory referred to, although the rest of them, and presumably all plain men, have not.

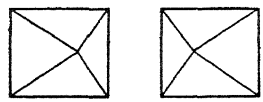
The recognition that the theory is untenable according to which knowing and acting are essentially different has many consequences in many fields, inside and outside the realm of philosophy. These, however, are incidental to the present purpose, which was the limited and negative one of showing that it is not meaningless or patently false to assert that what can be described as an attitude of mind can also be described as a way of selecting and grouping in attention.

Even so, this is no warrant for the truth of the assertion. It does no more than show that the assertion is not meaningless or self-contradictory; warrant for the truth of it must be sought elsewhere, as has been indicated in passing at the various points where 'attitudes' and 'ways of selecting and grouping' have been mentioned.

Chapter 16

APPEARANCE AND REALITY

If the reader fixes his left eye on the left-hand of the two diagrams below and his right eye on the right-hand one, he will see an apparently solid pyramid projecting out of the page towards him.[1] The difference between this illusory pyra-



mid and some solid little wooden pyramid is believed by all plain men and some philosophers[2] to be definite and absolute. In any particular case they may be uncertain whether they are dealing with a real thing or only with an illusion, but they take for granted that it must be the one or the other. If they say of

[1] This can be done with a stereoscope or, more simply, by gazing through the page as though at some distant point. At first the reader will see two pairs of two-dimensional diagrams approaching and receding from each other, and if he continues to gaze 'with a far-away look in his eyes' the inner members of the two pairs will overlap. He will then see one flat diagram to the left, one flat diagram to the right, and in between a three-dimensional pyramid. He will be unable to maintain the non-convergence of the eyes for more than four or five seconds at a time, and the cycle will recur.

[2] Cf. page 26 for the relation between the majority and the few philosophers.

anything that it is partly illusory, they mean that it is a complex of some constituents which are real and some which are illusory. From their point of view the matter requiring investigation is the nature of illusion as distinguished from reality and not the soundness of the distinction itself.

Consider this theory that the difference between a real thing and an illusion is definite and absolute. It presupposes the theory that the real pyramid is a particular entity or unitary existent in and by itself, and that the illusory pyramid is so also; but this theory is untenable and misleading. What I experience when I see what we should ordinarily describe as a solid little wooden pyramid is not a 'real pyramid' existing as such by itself. What I refer to as 'the pyramid' is the sub-situation on which my attention is for the time being concentrated, within the vast and complex situation which I experience as the outcome of my holding the attitudes, etc., that I hold at the time. If these were different in any relevant respect, there would not be a little wooden pyramid for me to see.[1] This sub-situation may easily change, as for instance it would change in spatial respects if I moved the pyramid, but the wider situation remains relatively constant in more general respects, especially in those highly general ones which hold of my experiencing any material object, such as my experiencing it as an object and not as a series of events, and so forth.

There is likewise no 'illusory pyramid' as an entity in itself. What I refer to as 'the illusory pyramid' is the sub-situation on which my attention is for the time being concentrated, within the vast and complex situation which I experience as the outcome of my holding the attitudes and following the ways of selecting and grouping in attention that I hold or follow at the time. If these were different in any relevant respect there would not be an illusory pyramid for me to see when I look at the diagrams.[2] This sub-situation may very easily and rapidly change, as it would if for instance I let my eyes converge on the diagrams, but the wider situation remains relatively constant in more general respects, especially in those highly general ones which hold of my experiencing any object or entity, such as my

[1] For reasons recapitulated in Note 7, page 240.

[2] For reasons recapitulated in Note 8, page 241.

experiencing it as in space, and in time, and in causal dependence on other things and conditions, and so forth.

If it is objected that all this is irrelevant, because when I look through the stereoscope I see the illusory pyramid and nothing else, the answer is that this illusory pyramid stands in a precise spatial relation to my eyes (for I see it as about eighteen inches away, the exact distance depending on the degree of asymmetry of the two diagrams), and is thereby spatially related to the rest of the wider situation.

The difference is thus not a simple one between 'a real pyramid' and 'an illusory pyramid' but between a wide situation having within it a sub-situation of a certain character and the same wide situation having within it a sub-situation of a slightly different character. The two cases differ in certain minor respects—minor not in their interest, for it is precisely the points in which they differ which are of interest in this connexion, but minor in comparison with the innumerable respects in which they do not differ. These latter respects are not specifically noticed, because they are the same, whereas the respects which are not the same are for that reason conspicuous. We hence tend to overlook the 'wider situations' which are the same in the two cases and remain relatively constant, and thus assume that the 'sub-situations' alone, which are different, are what we are dealing with. For most purposes, and certainly for all practical ones, this is justifiable and indeed necessary, but it is misleading if taken seriously in epistemological inquiry.

If the objection is made that, even if this be allowed, the two sub-situations are, considered by themselves, simply and absolutely different even if set in wider situations which are the same, then the answer is that to consider them by themselves is to misstate the position in the manner referred to above. If the more general objection is made that all this lengthy discussion is irrelevant, because the wooden pyramid *is* real and the other *is* an illusion, and that the two are essentially and absolutely different, then the answer is that this is not an objection to the present passages but to the conclusions of earlier discussions, and that at those earlier points an effort was made to deal with such objections as they arose.

The difference between an illusion and a real thing, between

an appearance and a reality, is thus not a difference between a mere appearance and a reality which lies behind appearance, but a difference within what is directly experienced, in the same way as the difference between the presence and the absence of causal relation, or of order or progress or purpose or the like, is a difference within what is directly experienced. We distinguish the one from the other by some criterion, perhaps in this case that of relative stability or something of the sort, as discussed in Chapter 21.

Consider now the venerable philosophical problem of 'appearance and reality' of which the preceding can be regarded as a particular instance. The view of all plain men and of some philosophers is that there is an ultimate reality which is what it is, independent of any observer, and that there are appearances (or whatever else we may call them) which men know or experience and which are, to some extent at least, dependent on or conditioned by the observer himself.

This straightforward, common-sense theory does account for much of the relevant data and, in particular, it provides a superficially satisfactory explanation of the phenomena of disagreement and error. In doing so, however, it raises fresh problems. Thus, if I explain my disagreeing with other men and my making what I subsequently realize to be errors, by holding that in such cases I am knowing or experiencing appearances which are different from reality, then the question arises how I know that they are different. If, on the one hand, I hold that I experience directly only appearances and that I know the ultimate reality only indirectly or mediately through these appearances which may or may not adequately represent it, then I create for myself an insoluble problem. If *ex hypothesi* I do not know this ultimate reality directly, then it is impossible for me to know whether the appearances represent it adequately. If, on the other hand, I hold that I know directly both appearances and reality, and that I can compare them, then I commit myself to the assumption that there exist two kinds of knowledge, and this assumption is only a more explicit statement of the epistemologist's fallacy.[1] Moreover, the further question arises, how I am entitled

[1] For which see page 41.

to assume that there is any such reality at all.

Innumerable attempts to solve or evade these problems have been made, but they all amount to pushing the difficulties one stage further back and leaving us in the same plight as before. It is futile to search for still more answers; the only escape is to abandon the theory which provoked the problems. We have to abandon the theory or attitude or pre-supposition that there is an ultimate reality and a realm of appearances, whether this is expressed in terms of crude sensationalism as the doctrine of representative perception or in some more subtle form. In other words, if we begin theorizing in this field and trying to account for error and disagreement on the assumption that there are two realms of appearance and reality, then we end with one, and our difficulties over disagreement and error face us again as before. This brings us to the conclusion that what we know or experience must be, somehow and in some sense, reality; and that we must know or experience it, somehow and in some sense, directly.

To adopt this view, if we have not already done so, is a considerable revolution. Whether there ever was a genuine naïve realist in our culture is at the least debatable, and it is certain that all of us have in later childhood an inarticulate representationist view or attitude in at least some regards, though naturally a very inconsistent one. Most of us remain inconsistent representationists throughout life, but those who study philosophy or are influenced by philosophers mostly pass beyond this stage, though again inconsistently. It is a familiar experience of teachers of philosophy that students who maintain themselves to have abandoned a representationist theory, and who have in fact abandoned it as far as theorizing about sensory experience alone is concerned, yet show themselves to have inconsistently retained it as an unexpressed general attitude by the applications they make of it in the discussion of similar topics in other fields. That is to say, agreeing or not agreeing with this conclusion is not a mere matter of the usage of the word 'reality', but is of wide importance as it affects our thinking about other topics.

This conclusion is, I think, more or less generally accepted by philosophers nowadays, and has been for some time past. Certainly many more would agree with it than would agree with

the view of propositions and predication in Chapter 14, although the tenure of the one does, I believe, involve the tenure of the other also. I should interpret this as indicating that in respect to doctrines of the nature and relation of appearance and reality the process of abandoning and replacing the complex of fundamental epistemological attitudes or theories endemic in our culture has advanced further than in respect to doctrines of the nature of statement, language, truth and the like.[1]

This conclusion does not solve our problems, but it restates them in the form of another question:

(*a*) If there is not that traditional distinction between appearance and reality, and if we know reality directly, how are error and disagreement possible?

The question as thus restated is closely connected with two others which have arisen repeatedly in earlier discussions but have been left hitherto unanswered, namely:

(*b*) What precisely is it that we are 'selecting and grouping in attention'?

(*c*) What precisely is 'that from which we are selecting and grouping'?

These three questions are in effect only three different ways of posing the same fundamental question, and the discussion of any one of them is the discussion of all three. The remainder of the present chapter and the five following are an attempt to formulate an answer.

An interim indication of an answer can be given, very crudely, by saying: that what a man knows or experiences is reality or the real; that he knows or experiences it directly and not mediately; that he knows or experiences only what we can call parts of it, and that he pays attention to these in certain groupings; that men may disagree because they severally know or experience different parts, or parts differently grouped, these being nevertheless parts of reality; and that a man may be in error because he selects parts and groups them in ways which, by the criterion referred to in earlier contexts, are unsatisfactory.

[1] Cf. page 26.

That is to say, the answers to the three questions are:

(*b*) that what we select for attention and group in attention are parts or constituents (or some such phrase) of what we can only call reality (or perhaps, if we will, the 'ultimate and independent reality');

(*c*) that this reality (or ultimate and independent reality) is 'that from which we select and group' and is all that is, was or ever can be experienced or known, and more also;

(*a*) that we disagree and make mistakes because, although we know reality and know it directly, we know or may know different parts of it, or parts of it differently grouped.

This crude assertion contains flagrant contradictions and is not meant as anything more than an interim indication of an answer.

To attempt a more adequate answer, consider the conditions of our knowledge, as exemplified in the cases of the real and the illusory pyramids. My seeing or otherwise experiencing the little wooden pyramid is dependent on various conditions. These can be classified under three heads, namely as what we can call:

(i) 'epistemological conditions'
(ii) 'physiological conditions'
(iii) 'the nature of reality'.

(i) By 'epistemological conditions' are meant what have been designated earlier as attitudes, theories, ways of selecting and grouping in attention and the like. The experience I have is conditioned by them in the sense that if they were different then it would be different also. (The reasons or causes why a man holds any one attitude or theory rather than another are considered in Chapters 19, 20 and 21; here we are concerned only with the existence and influence of the attitudes or ways, etc.)

(ii) By 'physiological conditions' are meant the states of the sensory organs and of the central nervous system and of the body generally which condition my experience in the sense that if they were different it would be different also.[1] Within certain

[1] The epistemologist's fallacy in a simple form is often committed by attempting to explain perception partly or wholly in physiological terms, thus assuming that the physiologist has some special knowledge of these physio-

limits it is possible to alter these conditions drastically, but the limits are narrow. For instance, a man can alter his visual experiences drastically by making the change in his physiological conditions called shutting his eyes, and he can alter his emotional experiences, to some extent at least, by anaesthetizing the nerve-endings in his visceral region, but any such changes are within the limits set by his having a human body and sensory organs and not any other kind of body. On the whole, the conditions of this second kind are given to us, and only to a very limited extent can we alter them.

(iii) My seeing the little wooden pyramid is dependent not only on these epistemological and physiological conditions but also on what we can refer to only in some unsatisfactory metaphor such as 'the nature of reality'.[1] For example, the attitudes that I hold and the ways of selecting and grouping that I follow determine—among much else—whether I am to experience a relatively enduring particular object or a series of events, but if I hold or follow the attitudes or ways which determine that I shall experience an object, then the nature of reality determines that what I see is this particular little wooden pyramid and not anything else. The nature of reality is such that it offers me a range from which I can select and group in my attention in various ways, but it offers me just this range and no other. It is 'that from which we select and group in our attention'. The selection that a man makes is thus dependent on him (i.e on

logical conditions which is more direct and reliable than the knowledge he has, under these conditions themselves, of other material objects.

We have to recognize explicitly that the difference between the things or objects that we know and the sensory organs and brain which seems to be necessary if we are to know them is a difference *within* experience. I.e. when we are studying the dependence of perception on physiological conditions we are not investigating how experiences are dependent on conditions outside experience, but are observing the concomittance or otherwise of variations in one kind of what we experience with variations in other kinds.

[1] As the references in earlier chapters to the dependence of a man's experience on his attitudes or ways of selecting and grouping in attention and on his physiological conditions have been so much bulkier than the references to its dependence on 'the nature of reality', it might appear that the writer was maintaining that it depends on them exclusively; but this is only because it was not practicable to discuss this third kind of condition specifically at any earlier point. Cf. page 61.

conditions of the first and second kinds), but the range itself is given by the nature of reality.

This classification of epistemological conditions into these three kinds is, of course, only one among many possibilities. For instance, we could classify the second and the third as one, maintaining that the physiological conditions at any given moment are part of the conditions of the third kind; or we could distinguish as a fourth kind the emotions, interests and the like which predispose a man to hold one attitude rather than another, instead of counting these as merely some among the many reasons or causes on account of which the conditions of the first kind are what they are in any particular case. The classification given here makes no claim to be either precise or exhaustive. It seems to provide a better understanding of what is involved than does any other that is not unmanageably complicated; but it is nothing more.

This account of what is meant by 'that from which we select and group in our attention' and of the 'conditions' under which we have knowledge or experience, is of course the merest metaphor. (It cannot be anything else; any account of such matters which purports to be more than metaphor is only metaphor not yet recognized to be so.) Further, there is ground for the argument that no account of what is meant by reality and by the conditions under which we know or experience it is possible, as it would inevitably commit the epistemologist's fallacy and in the end be meaningless. That is to say, epistemology or theory of knowledge in the strict sense of these words is impossible. All we can do is to give an account (as described in Chapter 20 on explanation) of what we call knowing and what we call reality which is preferable to alternative accounts by the criterion referred to in its various forms in Chapter 21. The assessment is by results, and the criterion is perhaps more plainly pragmatic here than in any other field.

For this reason, and also because metaphors are always interpreted by a reader in terms of the general outlook in the field in question that he already holds, which may be very different from that in terms of which the writer intended them to be interpreted, these passages must be read in the light of this Part

as a whole. By themselves they are merely impressionistic verbal devices to suggest an outlook.

A general objection may be made at this point to the tenor of this Part as a whole. It may be objected that the customarily accepted theories of knowledge, or what is common to them, have been rejected with reiterated assertions of their inadequate or misleading character, but that the alternative asserted in their place is only one more theory of essentially the same kind. Admittedly this is the appearance that the alternative may well have, if the inevitably metaphorical account of it is so interpreted; and the pressure so to interpret it is very strong. The reason for this is, partly at least, the interdependence of our ways of thinking and of the structure of the language we employ,[1] for the only language we can employ has a structure appropriate to the statement of epistemological theories of the kind which have been rejected but radically inappropriate to the statement of the contemplated alternative. The statement of the alternative therefore inevitably takes a form which makes it not merely open to the interpretation of being merely another theory of the same kind, but highly likely to be so interpreted unless a definite effort to the contrary is made not only by the writer but by the reader.

More particularly, it may be objected that there is a flagrant contradiction in the preceding account of the three kinds of conditions, for on the one hand it has been repeatedly asserted that in the independent or ultimate reality, or in 'that from which we select', there is neither a wooden pyramid nor no wooden pyramid, and yet it has now been asserted that what we know is reality and that we know it directly, and that therefore the little wooden pyramid is real. It may also be objected that there is a flagrant contradiction in the references to 'parts', etc., of reality, since it has repeatedly been asserted that there are parts, etc., only in the situations which men experience, and that except in the situations experienced there are neither parts nor no parts. It may further be objected that there is a confusion here between *my experience* and *the things, objects, situations, etc. which I experience*, and that the conclusions maintained in this

[1] As discussed on, e.g., pages 128–32.

chapter, and indeed throughout Parts Two and Three, are merely the consequences of using the word 'experience' loosely, sometimes for *what I experience* and sometimes for *my experience of it*.

The answer is that there undoubtedly are these contradictions and confusions if certain epistemological theories are held and applied, namely those repudiated in Chapter 13 on Knower and Known; but that there is none if the alternative theory or complex of theories is held which is being indicated throughout this Part.

There is no contradiction because the words 'parts', etc., is being used in the one case literally and in the other metaphorically, and it is possible to use the words in this particular metaphorical way if the theories summarized in Chapter 13 are abandoned and replaced by the alternative indicated. There is no confusion, because the equating of *what I experience* with *my experience of it* is not a looseness of phrase but is an indication of the rejection of the epistemological theory in terms of which alone it is possible to distinguish and oppose these two, and of the substitution for it of the theory that what we call by these two names are one, as has been urged repeatedly in other contexts already, as for instance in the discussion of predication in Chapter 14 and of facts in Chapter 12. Of course, we distinguish *what I experience* and *my experience of it* for many purposes in daily life, but this is a distinction within *what I experience* in the sense in which this phrase is used in epistemological discussions such as the present.

We can, therefore, give a metaphorical answer to the two questions[1] by saying that what I select and group in my attention are certain parts or constituents or ingredients, or whatever else we call them, of the independent reality. What I refer to as 'the wooden pyramid' is those parts, etc., grouped in certain ways, which I select for attention, under the first two kinds of conditions mentioned above, from the range offered to me to select from by the nature of reality, which thus constitutes the third of these kinds of conditions.

A similar account is to be given of my seeing the illusory

[1] 'What is it that I am selecting and grouping in attention when I see the wooden pyramid?' and 'What is the independent or ultimate reality?'.

pyramid. This is dependent on conditions of the same three kinds. To the first two of these, the same general observations apply as in the case of seeing the real pyramid. About the third of them we can again say no more than that it is such that it offers me a range from which, and from which alone, I can select for my attention. If my epistemological and physiological conditions are such that at this particular moment they determine that I am to see something, the third kind of condition determines that it shall be just this little illusory pyramid and not anything else. What I call 'the illusory pyramid' is those parts, etc., grouped in certain ways, which I select for attention under the first two kinds of conditions from the range offered by the nature of reality which constitutes the third kind.

Return now to the consideration of the status and relation of primary and secondary qualities which was laid aside in Chapter 11. Consider first the crude traditional representationist theory exemplified in the case of the 'two tables'.[1] This unsubtle theory does without doubt provide, up to a point, an explanation of some of the relevant data, for instance why the colour of the table changes in the evening light while its length does not. In addition, however, it leads us into familiar and insoluble difficulties, and has to be abandoned.

Consider the length of the table. We cannot consider this by itself, but have to take into account the whole of the relevant epistemological state of affairs, i.e. one in which I am aware of a certain wide situation within which is a sub-situation on which my attention is concentrated, namely what I call 'the length of the table' or 'the quality of being four feet six inches long'. These are names for a part or constituent or ingredient of the situation I experience as the outcome of the conditions of the three kinds.[2] The first two of these being what they are in the particular case in question and thus determining that I am to experience a quality of some sort, the third determines that it shall be this particular quality of being four feet six inches long.

[1] For which see page 86. Very few philosophers to-day hold such a view, but many scientists, painters, poets and others do. It is instanced here to illustrate by contrast the relevant points.

[2] Cf. page 148.

Similarly, the brown colour of the table cannot be adequately considered by itself, and we have to take into account that what I am aware of is a wide situation within which is the sub-situation on which my attention is concentrated, namely what I call 'the walnut-brown colour of the table'. These words in their turn are a name for another ingredient or constituent of the situation I experience under the same three kinds of conditions. The first two of these being what they are and thus determining that I am to experience in these circumstances some quality, the third determines that it shall be this particular walnut-brown colour and not any other.

This throws some light on what constitutes the difference between what we distinguish as primary and secondary qualities. Certain sorts of qualities are observed to vary (within the limits of their own sort) concomitantly with such changes in the conditions of the second kind ('physiological conditions') as ordinarily occur in any one man from time to time, or to vary concomitantly with such variations in them as are ordinarily found between one man and another (the conditions of the first and third kinds remaining the same or sufficiently similar), and these are what we ordinarily classify as secondary qualities. Certain other sorts of qualities are independent of such changes in the conditions of the second kind as ordinarily take place in any one man, and of such variations between one man and another as are ordinarily found (the conditions of the first and third kinds remaining the same or sufficiently similar), and these are what we classify as primary qualities.

It may be granted that this may appear to be the ground of the distinction in the case of some secondary qualities such as warmth, which clearly do depend on physiological conditions, as exemplified in my finding a cup always the same shape though it may feel cold if I am feverish and warm if I am chilled. But how, it may be objected, can this be the ground of the distinction in the case of secondary qualities such as colour, for the colour of the cup on the one hand remains the same whether I am feverish or chilled and on the other hand varies when red light or green light shines on it even though my physiological condition remains unaltered? The answer is in two parts. In the first place the colour, though it is not affected by such changes

in the physiological conditions in any one man as ordinarily take place, does vary with the variations from man to man which are ordinarily found.[1] In the second place, the changes in the light shining on the cup are not changes in the physiological conditions but in the conditions of the third kind.

Both secondary and primary qualities will change if there occur sufficiently large changes in any one or more of the three kinds of conditions; indeed, if certain considerable changes occur in any of them no qualities at all (i.e. no things possessing qualities) will be experienced. No such changes ordinarily take place, and the distinction between primary and secondary qualities is therefore justified for any practical purposes, and limited theoretical ones, that it is found to serve.

Thus, in place of a theory that in reality there are primary qualities only and that secondary qualities are in some sense private and subjective, we have the theory that the secondary are in reality just as much as are the primary. Reality has them all. In reality there are not merely the length and breadth and other primary qualities of the traffic signal at the corner, but also the red and the green colours that I see in it, and the colours or shades that a colour-blind man sees, and that a passing dog sees, and that any other sentient being could see, and so on indefinitely. Ultimate reality is not bare and dull and meagre, but rich and complex and vivid beyond our imaginings. Each of us knows it directly, but he knows only the selection he makes under the first two kinds of conditions, and these selections are inevitably bare and dull and meagre compared with the richness of reality itself, which is all that it is experienced to be, ever has been and ever will be experienced to be, and more also.[2]

[1] If it is asked how we can know that two men see colours differently, the answer is that the techniques of detecting colour-blindness show this by showing that one man can detect differences between two patches of colour which for another man are not distinguishable.

[2] All these statements are no more than metaphorical linguistic contraptions to indicate an outlook. It can be justified in the end only by reference to the criterion discussed in Chapter 21.

Chapter 17

SENSATIONS, PERCEPTIONS, FEELINGS, EMOTIONS AND THINGS

THERE is some rough parallel between the first two of the three kinds of conditions,[1] namely between the dependence of what we experience on our sensory organs and its dependence on the attitudes or theories we hold. Thus the eye is not only an organ which reacts to radiations within a certain range of periodicity, but is also (and equally importantly) an organ which does not react to any outside that range. It is in this sense selective. Further, the eyes and the central nervous system together carry out functions which can be described as grouping.[2] Similar observations hold of the ear and the other end-organs of the special senses and of those of the organic senses on which depends so much of the feeling-tone which is the background of all our conscious life. The selectivity and specificity of the functioning of all these is extreme and remarkable. Thus when a man asserts that he is seeing such and such a thing or is hearing such and such a noise, he is in effect indicating which are the influences, from among the enormous variety of them which play upon the end-organs of his body, to which these organs and the corresponding levels of his central nervous system are at the moment reacting. And when he maintains that there 'really' is such a thing or sound, he is in effect maintaining that other human beings have sensory organs and nervous systems like his own.

[1] For which see page 148. [2] Amplified in Note 9, page 243.

On the whole, it appears that the sensory organs of human beings are fairly similar in the ranges to which they react and that their nervous systems are fairly similar in their integrative action. We therefore tend to believe that the objects, etc., that a man experiences are independent of him, much as we make the same mistake in the case of conditions of the first kind.

If by drugs or other means we could render our retinae reactive to frequencies to which at present they do not react, and not reactive to frequencies to which at present they do react, then we should have visual experiences which would differ from our normal ones even more than a broadcast poetry reading differs from the brass band concert we should hear if we slightly changed the range of frequencies to which our radio set reacts. We should not see the same things rather differently, but should see altogether different things. Equally disconcerting changes would follow any alteration in the integrative action of the nervous system.

If some such experiment were performed on the reader's eyes only, as he sits reading this book, leaving his other sense-organs and his nervous system unchanged, then he would no doubt continue to believe that his chair and his hands and the book existed, and would regard the new visual experience as a temporary abnormality, for he would still be able to feel these objects as before, to hear the noises they make as before, perhaps even to smell them as before. If, however, similar alterations could be induced in all his other sense-organs and continued for a long time, then his whole experience would become unimaginably different, and he would find himself experiencing entirely different things. These he would in time come to regard as the 'real things', unless prevented by being unable to co-operate with his fellows on that basis. If similar changes had taken place in other men also, then they would all regard the new experiences as experiences of 'what is really there'.[1]

[1] Something of this sort must have taken place over long evolutionary periods in the descent of our species. Presumably the particular ranges of responsiveness characteristic of the various sense-organs of the human body to-day are explicable by evolutionary conditions, since any mutations or other extreme individuals which developed markedly different ranges were presumably less capable of adapting themselves to their environment and

A man's having experience can therefore be described, in a gross metaphor risking the epistemologist's fallacy,[1] as his knowing reality (which constitutes the third of the three kinds of conditions) under the conditions of the first two kinds. Because his sensory organs and nervous system (the second kind) are what they are, they react to and thus select a very little of the environing reality, and group or integrate in various ways what they thus select. Because his attitudes or theories (the first kind) are what they are, he neglects most of what his sensory organs, etc., have selected and integrated, but he selects for attention a little of it and groups that little in various ways in his attention. This tiny residue is what we call his experience or what he experiences. It is a small selection of a small selection. It is the scraps or fragments of the independent reality that he knows directly.[2]

What is thus known, i.e. the tiny residue, can be classified as being of this or that particular kind; and it is the theme of this chapter that 'sensations', 'perceptions', 'feelings', 'emotions' and 'things' are names for the main kinds that we roughly distinguish in ordinary usage.[3]

died out. It does not, however, follow that the ranges of responsiveness which enabled our remote forebears to survive in that ancient environment, and which we have inherited to-day, are those which will be most effective for survival in the unimaginably changing environment in which our descendants are going to live. In them, altogether unexpected changes may take place, by mutation or otherwise, either as alterations in the ranges of responsiveness of existing organs or by the development of new complex ones out of simpler ones already existing, much as the eye developed out of heat spots and the ear out of touch spots. For instance, some parts of the human body may become sensitive to radar frequencies and thus enable men to detect the presence of reflecting bodies directly.

[1] For which see page 41.

[2] Cf. page 147 on accounting for error.

[3] A 'feeling' here means an affect, in the terminology of psychologists, such as pleasure, pain, fatigue, 'feeling energetic'. It does not mean here an opinion which a man holds without being able to give, or without giving, any reasons for it.

Similarly, 'emotion' here means an affect, such as love, fear, anxiety, delight. It does not mean impulses or the like, in the sense in which both psychologists and plain men may say that certain acts are caused by emotions of love or fear. In such cases the emotions, in the sense considered here, are the affects which the person in question feels or otherwise experiences as the conscious concomitants of the specified acts. Cf. page 213.

The common-sense classification is that feelings and emotions are *states* of the self, and that things are of an essentially different order of existence and are *objects for* the self, while percepts or perceptions are of more dubious status. Some philosophers do not find this classification congenial, but other philosophers do, and so presumably do all plain men.[1]

The theory which this presupposes, namely, that the nature of knowledge and of the self is such that there are on the one hand states of the self and on the other hand objects which it contemplates, is untenable for the reasons referred to in Chapter 13 on Knower and Known (page 101). In this chapter, therefore, we are not concerned to inquire whether this or that is a state of the self or an object for it, but have instead to find a different general theory of the nature and relations of what we call sensations, perceptions, feelings, emotions and things, which does not employ that distinction.

For this purpose, consider first the most primitive kind of experience that we can discriminate as such. This does not consist of particular simple sensations or sensa, which are a comparatively late development very complexly conditioned,[2] but is experience which is vague, unlocalized, and in all such ways indeterminate. Experiences of this sort can be and are regarded for purposes of rough and ready classification as forming one particular kind or sort. They are what men tend to call 'feelings' or 'general feeling-tone' or the like. In plain language, this is what feelings are. They are experiences of this particular sort.[3] This is why feelings are so generally taken to be states of the self rather than objects for it, because if we accept the theory that the distinction between these is tenable, then feelings are the former rather than the latter.

[1] This is an especially clear example of what was said in general terms on page 26 for, according as a man holds or rejects this view (which means holding or rejecting the general epistemological presupposition of which it is an application), so will he either find the theme of this chapter absurd or will regard it as merely a statement in more general terms of what is already agreed in more particular instances (or is at least intelligible).

[2] Cf. page 97.

[3] Cf. page 152 on a suspected confusion here.

Certain other of our experiences, though still comparatively primitive in the sense in which feelings are so, are more localized and are ascribed to, or felt in, specific parts of the body. Such localization seems to be a comparatively late development in our phylogenetic history. An infant does not at first distinguish clearly between what is its body and what is an adjacent object. In this, it is not thinking of bodies and adjacent objects as adults do, and then confusing some of them. It is not thinking at all in terms of spatial relations and of particular enduring things as an adult does, for it does not hold the attitudes, or follow the ways of selecting and grouping in attention, which eventuate in experiencing situations in which there are things in space. (In this, of course, the infant is not wrong and the adult right. Each follows his own way. We consider the adult way the better, as assessed by the criterion previously referred to.)

Such increasing precision of localization, though it is perhaps the most striking factor in the change from the one to the other, is not of course the only one, nor is it even possible without many others. For instance, it would not be possible unless at the same time the infant began to think in terms of, or have experience of, things as possessing qualities. These changes in attitudes or ways of selecting and grouping in attention are inextricably involved one with another, and the references here to 'increasing precision of localization' are intended to refer to the whole complex of such changes which are ordinarily found to have taken place together.

This change or development from the less localized to the more localized kind of experience is carried out and continued by what can be described as a sustained effort.[1] If for any reason this effort is not made, then the experience continues to be of the old comparatively unlocalized kind, as appears to occur in the case of congenital idiots. If it is made but for some reason not sustained, then this localization breaks down and experience reverts or regresses to the earlier unlocalized kind, as appears to occur in certain cases of injury to the brain by poisons or physical damage and in extreme cases of mental breakdown by shock or senility. Most of us can recollect at least one small

[1] Cf. page 35.

exemplification of this in emerging from anaesthesia after a surgical operation. At first there is a returning general awareness, but the patient is for the time being unaware whether certain of the constituents of the experience of the moment are conditions of his limbs, or objects which his limbs are touching. I do not mean that he is aware that there is a distinction between (*a*) sensations or feelings, and (*b*) surrounding physical objects, and that he cannot tell whether some particular entity is one or the other. I mean that in this condition that distinction has no significance for him. In this brief moment, so brief that only a patient with philosophical or psychological interests is likely to notice it as such, he has not yet recovered his normal power of making the distinction.

Experiences which are complexes of some of the more vivid of the more localized experiences and the almost entirely unlocalized ones called feelings or feeling-tone can be regarded for purposes of rough and ready classification as forming a particular sort or kind. These are what men tend to call 'emotions'. In plain language, this is what emotions are.

It is a commonplace that what we call emotions are to some extent localized and can to some extent be introspected as such. The matter has been studied with unscientific care by novelists and others, and by psychologists under conditions as nearly controlled as possible. The plain man too, looking back on some vivid emotional experience, can often detect components or constituents of it which he felt as localized in fairly narrowly delimited regions of his body. In the case of fear, it is remarkable how precise this localization may be, as for instance the dryness felt in the mouth, the heavy dullness felt to occupy a space some four inches by four inches by four in the abdominal cavity, and the lethargy which some men feel in the lower limbs on such occasions. We are better able to detect these localizations in retrospect or if at the time of having the emotional experience we are not active and the emotional experience itself is therefore in the focus of attention. When we are primarily concerned to act, or when we are under severe strain, or when the emotion is exceptionally vivid or violent, we do not experience it as so precisely localized, and may even experience it as hardly localized at all. In moments of extreme joy we are not aware

of any of these localized components as such, but only of an undifferentiated joy-experience. In moments of extreme fear the same certainly holds and panic is no doubt experienced in this way. In such cases we are unable to make the effort necessary to experience the various components as more or less localized, and our experience regresses or reverts to the more primitive, undifferentiated, unlocalized joy- or fear-experience or the like.

If we choose to think in terms of states and objects, then feelings and emotions in general are no doubt better described as states rather than as objects, but many a psychological novelist and many a plain man has been struck by the fact that in an emotional experience certain of the components into which he can analyse it do appear to be describable rather as objects which he knows than as conditions of himself.

Certain other of our experiences are much more precisely localized and categorized in other ways, and are ascribed to much more precisely delimited regions or parts of the body. These experiences can be regarded as forming one distinguishable kind, namely what we call sensations. In plain language, this is what sensations are.

If we think in terms of the dichotomy of states and objects, then it is genuinely doubtful whether sensations are the one or the other. The observable fact that there are innumerable discussions of this point, and that these are never concluded but are merely discontinued, is a consequence of the unquestioned acceptance of that dichotomy. That is to say, when we are considering what we call sensations we are examining that particular stage in the progressive localization and categorization of experience at which it is difficult to say whether the experience in question is a state of the self or an object for it. If what we call a sensation is very precisely localized and delimited, then a man tends to think of it as an object, but if it only vaguely localized and hardly delimited at all, then he tends to think of it as a state of himself. If I experimentally stimulate one particular end-organ of touch on the tip of my right forefinger, and meditate on the particular sensation thus produced, I find myself thinking of it as an object which I know rather than as a state

of myself. If on the other hand I experience a blinding flash of light or a sudden and enormous crash of noise, such that at the moment of experiencing it I am not aware of anything else, then I am able to localize or, as we say, identify it only in retrospect; and my experience at the moment of experiencing it can be not unfairly described rather as a state of myself than as an object. If a man could experience a simple colour-sensum, such that he was aware of nothing else at the time of experiencing it, he would no doubt experience it as a state of himself rather than as an object which he knows.[1] A man's experiencing what we call sensations (i.e. as being separate, comparatively enduring and localized) requires some effort. If he does not make this effort or does not sustain it in any particular instance, then in that instance he does not experience delimited sensations, but regresses to a more primitive kind of experience.

There is a fourth sort or kind of what we experience[2] which we discriminate in this rough and ready fashion, namely the sort that is as precisely localized and otherwise categorized as appears to be possible. Experiences of this sort are classified in our rough and ready fashion as one particular kind, which we call things. 'Things' (or 'objects', etc.) are names we agree in giving to this sort of experience, as 'feelings', 'emotions' and 'sensations' are names we agree in giving to other kinds. In plain language, this is what things are.

Even though we ordinarily employ the dichotomy of states of the self and objects which it knows, and regard things as indubitably the latter, yet it has often been remarked by poets and mystics, and by some psychologists, that if we concentrate our attention on any particular thing or object and succeed in doing so exclusively, then we have what can be described as the experience of *being* that object. This exclusive concentration is not a peak of achievement, as it is sometimes or always taken to be by mystics, but is rather a failure to be aware of the wider situation within which is the object in question. It is not a more highly developed kind of experience than is experiencing things,

[1] Cf. '... music heard so deeply/that it is not heard at all, but you yourself are the music/while the music lasts.' (T. S. Eliot, *Four Quartets*.)

[2] Cf. page 151 on 'what I experience' and 'my experience of it'.

but a relapse to a more primitive one, accompanied by a narrow intensity.

Experiencing things and objects as things and objects is the outcome of holding certain attitudes, and to hold and apply these requires a constant effort. An infant does not make this effort adequately by adult standards, and he does not experience a world of things like an adult, as far at least as child psychologists can discover. If an adult does not sustain this effort, as for example in cases of brain injury or mental breakdown, then there is a regression or reversion to the third, or to the second or even to the first of the preceding three kinds of more primitive experience.

The conclusion is thus that feelings, emotions, sensations and things, which in the common-sense view are four essentially different orders of existence or experience (or three if feelings and emotions are counted together as more closely akin), are instead four roughly discriminable sorts of one order, differing one from another in degree. In another metaphor, there is a traceable development in the ways in which we select and group in attention in this wide field, and these four words are names for four roughly discriminable stages in that development. If for any reason the effort expended in making the experiences in any given field such that they are of the kind characteristic of any one of these stages is not sustained, then we regress, as far as that field is concerned, to the next earlier and more primitive stage. If the effort is increased, then under certain conditions we find that our experience in the field in question has changed into one which is characteristic of the next more highly developed stage.

This suggests an unpleasing speculation about the future of this development. If it continues—and we have no prima facie grounds for doubting that it will—then much that we now experience as general feeling-states may come to be experienced in a partially more localized way as emotions; much that we experience now as emotions may come to be experienced as sensations (as already happens to some extent when familiar emotions are introspected with perseverance); and much that we now experience as sensations may come to be experienced

as things or objects. Men in the very remote future may therefore have experiences only of what we call things or objects and no experiences of what we call sensations, emotions and feelings. But the Ice Ages will have come again before any changes so extreme could take place in human beings.

To justify the theme of the chapter by a systematic argument would involve repeating at this point almost all the preceding chapters, and would have no more cogency than they themselves had. Instead of this, some of the more likely objections and the answers to them can be given, although these answers themselves are largely repetitions.

The first and most likely objection is that the theory is preposterous on the face of it, particularly as regards the nature of things or objects. It might be allowed that the theory may be worth considering as far as feelings, emotions and even sensations are concerned, but it will be objected that there is a radical difference between the feelings, emotions and sensations which I experience in any given environment and the things or objects in that environment. Even if I have been anaesthetized and am in so disorientated a condition that I cannot distinguish my sensations of touch from the bed I am touching, yet the two are essentially different in ontological status. Even though an infant, according to child-psychologists, is incapable of distinguishing in the adult way between the self and the not-self, yet the two are essentially different.

This objection would be sound and conclusive if the theory that there is an ultimate and absolute difference between the subjective and the objective were sound; and if the theory that there is an ultimate and absolute difference between states of the self and objects of its contemplation were sound; and if the theory that material things are particular entities existing as such in themselves were sound; and if various other relevant theories discussed in earlier chapters were sound. But if these theories are abandoned, then not only does the theme of this chapter cease to seem preposterous but can almost be seen to follow from that abandonment, or at least to be suggested by it.

This may be put in another way as follows. It may be ob-

jected that even if I, when partially bemused, cannot distinguish between feelings in my limbs and the vaguely-seen and vaguely-felt objects around me, and even if an infant, being only an infant, cannot always distinguish between its own body and some of the objects near it, yet the sensations we each experience are sensations while the bed and the pillows are material things, and the two are different in kind. Admittedly this is so, at least from our unbemused adult point of view; but how do we know it? Normal adults select and group in their attention in such ways, or hold such attitudes, that they experience sensations on the one hand and on the other hand material things distinct from these, while infants and adults in whom the effort which this requires has not been adequately exerted, follow such ways or hold such attitudes that they have a more primitive experience in which these differentiations do not occur. To assume that things and sensations 'really' are as normal adults experience them, and to deny that other persons have other experiences and yet may not be merely deluded, is provincialism of mind. That is to say, this objection relies for its apparent cogency on assuming the point at issue, namely that things exist as enduring, independent entities.

A second general objection, similar to the first but more definite, is that the conclusions reached in this chapter are merely the consequences of using the word 'experience' loosely, sometimes for *what I experience* and sometimes for *my experience of it*. The answer is as already indicated on page 151.

Some likely objections on less general points may be mentioned. It may be complained that this theory gives no indication of the answer to questions such as whether sentiments are organized complexes of emotions, and others ordinarily discussed in academic psychology. To this the reply is that it is not meant to. It is a very general theory about the large question of the nature and relation of the main kinds of what we experience, in terms of which theory, if it is accepted or recognized, subsidiary theories on these other points can be formulated. It is a statement of the basis on which is made the common rough-and-ready classification of feelings, emotions, sensations and things. This classification is not a very good one, and further investigations by psychologists will almost certainly result in its

total rejection (except for the affairs of daily life) and the adoption of some other as yet unimagined.

It may be objected that the proposed general theory amounts to treating feelings and emotions as mere epiphenomena upon physiological conditions, whereas psychologists in their work and plain men in their daily lives are repeatedly coming upon cases where physiological conditions are consequent upon emotional conditions, as for instance where a psychologist may remark that not only does hyperthyroidism produce apprehensiveness but that prolonged apprehensiveness may give rise to hyperthyroidism. It may also be objected that this theory takes no account of the spontaneous or impulsive or spirited elements in human character and behaviour, and thus again amounts to treating conscious experience merely as a belated accompaniment of physiological change.

Both these objections depend for their apparent cogency in the first place on the assumption of a dualism of the experiencing self and the body,[1] and in the second place on a confusion between two meanings of 'emotion' and 'feeling'. These words may refer on the one hand to experiences of which a man is conscious, i.e. 'affects', or emotions and feelings in the ordinary sense discussed here of 'what he feels'; on the other hand they may mean what can best be described as states of the structure and functioning of his personality, of which he may or may not be conscious though they are surmised to exist by psychoanalysts, and by plain men under simpler names, in order to explain the phenomena of his conscious experience and behaviour. If these two meanings are distinguished, then the above two objections are seen not to apply, for the account given here in epiphenomenal terms is an assertion not about those fundamental matters of personality structure and function, but about our feelings and emotions in the first and simpler sense, for these are in fact epiphenomenal in that the physiological conditions precede or at least do not follow after the conscious experiences. For instance, it is not the case that fear in this sense causes pallor; but in a fear-provoking situation many physiological changes occur, one of which is the enlarging of certain blood-vessels and the draining of blood away from the surface of the

[1] As already discussed on pages 136 ff.

face, thus causing pallor, while another is the stimulation of innumerable sensory end-organs, mainly in the visceral region, thus bringing about that complex of conscious experiences which men agree in calling the emotion of fear. Why such changes should occur in such situations is unknown, unless reference to the evolutionary history of animals and man is regarded as explanatory.

It may be objected that this theory implies that the higher emotions are merely visceral feelings and of no more moral value than a stomach-ache. To this the answer is the same as to the preceding one.

An allegedly common-sense objection might be made by the plain man who says that his sensations are simply given, and that they are the elements out of which his further experience is built up. The answer is that this objection depends on envisaging the epistemological situation the wrong way round, as discussed in the passages on sensa on page 97 et seq.

As a concluding objection it might be pointed out that no reference has been made to percepts or perception, and that the proposed theory cannot account for them, as there is no place in the scheme into which they fit.

On further inquiry, however, it emerges that the contemporary usage of these words is confirmatory evidence of the soundness of the theory. 'Perceive' and 'perception' are in common use only as meaning *see* or *know* or *detect* or the like, with some delicate additional shades of meaning mostly involving reference to the social setting in which they are employed, while 'percept' is not in common use at all. In philosophical discussion, on the other hand, the words have acquired technical meanings. This seems to have come about as follows. If we retain the inherited epistemological theory of an absolute distinction between subjective and objective, and between states of the self and objects which it knows, then feelings and emotions are indubitably states, and material things are indubitably objects. Sensations are debatable, and it is possible to make a case both for classifying them as the one and as the other. But there is a great deal in our sensory experience which cannot without the grossest distortion be treated as falling into either

the one or the other of these two divisions. Some name was therefore needed as a label for what will not fit in, and for this purpose philosophers took over and restricted the words 'perceive' and 'perception'. They were then led, in the ensuing conflict between the inherited assumptions and the accumulating data, to distinguish between the self's process of knowing and the unclassifiable entity which—on these assumptions—it knows, and for this invented the word 'percept'. The appearance of these words thus technically used is evidence of the incapacity of the theories in question to account for the data.

Chapter 18

MEANING

THE various traditional theories of the nature of meaning which appear in the literature of philosophy differ from one another in various respects, major and minor, but all of them save a few exceptions agree in presupposing a threefold distinction between:

(*a*) the words or other symbols themselves,
(*b*) the various particular objects, things, situations, entities, etc., which they denote, i.e. their denotation or extension,
(*c*) the 'dictionary meaning' of the words or other symbols, i.e. their connotation or intension.

This is accepted by most philosophers and logicians, and tacitly by all plain men, either in the crude form quoted or in some more subtle development. (That is to say, in this respect very few indeed of us have emancipated ourselves from the fundamental epistemological presuppositions we inherit.) We ordinarily accept this threefold distinction without inquiry, and even if we think we are escaping from the influence of all presuppositions, and attempt to make a fresh start by instancing some word and asking the apparently non-committal question:'What does it mean?' we show by the kind of answer we give that we have presupposed the distinction, for our natural response is either to give instances of what the word refers to or to quote its dictionary meaning.[1]

[1] Even so, this theory of a threefold distinction is always on the point of breaking down in any but the crudest and most matter-of-fact instances, as any man of literary skill or even of literary taste knows. If he is asked what

Questions of two kinds are thus created. In the first place there are those which concern the relations of (*a*), (*b*) and (*c*), e.g. the questions whether the relation of denotation and connotation is inverse, and whether proper names have any connotation. On such points there is much learning and some disagreement. In the second place there are questions of the nature of (*a*), (*b*) and (*c*). About (*a*) and (*b*) there is more or less general agreement, but about (*c*) there is an unbroken record of controversy from the earliest times to the present day.

In other words, if that threefold distinction is accepted, then some philosophers sooner or later will ask the two kinds of questions which it poses (i.e. they will try to account for the relevant data on the assumption that the theory or complex of theories embodied in that threefold distinction is sound). To the first kind of question those answers will be given which we in fact find in the technical or specialist literature of ancient, medieval and modern logic. To the second kind, those answers will be given which we find in the general literature of philosophy under the names of realism, nominalism, conceptualism, etc.

The objections to each of these answers are considered conclusive by those who advocate any of the alternative answers. The only practicable procedure is therefore not to seek for still more answers but to examine the presuppositions which provoked the questions.

The threefold distinction involves (or is a complex of, or is only another way of expressing) two epistemological theories, viz.:

(i) the theory that there are on the one hand terms (or words or phrases) which may have meaning but cannot be true or false, and on the other hand propositions (or statements or sentences) which alone can be true or false,

(ii) the theory that there are on the one hand particulars, and on the other hand universals.

the various words in a passage of poetry or of impressive prose mean, he is generally reduced to saying that a word has in itself no fixed and definite meaning and has a slightly different meaning in every different context. Logicians therefore often draw a distinction between scientific and emotive language, and say that logic deals only with the former. This crude distinction accounts for some of the data, but not for all. Cf. Appendix A.

Consider the first of these. The discussion in Chapters 14 and 16 amounts to saying that it is untenable, and that instead of thinking in the traditional way of statements or propositions which in themselves are true or false and of terms which have meanings, we have to take into account the whole of the epistemological state of affairs within which words or other such contrivances are effectively employed.

In this employment of words, we have now to recognize a distinction between two kinds of such employment, of which we did not take cognizance in Chapter 14. On the one hand a man may employ words, etc., with the intention of causing other men to hold certain attitudes or follow certain ways of selecting and grouping in attention, or with that effect whether he intended it or not. On the other hand, he may use them with the intention of causing men not necessarily to hold those attitudes or follow those ways, but to consider holding or following them, or to do so tentatively. Whether the one effect or the other is intended in any given case may be indicated by the speaker or writer in various ways, natural and conventional. Usually in speaking, and almost always in writing, he employs one or other of a recognized variety of word-patterns to indicate which he intends, but upon occasion he may employ isolated words or phrases in no particular pattern, indicating by the context, or by his tone and accompanying gestures, whether or not he is expressly asserting that such and such is the case. He depends on the particular kind of 'form in sense (*a*)'[1] that he employs, for indicating which of the two intentions he has.

It is in this that the difference consists which we refer to when distinguishing between 'having meaning' and 'being true or false'. To say this is not, of course, to maintain that terms cause one to consider the possibility that such and such is the case while propositions assert that it is the case. To say this is to maintain that the epistemological theory in terms of which, and of which alone, the distinction between what has meaning and what is true or false can be drawn, has to be abandoned and replaced by a different epistemological theory in terms of which a distinction (corresponding to some extent with that distinction) can be drawn between what causes one to contem-

[1] Cf. page 120.

plate a situation tentatively, and what causes one to envisage or experience it in a fairly definite way. That this is so is ordinarily obscured by our custom of omitting references to the persons concerned and paying attention only to the words or combinations of words which we then distinguish as having meaning or being true or false; i.e. by our custom of not taking into account the whole of the epistemological state of affairs in which a man uses 'forms in sense (*a*)' to produce certain effects on other men, and of considering only those 'forms in sense (*a*)' themselves and the 'forms in sense (*b*)' of the situations which these men experience in consequence of the effect on them of these 'forms in sense (*a*)'.

This could be put in another way as follows. It is generally held that there is an essential difference between terms, or words or phrases, which have meaning and cannot be true or false, and propositions or sentences which can be. That this is so is an epistemological theory or speculation, though it has been so long held that it is usually regarded as a mere recognition of a plain fact; and this theory is unsound and ought to be rejected, as has been argued in one way and another from Chapter 14 onwards. (What is rejected here is not, of course, one particular doctrine of a distinction between 'what has meaning' and 'what may be true or false', but the whole epistemological theory or complex of theories in terms of which alone that distinction can intelligibly be drawn.) Of course the distinction is most convenient to employ for many purposes and for these it ought to be retained,[1] but it has no proper place in epistemological theory. The very important distinction between what we *call* 'having meaning' and what we *call* 'being true or false' can be better described as a distinction between the two kinds of employment of the 'forms in sense (*a*)' referred to above.

If it is objected that all this is a general confusion of logic and psychology, and in particular a confusion of a proposition with belief in it, and that there is an essential and inescapable distinction between meaning and statement, then the answer is that this is not an objection to the account given here but is a restatement of the traditional doctrine of the nature of statement

[1] Cf. page 117 on 'a statement'.

which Chapter 14, and indeed the book as a whole, is intended to controvert.[1]

Consider now theory (ii), namely that there is an ultimate and absolute distinction between particular and universal. Save for some debatable exceptions all philosophers, and without exception all plain men, hold it, as the philosophers indicate by saying so and the plain men by treating the world around them as consisting of particular things. Even the most extreme nominalists, who maintain that there are no universals, accept the distinction, in the sense that they maintain that particulars are ultimate and are absolutely different from what universals would be if there were any.

To draw this distinction is a natural consequence of holding the ordinary, common-sense view or attitude that the world around us consists of particular things or objects. Any man holding this view or attitude (i.e. experiencing the world as consisting of particular things) will in course of time, if he is at all philosophically minded, find himself drawing a distinction between particular and universal when he ruminates on any group of similar objects and wonders why they are similar. This occurred in the early development of Greek philosophy, and it has repeated itself as the discovery of the problem of universals in the early stages of every student's reading of philosophy ever since.

As we all normally regard the world as consisting of particular things, and do not detect that it is a theory that the world is thus constituted, so do we fail to detect that the view that there is an ultimate and absolute distinction between particular and universal is a theory. Each of these theories is a different way of stating the other.

Much of the preceding discussion has run towards emphasizing the untenability of the common-sense view or theory that there are particular things existing as such in themselves, and towards showing that experiencing or knowing particular things as particulars is not elementary or primitive or basic or rudimentary or initial or simple, but is the complex outcome of complex processes or conditions, and would be different if these

[1] Cf. page 106 on 'knowledge and mere belief'.

were different, as they well might be. The distinction between universal and particular must cease to have its familiar importance and precision, for we have to take a radically different view of the whole epistemological situation.

The findings of genetic and abnormal psychology are, under some qualification, relevant here, as they are studies of cases in which, for one reason or another, the subject does not hold the normal adult attitudes or follow the normal adult ways of selecting and grouping in attention. (These studies are made by men who do, and are read by us who do, and this lays open such diverse interpretations that the findings seem to every man to be empirical confirmation of the general view he already holds. They are therefore illustrative rather than coercive.) In some cases these differences concern what we should ordinarily call 'the subject's knowledge of particular and universal'. Infants appear to discriminate at the earliest stages only what we adults should call 'sorts of things', and not until later do they discriminate individuals as individuals. This does not mean that the infant knows various distinct individuals and then cannot tell one from another (as does an adult who confuses one man with another), but that he does not know them as individuals at all. Unless we recognize that a small child's experience is in this way different from an adult's we shall not understand small children, nor the problem of universals either. (If it is objected that both the adult and the small child, and we in discussing them, are presupposing universals, then the answer is that this is so *if* the traditional theory is held but not otherwise.) Yet, though the experience that a small child has is different from that of an adult, the epistemological conditions of it, though of course different in detail, are in general the same. The situations which a small child experiences as the outcome of these conditions are, by our adult standards, markedly primitive and confused, but it is the epistemologist's fallacy to assume that the world is 'really' what adults agree it to be, namely one of particular objects, and that a child is simply making a mistake when it does not distinguish particulars in the same way. All that we can say on this is that there are particular objects in the situations which a normal adult experiences as the outcome of his attitudes or ways of selecting and grouping in attention, and

there seem not to be in the situations which a small child experiences as the outcome of his.

The criterion by which one of those attitudes or ways is preferred to the other is the same as that referred to in earlier discussions. If a man holds the attitude or follows the ways whose outcome is his experiencing a world of particular objects, then this is simple and manageable compared with the unmanageable confusions which would face him if he held the attitudes or followed the ways characteristic of an infant.

The selecting and grouping in this way which the normal adult carries out is an effort-consuming process which must be sustained if his experience is to continue as it is. If this effort is not made sufficiently, as in the infant or the idiot, the experience remains of the primitive kind mentioned. If it has been made but has not been sustained, as by injury or mental collapse, then the experience in this respect regresses to the more primitive infantile kind.

The distinction between particular and universal is convenient to employ for certain purposes, as for instance in distinguishing in grammar between words of particular meaning and universal meaning, but as an ultimate and absolute distinction in philosophical theory it is misleading and it ought to disappear, at least in its traditional form, from philosophical discussion of a serious character. If it is taken as ultimate and absolute in the traditional way, then problems are created which have no solution, as is shown by their treatment in the literature of philosophy from the Platonic Dialogues to the journals of the present day.[1] The various solutions which have been proposed are attempts to account for the relevant data on the assumption that there are particulars as such in themselves, and as this assumption is unjustified, these attempts inevitably fail. To make still further attempts is therefore futile, and the only way to deal with the difficulties is to abandon the general theory or complex of theories which created them.

The problem of universals is not solved by adopting this and kindred epistemological theories; but it is seen not to arise. It is a fabricated difficulty. The real difficulty is not to understand

[1] And it renders impossible of comprehension the theory of language and predication referred to in Chapter 14. Cf. page 119.

how we come to know universals, about which philosophers have puzzled for more than two thousand years, but to understand how we come to experience the world as containing particular things, about which few of them have puzzled at all.

The extreme difficulty we have in experiencing the world in any other way, and our incapacity to talk except in terms of particular and universal, even as now in repudiating the universality of that particular way, seem to be part of the price we pay for our share of the civilization of Greece.[1]

From these considerations we return to the original topic of 'meaning' with the conclusion that the triple distinction of word, denotation, and connotation is misleading, and that the apparently simple question: 'What is the meaning of such and such a word?' has no simple answer (except for rough-and-ready practical purposes). An adequate answer in any given case can be found only by taking explicitly into consideration the whole of the circumstances in which the word is used and the whole of the effects it produces on the attitudes or 'conditions of the first kind'[2] of anybody who hears or reads it.[3]

[1] Cf. page 128.
[2] For which see page 148.
[3] Discussed further in Appendix A.

Chapter 19

TRUTH

THE various different theories of truth and of the criterion of truth which bulk most largely in our philosophical literature, such as the correspondence and coherence theories, are not merely different. With some exceptions they all presuppose the same more general theory or complex of theories. This complex consists of, or can be stated as, the following two theories:

(i) that there are propositions (and that only propositions can be true or false),

(ii) that truth and falsity are in some sense qualities or properties of propositions (sometimes even called their 'truth value').

The discussions in this field are mostly about the adequacy of competing theories of the nature of truth which have been formulated on the assumption that these two theories are sound, and not about the soundness of these two theories themselves. (This is another exemplification of the fact that—on this interpretation—the change from the surmised endemic general epistemological presupposition to some more adequate alternative has advanced considerably less in respect to predication, language, truth, etc., than it has in respect to sensory perception.)

These two theories are untenable, the first for the reasons given in earlier discussions of the nature of language and of facts and of our knowledge of them, and the second because it

depends on the first. It is therefore futile to inquire into the nature of truth on the assumption that in so doing we are examining the difference between one statement or proposition which is true and another statement or proposition which is false. Instead, we have to take into account the whole of the epistemological situation in which what we call true and false statements are made, or in which there are true and false propositions, and when we do this we find that what has to be examined is:

the difference between the *attitudes* (or theories, views, etc.) which are caused to be held by what we call a true statement, and the *attitudes* (or theories, views, etc.) which are caused to be held by what we call a false statement;

or the difference between the *ways of selecting and grouping in attention* which are caused to be followed by what we call a true statement, and the *ways* which are caused to be followed by what we call a false statement;

or the difference between the *experience*, or *situation experienced*, which is the outcome of attitudes or ways which are caused to be held or followed by, or can be indicated or described by, what we call a true statement, and the *experience*, or *situation experienced*, which is the outcome of attitudes or ways which are caused to be held or followed by, or can be indicated or described by, what we call a false statement.

The nature of these differences and of the criterion by which we discriminate is discussed in Chapter 21. The purpose of the present chapter is to give an account of the epistemological situations in which these differences occur. Consider examples illustrating this. Take first a pair of true and false statements, both affirmative: *Mr. Baldwin was Prime Minister in 1936* and *Mr. Baldwin was Lord President of the Council in 1936*. In the first of these we have a series of linguistic contrivances which lead a man to adopt certain attitudes or follow certain ways of selecting and grouping in his attention, the outcome of which is his having an experience which we can describe as one of the state of affairs in British politics in 1936, with Mr. Baldwin occupying a certain position therein. In the second we have a somewhat different series which leads a man to adopt or follow somewhat

different attitudes or ways, the outcome of which is his having a somewhat different experience which we can describe as one of the state of affairs in British politics at that time with Mr. Baldwin occupying a somewhat different position.

It may be objected that this approach is altogether misguided, and that we know very well that Mr. Baldwin *was* Prime Minister and that he was not Lord President, and that we ought to leave all these sophistications aside and devote ourselves instead to finding out wherein a true statement of the facts differs from a false statement contrary to the facts. To this general objection the general answer is that it assumes the point which is in dispute. The same objection may be made in more particular form as follows. The objector will no doubt allow that it is intelligible to refer to the way of selecting and grouping in attention whose outcome is an experience of the political situation and of Mr. Baldwin as Prime Minister, because from the range open to us to select from (i.e. the 'third kind of condition' of page 148), we can select for attention 'Mr. Baldwin in the position of Prime Minister'; but he will object that it is unintelligible to refer to a way of selecting and grouping whose outcome is an experience of the political situation with Mr. Baldwin as Lord President in 1936 because in the range open to us there is no Mr. Baldwin in that position. To this form of the objection the answer has already been given in Chapters 12, 14 and 16.[1]

The difference between the true and the false statements, or more precisely between the epistemological situations in which these statements are made and have their effects, can be described in the three ways indicated on page 179, as follows.

We may say that what we have to compare are two theories, namely the theory that Mr. Baldwin was Prime Minister in 1936 and the theory that he was Lord President. These theories differ in certain minor respects, i.e. minor not in their interest and importance but minor in comparison with the respects in which they do not differ. The first theory accounts for all the relevant data, though there are of course vast quantities of other data for which it neither accounts nor fails to account, such as the fall in the Maori birth rate and the parallel roads of Glenroy. The second theory accounts for much of the relevant data, such

[1] Recapitulated in Note 10, page 244.

as the attention and respect with which Mr. Baldwin's pronouncements on Government policy were received, and in these and similar regards it does not differ from the first theory. It cannot, however, account for certain other data, such as that he lived in No. 10 Downing Street and was referred to as the Prime Minister, and in these *comparatively* small respects it does differ from the first theory. We do not ordinarily notice that the regards in which it differs are comparatively small, because it is precisely the regards in which the second theory fails and the first succeeds that interest us, whereas the vastly more numerous regards in which they do not differ are not noticed.

We may say that what we have to compare are two ways of selecting and grouping in attention, or two experienced situations which are the outcomes of holding these theories or following these ways, namely the two situations already mentioned. These differ in certain respects, which again are minor in comparison with the respects in which they do not differ. The 'wider situations' are similar, while the 'sub-situations' within them are different.[1]

Now consider the statement *Mr. Baldwin was Under-Secretary for the Colonies in 1936*, and then *Mr. Baldwin was in retirement in 1936*, and then *Mr. Baldwin was dead in 1936*, and compare them with the preceding true statement about him. They serve to illustrate progressively greater differences between a true statement and a false one. The data for which the latter can account are progressively fewer and fewer, and the situations experienced are progressively more and more muddled.

The summary or conclusion of this is that where we have linguistic contrivances which cause men to hold attitudes or theories which are adequate to account for the relevant data, or to follow ways of selecting and grouping in attention whose outcome is an experienced situation which is simple or manageable or otherwise satisfactory by the criterion previously referred to, then we have what we call 'a true statement'; and when we have linguistic contrivances which cause men to hold attitudes or theories which are more or less inadequate, or to follow ways whose outcome is an experienced situation which is more or

[1] Cf. page 95.

less muddled or unmanageable, then we have what we call 'a false statement'.[1]

Next consider in the same way a few examples of true and false statements, some of which are affirmative and some negative, e.g. the same true statement (*Mr. Baldwin was Prime Minister in 1936*); the false statement *Mr. Baldwin was not Prime Minister in 1936*; and the true statement *Mr. Baldwin was not Lord President in 1936*. The differences involved may be described in the same three ways, as follows.

We may say that what we have to compare are three theories, of which the first can account for all the relevant data, while the second cannot account for any and the third can account for all the data strictly relevant to it[2] but cannot account for certain other data for which the first can account. For most of the data for which the first theory can account and for which the second fails to account, the third neither accounts nor fails to account. The range of its relevance is very narrow.

We may say that what we have to compare are three ways of selecting and grouping in attention, or three situations experienced as the outcome of holding these theories or following these ways. We can in each case distinguish a wide situation and a sub-situation within it. In each case the wide situation has the same characteristics, i.e. it is one in which there are events in time and objects in space; in which events are causally related; in which persons endure through time; in which there is an organized state called Great Britain with its characteristic social and political structure. Within this is the sub-situation on which attention is specifically concentrated, namely Mr. Baldwin and the position he occupies therein. Ordinarily, when considering

[1] Cf. Note 11, page 247, on fiction.

[2] It may be objected that *Mr. Baldwin was not Lord President in 1936* does not account for any such data but is merely not incompatible with them. This can certainly be said of the theory considered by itself; but then it can be said of any theory considered by itself. Even the general theory of relativity does not by itself account for the observed phenomena. It is merely not incompatible with them, and in this respect differs from previous such theories. It accounts for them fully only in conjunction with innumerable other theories which are accepted by all concerned and are therefore not mentioned explicitly, such as the theorems of pure mathematics.

the three statements in question, we are explicitly aware of the sub-situation only, in consequence of which the three statements appear to be entirely different, but if we take into account the wider situation also, then we see that the three statements or series of linguistic devices cause men to experience situations which are in the main the same but differ in their sub-situations. The first causes him to experience a wide situation and a sub-situation which are simple or manageable or the like; the second causes him to experience the same wide situation but with a sub-situation within it which is confused or incomprehensible; and the third causes him to experience the same wide situation with a sub-situation within it which is in itself simple and manageable but is very meagre indeed.

The summary or conclusion is that the difference between these examples of affirmative and negative statements are the same in kind as, though far more extreme in degree than, those between the various affirmative statements exemplified earlier; and the same criterion is employed.

It may be objected that this account obscures or ignores the fundamental and absolute distinctions between an affirmative and a negative statement and between a true and a false statement. It may be argued that negative statements are merely negative, and that *Mr. Baldwin was not Lord President in 1936* tells us no more about the British political state of affairs (apart from the fact that Mr. Baldwin was not Lord President) than does the statement that whales are not fish or any other negative statement whatever. The answer is that this objection depends on the traditional view of the nature of statement, which was expressly rejected in Chapter 14 and elsewhere. It is therefore an objection to that general chapter and not to this one.[1] In

[1] The fact that this dispute depends on more general theories or attitudes not ordinarily recognized is well shown by the obviousness which each side of the dispute has for its own supporters. Those who make the objection think that it is unanswerable and that those who hold the view to which it is an objection would at once abandon that view if they would cease being woolly-minded and would distinguish between the content of a statement and the associations it happens to call to mind. Those who reject the objection think that those who make it are no doubt clear-headed, but are so short-sighted that it has never occurred to them that what they take to be

more particular terms, an answer may be made as follows. The statement *Mr. Baldwin was not Lord President in 1936* must certainly be held to convey no information about the British political state of affairs, if we accept any form of the traditional theory of statement, i.e. the theory that a proposition states a relation between a subject and a predicate, whether these be classes or entities or concepts or anything else; but if we accept the theory of statement outlined in Chapter 14 we see that the allegedly independent and self-complete subject and predicate cannot be understood unless the person thinking of them thinks also of the general British political situation.

That is to say, the division between meaning and associations is not as neat and precise as it is taken to be on the traditional theory. For practical purposes, of course, it has often to be treated as if it were. To say that Professor X is sober on at least three nights a week would presumably not be actionable as slanderous, but this is because it is necessary to distinguish sharply between what can be called content and associations if our legal system is to work. In epistemological theory, such as in the discussion of negation, there is not this sharp division. In other words, there are not negative propositions or forms of statement, differing in this essential and peculiar respect from affirmative propositions or forms of statement. On the contrary, so far from being fundamental, the device of negative statement is, I suspect, a comparatively recent introduction (i.e. recent in the long history of language though immeasurably more ancient than any records we possess) as will probably be shown if the pre-history of language is ever reconstructed by philologists.

To this it may be objected that even if negative linguistic forms[1] are late, and even if men could not enunciate denials until late (which has, I understand, some philological evidence in its favour), this has nothing to do with the fact that if an affirmative proposition is true, then it has a negative contradictory proposition which is false. In other words, it may be ob-

the essential nature of statement may be only an inadequate theory or speculation about its nature. Each group of thinkers has to restrain itself from thinking that the other group 'simply do not understand'.

[1] 'Forms in sense (*a*)', page 120.

jected that this chapter is a confusion of logic with grammar and even with phonetics. To this it may once again be answered that the objection assumes the very point at issue.[1]

It may likewise be objected that true statements are absolutely different from false, and that *Mr. Baldwin was Prime Minister in 1936* is true and that all the other statements quoted are false, and that the difference is not a matter of degree but is as described in the Law of Excluded Middle. To this the answer is the same as to the preceding, i.e. that the point here at issue is the doctrine of Chapter 14. In more particular terms the answer may be put as follows. That the difference between truth and falsity is as it is assumed to be in that Law is an epistemological theory or speculation, even though it is commonly regarded as an ultimate principle and is taught as such. It presupposes, and is indeed only an application or extension of, the theory that only statements or propositions can be true or false. To hold and apply this theory or speculation is convenient and indeed unavoidable for many practical purposes. It would be a foolish pedantry to say in ordinary discussion that the theory that Mr. Baldwin was Prime Minister can be more fully verified than the theory that he was not; and a man accused of perjury cannot exculpate himself by saying that he was only producing a theory that happened to be less adequate to account for the facts of the case than the theory given by the other witnesses. For most purposes we distinguish sharply between true statements and false; and statements which appear at first to be both or neither can usually be recast in clearer forms which are either the one or the other. In most cases it is convenient to forget that statements are indications of the tenure of hypotheses, because in most cases the difference between the adequacy of one theory and of another is extreme and patent. For most purposes, the facts are the facts, statements about them are true or false, and the Law of Excluded Middle may be said to hold.

This is so, however, only because in such cases all persons concerned hold the same relevant general attitudes or theories. If they were in doubt or disagreement about these, then it would not be possible to make statements concerning the field in question which could conveniently be regarded as either true

[1]This is further discussed in Chapters 20 and 21.

or false, and we should find ourselves dealing with contradictory statements of which we could not say that one is true and the other false, and no amount of restating the terms would ever make them such that we could.[1]

It may be objected that the preceding fails to account for the impressive fact that in many cases we do not merely accept some specified statement as true, but are *compelled* to do so. This compulsion is found where the statement is about comparatively limited or particular matters (i.e. where the acceptance of it as true involves changes in attitudes or theories of low generality only), and where all parties concerned hold the same or sufficiently similar attitudes or theories of high generality. Where both these conditions are fulfilled, we feel the compulsion because the alternative of rejecting the statement would render our experience so chaotic that we do not venture upon it. Where either or both of these conditions are not fulfilled, we do not feel the compulsion, or some of us do and some do not. For instance, if the statement is that this is a divinely conditioned universe and that there is a higher purpose working through and controlling human history, some people feel a compulsion to accept it as true, some feel a compulsion to accept its contradictory as true, and others feel no compulsion either way.

The existence of such common compulsions is not evidence in favour of the theories that there are ultimate facts and that

[1] Criticisms of the Law of Excluded Middle have been made by some logicians who would not agree with the theory of statement given here and would in the main accept the traditional view. Their criticisms have been rejected by other logicians, on the ground that they involve confusions and disappear when these confusions have been removed. It appears to me that the rejection of these criticisms is sound *as made by these particular objectors against these particular critics*; i.e. these criticisms cannot justifiably be made on the ground which is common to the critics and to those who reject their criticisms, namely, the two theories referred to in the text as presupposed by the Law. If these two theories are held, then there is no escaping the conclusion that the Law must be accepted, however inconvenient its consequences may be. In other words, one cannot abandon the Law of Excluded Middle and still retain logic. This is discussed in the passages on logic in the following chapter.

there are propositions which are true in themselves, but is only an indication that in the cases in question we and all others concerned are in agreement about the relevant highly general attitudes or theories involved, or are as yet unaware that we are not so.

Chapter 20

INFERENCE AND EXPLANATION

THEORIES of inference, however diverse in other respects, mostly agree in one point, namely that in any inference certain propositions or statements stand in certain relations, such as the relation in which, if one specified proposition (or more than one) is true, then some other proposition is true also and another false, and so on in various permutations and combinations. That inference is as thus described is a theory or speculation, and this theory presupposes the theory that there are self-complete units of statement called propositions which can be expressed in sentences or other symbols, which has been rejected, and it must therefore be itself rejected also.

To formulate an alternative theory, consider a familiar textbook example of immediate inference:

All Spaniards are Europeans
∴ Some Europeans are Spaniards

There is nothing, strictly speaking, corresponding to what is traditionally spoken of as 'the premise'. We can of course use 'premise' as a name for the series of linguistic devices employed, though this is no more than a convenience for brevity. What we thus call the premise is a series of linguistic contrivances which leads anybody who understands English to direct his attention to a certain wide situation (i.e to have an experience of a certain wide situation under the three kinds of conditions referred to on

page 148), with special interest in and concentration upon a limited sub-situation within it. In this case the wide situation is, briefly, Europe, and the sub-situation is the Spaniards and others living there. When a man's attention has thus been drawn to the situation and sub-situation by one series of linguistic contrivances, he then *observes* that the sub-situation is such that attention could have been drawn to it by a different series of linguistic contrivances, namely those we call 'the conclusion'.

If now we ask the simple question: 'What is the relation between premise and conclusion?' we find that no simple answer can be given. We have to take into account the whole epistemological state of affairs in which what we call the inference holds or takes place. In this case we have a state of affairs in which there is some man who hears or reads the linguistic contrivances forming the first line, or premise, and who thus has his attention drawn to some situation and sub-situation. That is to say, the premise is one description of the sub-situation.[1] The same situation and sub-situation can be described in another way also, by formulating the linguistic contrivances which constitute the second line or conclusion. The premise is one description of the situation and sub-situation and the conclusion is another. The connexion between them lies in the situation itself.[2]

It would be inconvenient and would make our discussions extremely long-winded if in every case of mentioning an inference we were to refer specifically to the person who employs the various linguistic or other such contrivances in question and to the other persons who are affected by them. We therefore omit such explicit references wherever we can safely do so, viz. in cases where the persons concerned hold sufficiently similar general attitudes, and we refer to 'an inference' in the same way as we refer to 'a statement'; but this is no more than a practical convenience.

To this account it may be objected in the first place that it

[1] Cf. page 125.

[2] Cf. page 105 on *Forms of thought*. A similar account of mediate and other more complex forms of inference can be given, for which see Note 12, page 251.

ignores the essential point that the conclusion of an inference is reached by some process independent of the situation about which it is the conclusion; in the second place that it fails to explain or even to mention purely formal inferences; and in the third place that it similarly fails even to mention validity and invalidity.

To deal with these objections, consider the form of the inference involved. It is traditionally taught that the form and the matter of an inference can be distinguished and that the form can be studied by itself, in much the same way as can the form of a proposition. But here again, as in the case of statement, there is involved not one distinction of form and matter but two,[1] and these three typical objections are consequences of failing to recognize this. Thus one consequence of confusing the two is a belief in 'forms of inference' or 'forms of thought', and this leads to the first of these objections. If this belief is held, then the conclusion of an inference will certainly appear to be independent of the situation about which it is the conclusion. So strongly indeed have some philosophers been impressed by this appearance that they have maintained that it is precisely in this that the puzzle of inference consists, namely how it is that a conclusion reached in this way should accord with the facts. Some solution to the puzzle thus created has generally been found by asserting that the universe is rational. This has a meaning if the general epistemological views endemic in our culture are retained, but if the alternative to them outlined here is accepted, then to say that the universe is rational is no more than to say that it is what it is.[2] This amounts to saying in another way

[1] Cf. page 120. I.e. it is not justifiable to speak of the form of an inference, but it is justifiable to speak of:

(*a*) The form of the linguistic or other devices which direct attention (the 'form in sense (*a*)' of the premise or of the conclusion);

(*b*) the form of the situation (and sub-situation) to which attention is directed (the 'form in sense (*b*)' of the situation about which the inference is made).

[2] This may have been what Hegel meant by his dictum that the real is the rational. Perhaps he was denying the distinction between the real and the rational, rather than asserting it and further asserting that the real accommodates itself to the rational.

Whatever the answer to this question of the interpretation of the Hegelian dialectic, the account of the dialectical process given by Hegel is most

what was said in Chapter 13 on *the a priori and the a posteriori* (page 105), namely that the distinction ordinarily drawn between these depends on an epistemological theory which is untenable.

The second and third objections also depend on failing to distinguish between 'form in sense (*a*)' and 'form in sense (*b*)', for only by this failure is the appearance created of pure forms of inference, or of inferential relations in which propositions may stand to one another, and thus of purely formal validities and invalidities.

Nevertheless, although the objections may be disposed of by retorting that they depend on a theory which is untenable, what is generally called formal validity and invalidity does observably exist, and must be accounted for. Why is it that arguments such as:

All S are P
∴ Some P are S p.p. ⊸ q. ⊸.q

are valid, while the arguments

All S are P
∴ All P are S q.p ⊸ q. ⊸ .p

are invalid, whatever the symbols may stand for?

To answer this, consider how the attitudes of higher generality which are commonly held in any culture determine (in con-

illuminating if taken as a factual description of the way in which our understanding of any problem or topic commonly (though not in all cases) advances. Both in the development of any theory or view as held by one man, and in the development of any theory or complex of theories as held in a society over long lapses of time, it is observable that in many cases there is not a linear advance but a succession of far from linear stages which is more or less accurately describable as a dialectical movement of thesis, antithesis and synthesis.

That is to say, a given theory is held and applied until it is found inadequate. Then an alternative is excogitated. In many cases, no doubt, this may be only an amendment of the first theory, but in many others it is some opposite extreme. In its turn, too, this theory usually accounts for some of the data and fails to account for some others. We thus find ourselves with two opposed theories, each of which accounts for some of the data but not for all, and such a pair can not unfairly be called a thesis and an antithesis. The next stage can likewise be called a synthesis, when it consists in excogitating some third theory which accounts for all the data and is such that each of the first two theories can be seen to be a particular and limited instance or application of it.

junction with other conditions) both the kinds of situation experienced and the structure of the language used. For instance, the fact that we in our culture ordinarily have experience of the world around us as consisting of things possessing qualities and the fact that the languages we inherit have nouns and adjectives, are both determined by the same highly general attitude or complex of attitudes (or alternatively, this same attitude or complex can be regarded as an explanation of the fact that we have such experiences and employ such languages). In other words, there is in any community a certain very highly general correspondence between the 'forms in sense (*a*)' of the linguistic devices used and the 'forms in sense (*b*)' of the situations experienced.

This permits of certain more particular correspondences in certain cases, and it is this that renders possible what we call formal validity and invalidity. When a man makes the statement which we call the premise of an immediate inference, this has its own 'form in sense (*a*)', and the situation of which it is a description has its own 'form in sense (*b*)'. This situation has also innumerable other 'forms in sense (*b*)', which can be described by innumerable other statements each having its own 'form in sense (*a*)'. Of that innumerable variety there is or may be one, or possibly a few, whose 'forms in sense (*a*)' are related in some very simple way to the 'form in sense (*a*)' of the premise. This one statement, or these few, are what we call the conclusion or conclusions that can be validly drawn from that premise.

That is to say, in order that the second statement should stand related to the first as the conclusion to the premise of a formally valid inference, certain conditions must be fulfilled. In the first place the structure of the language used must have the above-mentioned highly general correspondence with the situations which are to be described by it. This is ordinarily fulfilled in all discussion, for we should not be able to discuss at all if it were not. In the second place the more particular condition must be fulfilled that certain comparatively simple alterations in the 'form in sense (*a*)' of the premise (such as interchanging what we call its subject and its predicate; replacing *all* by *some*; inserting or deleting *not*) leave it still a description of some 'form in sense (*b*)' which is in fact one of the forms of the situation and sub-

situation in question. This second requirement is comparatively rarely fulfilled, but where it is we have what we call a formally valid inference. The various kinds of formal validity given in textbooks of logic are those instances of the preceding which can be found in cultures such as our own in which the languages employed have verb-noun-adjective structures and in which men experience relatively enduring things which possess qualities and act upon one another. In cultures differing in these respects from our own, there would no doubt be formal validities and invalidities, but they would not be those that we are familiar with.[1]

This leads to a comment on the nature of logic. The belief that logic is independent of any theories or presuppositions outside itself is a delusion. The subject would not exist unless the theory were accepted that there are propositions and inferences and that these have forms of their own which can be studied as such. In other words, logicians do not, as logicians, deal with fundamental questions; they only work out the consequences, in one direction or another, of an epistemological theory or complex of theories which they ordinarily take for granted without recognizing that it is a theory. If in any society it is taken for granted, then some philosophers sooner or later will work out various applications and developments of it, and in so doing will in course of time produce the various principal bodies of doctrine which we find in the literature of Western Europe and America under the name of logic, including both the venerable formal logic of Aristotelian and subsequent tradition and the various symbolic or mathematical logics and the doctrines of logical syntax, truth-tables and the like which have been developed since the middle of the nineteenth century. These various logics, whatever their appearance on the printed page, are the attempts which have been made by competent men, and would be made by any similarly competent men in similar circumstances, to account for the relevant data (i.e. those constituted by our making statements and arguing and inferring) on the assumption that there are propositions and

[1] Similar observations apply in mediate inference, on which see Note 12, page 251.

inferences and that these have forms which can be studied as such.

It will be objected by most logicians that this is a misrepresentation of the nature of their subject, since logic is not a theory or complex of theories about anything, nor an attempt to account for anything, but is a statement of certain formal structures which simply are. The answer is that the making of this objection indicates that the objectors hold the kind of view of the nature of logic which the practitioners of any inquiry are observed to hold of it in the earlier and unsophisticated period before its hypothetical nature is recognized.[1]

Logic, ancient, medieval and modern, is a body of doctrine or complex of theories based on a presupposition which is a misunderstanding, and is therefore itself a vast and elaborate misunderstanding, in the same way as the detailed working out of the consequences and applications of the phlogiston theory produced a chemistry which was a vast and elaborate misunderstanding. The study of logic is the exploration of a blind alley; and the more able and single-minded the logician, the further up the blind alley does he go. This venerable subject is an historically important misconception. In plain language, there is no such subject.

The past of the study of logic is known, and the future of it can be forecast, for it will be like that of any other such body of theory in similar circumstances. We can forecast that the complex of theories and applications of theories called logic will in time cease to be held, either explicitly as doctrines or implicitly as attitudes, and will disappear into the histories of philosophy; but only in some comparatively remote future. There will be an intervening period during which logic, though abandoned by originating minds, will be retained in the curricula of many universities and seminaries, and it will no doubt long continue to flourish, like the duck-billed platypus and the ginkgo tree, as a survival from an earlier age.[2]

[1] As referred to on page 49.

[2] I do not mean that the *study* of logic ought to be or will be ignored. On the contrary, it ought to have its place not only in the specialist histories of philosophy but also in the general histories of our civilization, because medieval thought and action, and the very large proportion of modern

In place of logic, other inquiries will be pursued, some of which already exist while others will have to be created.

(i) The study of 'forms in sense (*a*)' already exists as grammar and as certain sub-divisions of philology and semantics where language is concerned, and presumably (though as yet in a more primitive form) under the general heading of semantics[1] where other such contrivances are concerned.

(ii) The study of 'forms in sense (*b*)' already exists under the names of the various recognized subjects and sciences, e.g. geology, genetics, history.

(iii) The study of attitudes of mind or ways of selecting and grouping in attention is already pursued under the name of psychology, and much evidence is available under the name of logic.

(iv) The study of the relations of 'forms in sense (*a*)' and 'forms in sense (*b*)' (i.e. the inquiry into how it is that certain words or other 'forms in sense (*a*)' do in fact cause men to hold certain attitudes or follow certain ways of selecting and grouping, and thus to experience situations having certain 'forms in sense (*b*)') is still at a very primitive stage. Pioneer work in this field has been done by philologists, and by others from a physiological approach, but it has not yet passed beyond the stage of interesting and suggestive speculation. There is at present no generally accepted name for this kind of inquiry. It might be called 'pagetics', in recognition of Sir Richard Paget's efforts to found it.

thought and action which is influenced by medieval thought, are incomprehensible to any man who does not know at least the elements of the traditional formal logic.

How far the study of logic leads to clearer thinking is unknown, and will remain so until some controlled experiments are carried out. Our educational policies in this regard are at present based on guesses. It is certainly useful for a student to know that arguments from circumstantial evidence are invalid by the fallacy of undistributed middle, and that disproof of a theory by a single contradictory instance is valid by denial of the consequent while verifications of it, however numerous, are invalid by affirmation of the consequent. The disadvantageous results of the study of formal logic occur only if the student is led thereby into believing that there are items of statement which are true or false, etc., with all the consequences of that belief.

[1] Or semiotic, semasiology, significs, sematology, or some such name.

(v) The study of the whole of the epistemological situation in any case in which linguistic or other such contrivances or natural objects have the above effects (i.e. the examination of the various kinds of effects produced and of the conditions under which they are produced) has likewise no special name, though much that is relevant to it has been carried out in an uncoordinated and often desultory manner under the name of 'criticism' for more than two thousand years. As there is as yet no co-ordinated and recognized study on these lines, I have attempted to give, in Appendix A, a sketch of what I conceive this to be.

Since much of the work that has already been done in the field of logic is of use and value in one or more of these investigations, the preceding passages are not a forecast that a whole mass of learning will be abandoned *in toto* and that there is no more to be said, but an assertion that the presupposition on which that mass of learning depends will be abandoned and replaced by an alternative; and that this will have the consequence that much of that learning will be seen to be worthless, though some of it will be seen to be relevant in working out the developments and applications of the fresh alternative.

More or less parallel, though not entirely similar, observations fall to be made on inductive logic. This name is used for many topics, but these reduce in essentials to two, viz.:

(i) the theory of coming to universal conclusions (or conclusions involving these) from a small number of instances.

(ii) the examination of the methods by which this is done.

It is an observable fact that we do come to universal conclusions from small numbers of instances, and inductive logic in the first sense is a name for the attempts philosophers have made to account for this.[1] These attempts are widely diversified but they all presuppose that the world around us consists of particular things and that particular events take place in it. That the world is so constituted, is, however, a theory. If in any society this theory is accepted, then some thoughtful men sooner or

[1] An objection, and a reply to it, parallel to those on page 194 can be made here.

later will be disquieted by our accepting without question so many general or universal conclusions on the evidence of particular instances, and often of extremely small numbers of them. If in that society deductive logic has already been developed, they will express their disquiet in the terminology of formal logic, which is in fact the way in which the discussion of the question began in our own society. In doing so, they will in course of time produce the various kinds of inductive logical theory that we find in our literature. These theories and their merits or demerits are not within our scope here, for we are concerned with the theory or presupposition on which they rest and not with the consequences (including these theories) which flow from it. This theory or presupposition is untenable;[1] i.e. experiencing the world as containing particular things is one way of experiencing it, but not the only one, and theories based on the assumption that it is the only one are therefore misleading.

Inductive logic, in this first sense of 'theory of induction', is, like deductive logic, the working out of the consequences of an assumption which is untenable (i.e. it is an attempt to account for the phenomena of our reaching universal conclusions from particular evidence, on the presupposition that there are particulars and universals), and is therefore, like it, the exploration of a blind alley. The problem of how a man is justified in coming to a universal conclusion from knowledge of particulars only, which is bound to arise if that assumption is made, is not solved by any of the extraordinarily ingenious theories which have been devised by philosophers of the past and present, and never can be solved by any theory, as it is a fabricated problem.

Nevertheless, although this root-and-branch dismissal may be justified in an inquiry conducted on the present rarefied level, it certainly will not satisfy a common-sense inquirer, for he will say that as a matter of fact we all do experience a world of particular things and particular events, and he will want to know why he is justified in saying that dogs give you a kind of personal response when you talk to them but sheep don't, even though he has talked to comparatively few dogs and fewer sheep, and why a chemist is justified in talking about the properties of all copper, even though he has experimented on very

[1] For reasons given in Chapters 10, 12, 16, 17 and 18.

few pieces of it. The answer to this is that the problem as thus posed has been mis-stated. What we call generalizing is a much more complex proceeding than concluding that all A are B from knowing that some of them are. If this is what generalization were, then it would indeed be impossible, as has in fact been maintained by some deductive logicians; but what looks like our so concluding is different in character.

Some light on this is thrown by inductive logic in the second sense, i.e. by the study of the various methods that men employ in what is commonly called generalizing from limited evidence. In most of the published works on inductive method in this more or less practical or technical sense of providing rules to be followed, the descriptions of methods tend to turn in the end into descriptions of methods or techniques whereby we can pick out from complex situations those pairs or groups of events and conditions that are causally related, even though the writers began by believing that the problem is how, if at all, it is justifiable to draw a universal conclusion from particular evidence. The problem of the nature of generalization is not a special problem, but is the general problem of the nature of any explanatory theory. (The discussion of it in this book is therefore this Part as a whole.)

Hypothetical, disjunctive, modal and other such kinds of statement can be considered in the same way as categorical statements. That is to say, there are not hypothetical, disjunctive, modal and other such propositions or forms of statement, any more than there are affirmative or negative ones; but in the epistemological situations in which these hypothetical and other statements are made and understood, there are certain 'forms in sense (*a*)' which are of the kinds we call hypothetical or disjunctive or modal, and there are the attitudes or ways of selecting and grouping in attention which these 'forms in sense (*a*)' cause other men to hold or follow, and there are the 'forms in sense (*b*)' of the situations which these men experience as the outcome of holding these attitudes or following these ways.

It may be complained that to say this is to give no account whatever of hypothetical and other such kinds of statement, and that this alleged theory tells us nothing about what consti-

tutes hypothetical and other such statements and about what differentiates each of them from categorical statement and from each other. The answer is that no alternative theory could do any more, except in appearance and then only by some circularity in the formulation. This is ordinarily concealed, in discussions of the matter in the traditional logic and its modern derivatives, by the assumption that categorical statement is more simple or elemental than the others, and that these can be defined in terms of it. This assumption is of course justified, so long as the traditional theory of the nature of statement is held, for the 'forms in sense (*a*)' are undoubtedly simpler in categorical statements than in the others, and this is taken as indicating that categorical statement is the simple or elemental kind of which the others are compounds or developments.[1] On the alternative theory indicated in Chapter 14, the assumption is not justified, and the one kind of statement is no more and no less elemental than the others. We cannot define hypothetical, disjunctive or modal statement any more than we can define categorical statement, or affirmation or negation.

We can, of course, find out more about them and about their relations, and we can inquire how it is that those 'forms in sense (*a*)' which we distinguish as hypothetical, disjunctive, etc., do in fact cause certain attitudes to be held and certain situations to be experienced. All these, however, are matters for one or other of the special inquiries referred to above as likely to replace logic in the future,[2] and are not within the scope of the present inquiry, which is concerned only with the epistemological conditions of them, i.e. with indicating at this point how the theory of the nature of statement given in Chapter 14 could account for hypothetical and other such kinds of statement as well as for the apparently simpler categorical kind.

Now consider explanation. There is no such entity as 'an explanation', any more than there is 'a statement' or 'an inference'; if we are to understand explanation, we must take into

[1] This is not necessarily so in languages with a structure different from that of our own and its kin; to say which amounts to rejecting by another approach the traditional theory of the nature of statement. Cf. pages 129 and 191.

[2] Cf. page 195, (iv).

account the whole of the epistemological situation in which there occurs what we call 'explaining something'.

In this there is in the first place a man or other sentient and intelligent being. This man is not in a state of blank ignorance but is already having some experience under the 'three kinds of conditions' referred to on page 148. He will be aware of something unsatisfying which can be described as an inadequacy in the theories he holds, or as something wrong with the ways of selecting and grouping in attention that he follows, or as some incoherence or confusion or unmanageability in the situation he experiences. He makes some change in the first of these three kinds of conditions, i.e. he adopts somewhat different theories or ways of selecting and grouping, with the result that the situation he experiences is simpler, or more coherent or more manageable, or otherwise preferable by the criterion already referred to. The series of linguistic or other such contrivances which he uses to make other men adopt or consider his new theories or ways, or to make himself more precisely and explicitly aware of them and of what they involve, is what we call the statement of the explanation.

The statement of an explanation is in this respect like any other statement. The difference between it and a statement which is not an explanation is a difference in the kinds of effects they respectively have on the attitudes, etc., of those who read or hear them. The statement of an explanation causes an attitude to be held which is not merely different from those previously held but is markedly more adequate over a distinguishable field (otherwise we should not call it an explanation), whereas the statement which is not an explanation causes a different attitude to be held which is merely different, or at least is not noticeably more adequate. The difference between simple statement and explanation is one of degree.

We often say that a certain fact, or such and such a situation, 'constitutes a problem' or 'poses a question demanding an answer', or the like. This is a convenient colloquial usage, but it is misleading if taken as anything more. No facts and no situations constitute in themselves a problem or pose a question. The problem or the question arises only when these facts or situations

have to be reconciled with some theory or attitude already held.

The fact that one section of a typewriter ribbon wears out before the remainder does not in itself constitute any problem; it does so only if we assume that the ribbon was uniformly inked by the manufacturer. The philosophical problems over which we have for so long puzzled ourselves are not constituted by what we can call simply the data of experience, but by our attempting to reconcile these data with more general philosophical hypotheses which we already hold and are unwilling to give up for any light cause. For instance, life as we experience it does not present to us any 'problem of evil'. Much evil observably exists, but this constitutes a problem only if we try to reconcile it with the belief or theory that an all-powerful, all-wise Creator, with moral standards similar to our own, made the universe as it was and sustains it as it now is. Most of what are generally considered the major philosophical problems are equally overtly of our own making, and we have to hold ourselves and not the universe responsible for them. Of course, it is only by thus creating problems and attempting to solve them that increased understanding can ever come; and to give up thus creating problems is to revert to an animal or even a vegetable existence.

This makes clearer the limits of explanation. We can explain certain elements or constituents of our experience by reference to other parts, or (in another metaphor) by envisaging the wider whole of which these are parts. This wider whole may itself be explained by envisaging the still wider whole of which it is in its turn a part or constituent; and so on up to the widest whole or totality of our experience, or the sum of things (or some such phrase), which is in itself inexplicable, since there is no still wider whole by reference to which to explain it. Of the whole of experience, of reality as a whole, of the universe as a whole, no explanation is possible.[1]

[1] This is another way of saying what was said earlier, on pages 17 and 28, about our capacity to give articulate accounts of the attitudes we hold, and of the increasing difficulty of doing so with increasingly more general attitudes, until in the case of the supreme attitudes it is impossible to give accounts of them. The only way we can discuss them is to discuss their exemplifications 'on the level next below'.

If, therefore, 'metaphysics' is taken to mean the intention or attempt to give explanations or an explanation of the universe as a whole, then the only comment to be made is that metaphysics in this sense is impossible. There can be no ultimate or final explanations, and what purport to be these are meaningless. If, on the other hand, metaphysics is understood as the inquiry into the nature of the universe and of man and his place in it *with the proviso that we cannot explain the whole and can explain only parts of the whole by relating them to other parts and to the whole*, then it is possible to pursue metaphysics and to say much that is both true and important in this field. This is not as rigorously self-denying an ordinance for philosophers as it sounds, for much philosophizing that is commonly regarded as being metaphysical in the first sense is in fact so only in the second.

Observations similar to these on explanation fall to be made on proof. There is no such entity as 'a proof', and we have to take into account the whole of the epistemological situation in which there occurs what we call 'proving something'.

Where we have a series of linguistic or other such contrivances which is so effective and precise in making those who hear or read it adopt certain attitudes or follow certain ways of selecting and grouping in attention that without significant exception they all do so, then we have what we ordinarily call a proof. The difference between a statement or complex of statements that we call a proof and statements that we do not call so is a difference in degree of effectiveness in producing the intended result.

This result is not produced unless those reading the proof hold the same attitudes of higher generality as those enunciating it (or sufficiently similar ones). In the fields in which we ordinarily speak of proofs, such as mathematics or the law, there is agreement by all concerned about the relevant highly general attitudes. These are therefore not mentioned and the proof thus appears to be complete in itself, whereas it is in fact dependent for its coerciveness and indeed for its intelligibility on the assumption of a whole system of highly general attitudes or theories. If these are not assumed or accepted by any

one of the persons concerned, then the proof is no proof for him.

Proofs can therefore be given only of matters involving changes in attitudes or theories of comparatively low generality. It is possible to prove that malaria is transmitted by mosquitoes or that the accused person was in Ipswich when the crime was committed in London, but it is not possible to prove that justice triumphs in the end or that this theory of the nature of proof is sound, nor to prove the contrary. The occurrence of the word 'proof' in an argument—unless improperly imported—is an indication that more fundamental or more general questions are not under consideration, either because the propounder of the proof is ignorant of their existence or because he declines to take seriously anybody who differs from him about them, or because nobody does in fact differ.

This is why the more general the issue in any philosophical discussion (i.e. the more highly general the attitudes of the reader that the writer is seeking to alter), the less is the discourse a proof. Such discourses are often cast in the semblance of proofs, but examination of them shows that this is spurious and that they are in fact impressionistic in manner. They are statements indicating the proposed general theory or attitude, rather than arguments in favour of it.

We are now in a position to make a major generalization on the topics of this and the six preceding chapters, namely on the nature and relation to one another of meaning, statement, inference, explanation and proof, and of what we can call simple knowing or experiencing.

The usual view is that these are all in some respects essentially different in kind. It would be allowed that meaning, statement and inference stand in a special family relation to each other, as illustrated by the characteristic succession of chapters on *Terms*, *Propositions* and *Inference* in any conventional textbook of logic, but each of these is held to be distinct in kind from the other two; and the remaining three are regarded as severally distinct. The investigation of these six topics by many generations of philosophers has resulted in the creation of innumerable theories about each of them and in the accumulation of masses of learning, with most of which anybody who wishes to understand

these topics must make himself familiar. If it were possible to formulate some more general theory, such that these six were envisaged not as separate and essentially different but as being instances of something more general, then a drastic simplification would be brought about. Those separate theories and that mass of learning would disappear into the histories of philosophy, and in their place we should have one theory covering all the fields in question. The discussions in this and the six preceding chapters have been in effect such a generalization, and it can now be formulated explicitly.

If we attempt to do this by making generalizations about 'meaning', 'statement', 'explanation', etc., we irremediably misstate the position. What we have to consider are not these but men, and what they know or otherwise experience under the three kinds of conditions referred to on page 148. We have to inquire into the relations to one another of the principal distinguishably different kinds of epistemological situation in which a man may find himself, viz.: the kind in which he makes statements; the kind in which he infers; the kind in which he explains; the kind in which he is merely aware of something; and so forth.

In these situations we are concerned for our present purposes primarily with the first of the three kinds of conditions mentioned, i.e. with the attitudes, theories, etc., which a man holds; with his changing these or being caused to change them; and with the verbal or other contrivances or other entities which are employed to bring about such changes or do in fact bring them about. This generalization can therefore be formulated as follows:

(i) When a man knows or experiences anything, then he is holding certain attitudes (or theories, etc.), of which he may or may not be clearly aware.

(ii) When he uses a word or phrase or other linguistic device to make other men tentatively hold a certain attitude without committing themselves to holding it seriously and to making the changes in their other attitudes which holding it seriously would require, then he is using that word, phrase, etc., as having 'a meaning'; and other words which would have the same effect and are more familiar than itself are in certain contexts called 'its meaning'.

(iii) When he uses words or other such devices to cause other men to adopt certain attitudes, or to make himself or them more clearly aware of the attitudes he or they already hold, then he is 'stating' or 'predicating'.

(iv) When he is able to do this with precision and certainty, i.e. when it is observable that all persons to whom he makes these statements do in fact adopt the intended attitudes without significant exceptions, then he is 'proving something'.

(v) When, after observing the situation which he experiences in any given instance, with special concentration on some sub-situation within it, he observes some other constituents of that sub-situation which he can indicate or describe by a second series of linguistic devices, these being such that they stand in one or other of a small number of possible simple relations to the first series, then he is 'making an inference'.

(vi) When, after considering the attitudes he holds or the situations he experiences, he finds them unsatisfactory by some criterion and amends them to make them more satisfactory by that criterion, then he 'understands better', and when he uses words or other such contrivances to cause other men to make similar changes, or to make his own changes clear to himself, then he 'gives an explanation'.

This may be put more colloquially by saying that we come to hold the theory: that here we are, men and other sentient and intelligent beings, each holding his own hierarchy of attitudes and altering other men's by various means such as language; that we are each trying to find and adopt attitudes or theories which will account for all the relevant data or will eventuate in our experiencing situations which are satisfactory by some agreed criterion (subject to the qualification that we are not purely rational beings, and that dispositional and impulsive and other such factors may partly determine what attitudes we hold); and that all these cases are instances of a man's holding attitudes which may be changed by his own efforts or by linguistic or similar devices used by others; and that 'meaning', 'statement', 'inference', 'proof', 'explanation', and 'knowing' or 'experiencing' are names for some of the more conveniently distinguishable kinds of such cases.

At this point, as at many earlier ones, the general objection may be raised that the account of the nature of knowledge given here is so extremely sceptical that it amounts to asserting that, in any of the ordinary senses of the word 'knowledge', there is none. This, however, is not an objection; it is only a repetition in another context of what was said in Chapter 1, namely that the inherited general theory of knowledge, in terms of which the ordinary senses of the word have their meanings, is misleading.

Chapter 21

THE CRITERION

In the instances of the application of a criterion in earlier chapters it was referred to:

(i) as one of relative simplicity,[1]

(ii) as one of permitting the forecasting of future events and conditions,[2]

(iii) as one of relative stability,[3]

(iv) in the form of the rejoinder 'Well, don't believe it and see what happens',[4]

(v) in the form 'My theory is better than yours, for yours is only a special and limited case of mine',[5]

(vi) in more than one of these five ways at once,[6]

and many further attempts to describe it could be added if required. The following comments may be made on each of these five.

(i) THE CRITERION AS 'RELATIVE SIMPLICITY'

Consider 'relative simplicity' as a description of the criterion employed in differentiating among (*a*) attitudes, theories, views,

[1] E.g. on pages 71, 76.
[2] E.g. on pages 71, 77.
[3] E.g. on pages 77, 145.
[4] E.g. on pages 56 ff.
[5] E.g. on page 82.
[6] E.g. on pages 71, 77.

beliefs, explanations, etc., and among (*b*) experiences or experienced situations.[1]

(*a*) This is the description, or one of the descriptions, which most scientists to-day would give of the difference between a hypothesis they accept and one they reject. The simplicity is, of course, the simplicity of the theory as a whole, i.e. the simplicity of the theory itself *considered together with any further theories, expressed or unexpressed, which are required to account for the relevant data*, that is to say, the simplicity of the theory when it does account for the data. An apparently complex theory which accounts for all the facts is in this sense simpler than a simple theory which accounts for all the facts bar one. Ross's theory of malaria, involving the intricate life-cycle of the anopheles mosquito, is at first sight much more complex than the old theory that malaria is an ague that comes on from exposure in hot and marshy places, but it is much simpler than that theory considered together with the facts which that theory does not account for and which have to be explained by still further theories, such as the periodicity of the pyrexia and the prevalence of malaria in some hot and marshy districts and not in others.

(*b*) The examples of alternative experiences or experienced situations quoted in Chapter 19 (page 179 et seqq.) illustrate the explicit description of the criterion differentiating them as relative simplicity. Again, the simplicity is the simplicity of the experienced situation as a whole, i.e. not merely the simplicity of the sub-situation on which attention is concentrated, but the simplicity of this sub-situation together with the remainder of the situation.

This calls for a more precise indication of what is meant here by 'simplicity', but nothing of the sort can be given.[2] Any purported definition is merely circular, and we must rest content with saying that we do in fact know more or less what the word is intended to mean, and that if any man maintains that he

[1] Cf. page 179. It is impossible to discuss directly the criterion by which we differentiate one way of selecting and grouping in attention as preferable to another. All that we can do is to discuss the criterion by which we differentiate one theory from another and one experienced situation from another.

[2] Cf. pages 125–6.

does not know what it means, we do not take him seriously. We normally express this by saying that the word is indefinable.

It seems, then, that the criterion, whatever it may be, is such that the description of it as relative simplicity is sound enough so far as it goes. In other words this is a criterion which, in certain cases, we do apply or find ourselves applying.

(II) THE CRITERION AS 'PERMITTING FORECASTING'

(*a*) An experimental scientist explicitly applies the criterion in this form whenever he goes through the successive stages of verifying an hypothesis. In daily life, I may maintain that my estimate of a man's character is based on intuition or the like, but the criterion by which in the end I hold to my estimate or abandon it is his acting in specified circumstances in ways which can be forecast from this estimate. Again, the capacity referred to is the capacity to forecast all the relevant events and conditions, and not only some of them.

(*b*) To think of a criterion described in this way as applied to the differentiation of one experienced situation from another is probably to force a metaphor too far. If we make the attempt, the subject of inquiry changes into a discussion of events and conditions over a period, and thus into a discussion of manageable order or unmanageable confusion, i.e. into a discussion of (IV) below.

The preceding suggests a further inquiry into what precisely is meant by 'permitting forecasting'. Again, any purported definition is circular and we must be content with saying that we do in fact know more or less what the phrase means.

It seems, then, that the criterion, whatever it is, is such that this second description of it is sound enough, as far as it goes. I.e., this is a criterion which in certain cases we do apply.

(III) THE CRITERION AS 'RELATIVE STABILITY'

(*a*) This does not apply readily to theories, attitudes, etc., but only to the experienced situations of which they are the 'first kind of conditions'.[1]

[1] Cf. page 148.

(*b*) We observably do apply the criterion in this form in many cases, as for instance in distinguishing between illusions and real things. The contrast is not between two entities, one a real thing and one an illusion, but between two total situations within each of which is a sub-situation, one of these being relatively stable and called a real thing, while the other is relatively unstable and is called an illusion. If a so-called illusion is found to be more stable than a so-called real thing, we come to call the former real and the latter illusory. Real things are those illusions that are more than usually stable.

The stability referred to is the stability of the experienced situation as a whole. Many a view or theory of the kind we call 'short-sighted' or 'false, though at first sight true' is one such that the outcome of the tenure of it is an experienced situation in which the conspicuous sub-situation itself is relatively stable, but in which that sub-situation together with the wider ranges of the situation is relatively unstable.

(IV) THE CRITERION AS 'REFERENCE TO UNMANAGEABLE CONSEQUENCES'

(*a*) In dealing with very highly general views or theories, especially those of a philosophical character, the criterion is often applied in the very words of this rejoinder, or in less colloquial ones to the same effect. For instance, there is no argument or ground or reason for holding that there is a continuing regularity in natural happenings, except by the application to the belief of the criterion in this or a similar form. Attempts to justify the belief on other grounds turn out on examination to be either surreptitious employments of this criterion or else mere reiterations that there is a continuing regularity. In the case of less general views or theories, or of simple statements of limited and particular matters of fact, it is not so readily detectable that we rely on this ground or apply this criterion, but such limited and particular statements do not otherwise differ in this respect from highly general ones.[1]

(*b*) To describe in this way the criterion as it is applied in the differentiation of experiences or experienced situations is to

[1] Cf. page 91 ff. on Facts.

repeat in another way what has already been said under (1), with which this has much in common.

(v) THE CRITERION AS 'RELATIVE COMPREHENSIVENESS'

(*a*) If we have two theories to compare, and if by holding the first we can account for the strictly relevant data fairly well but cannot account for the holding of the second theory, whereas by holding the second we can account not only for the relevant data but also for the holding of the first theory, then we tend to assess the second as more adequate. This is most noticeable in in the case of highly general theories. If some man holds a certain philosophical theory and I hold an incompatible one, he is not fully satisfied with his theory unless it can not only account for the strictly relevant data but can also show that my theory, if not merely silly, is a special case of his more general one, or at least can be explained in terms of it.

(*b*) In the case of experienced situations, this description comes very near the first attempt and the third. E.g. what is called an illusion is never an illusion by itself, but is always a part within a larger whole which is not an illusion. There could not be a total experience which was illusory. The illusion is that part of the total experience which cannot be comprehended within the remainder. If what we at first call the illusion seems on fuller acquaintance to be so large in proportion to what we at first call real that we have difficulty in deciding which is the recalcitrant part and which is the larger whole, then we are in doubt about which is real and which is illusion. A man glancing out of the window of a plane as it flies above cloud and seeing the cloud surface at some fifteen degrees to the wing may for the moment be genuinely uncertain whether the plane is banking over a level cloud or is flying over a cloud with a sloping upper surface. If what we at first call illusion turns out to be larger or more comprehensive than what we at first call real, then we conclude that the first was real and the other the illusion. That is to say, we do in certain cases apply the criterion explicitly in this form.

Some of these five descriptions can be restated in terms of

others, and it ought to be possible to formulate some single account of the criterion which would be a generalization of these five and of all others that might be made, i.e. it ought to be possible to work out a theory of the nature of the criterion such that these five attempts are seen to be special and limited instances of it. I do not know of any such generalized theory, and my attempts to work one out have been failures. I cannot see beyond the humble theory that there is what we can call a criterion, and that it can be described in these five ways and in combinations of them.

In this as in any similar case there is a tendency or temptation to take one or other of the partial descriptions or theories as adequate by itself. We all do this from moment to moment in our more or less practical affairs, adopting sometimes one and sometimes another of them. This over-simplification and inconsistency may or may not cause any great harm in these fields, and even if it does we must put up with it, for we cannot as yet do anything better. But we may succumb to the same temptation when philosophizing about truth, and the consequences of over-simplification are then far-reaching. Certain typical philosophical or epistemological views or doctrines are correlated with, or can be best understood as arising from, our doing so. For instance, the view that science consists in the search for causes and for causal laws (which may be sound enough as an account of some sciences at an early stage but is insufficient and misleading as an account of the more advanced) can be regarded as taking the second of these five partial descriptions to be adequate by itself, i.e. it amounts to assuming that the criterion *is* as in that one description and that there is no more to be said. Similarly, pragmatism is the theory of the nature of truth which amounts to taking the fourth of them as adequate by itself, i.e. to assuming that what is true *is* what works in practice.[1]

[1] It may be objected that few men who would call themselves pragmatists accept the doctrine in so simple and unqualified a form; but this, I should say, is in effect a recognition that the criterion cannot be adequately described in so simple a way, even though this way is perhaps less inadequate than any other single alternative.

This is also the answer to the question whether this book as a whole amounts in the end to pragmatism.

QUALIFYING NOTE

This essay has been written with no more than passing reference to what can be called the psychological conditions of our knowledge and experience. Successive topics have been discussed as if we were purely rational beings who held beliefs and came to conclusions on the relevant evidence only, unaffected by emotional, impulsive and other such dispositional or psychological factors. But rational beings in this sense we conspicuously are not. In us all there are, relevant to the present inquiry, what we can call by some such name as 'psychological factors', which can be roughly classified as on the one hand positive, active and creative, and on the other hand as negative, inhibitory and conservative.

Of the positive kind there are, for instance, the 'sustained effort' referred to in various contexts,[1] without which we should not know and experience what we do know and experience, and the impulse (which may or may not be identifiable with the preceding effort) to seek for explanations, i.e. the drive or urge to find better theories and not to be content in the presence of a theory and an incompatible fact. Knowing is not a passive contemplation but a continuously effort-consuming activity. If we did not have this urge or drive—if in fact we were purely rational beings—then we should not have what we call experience and knowledge.

Of the negative, inhibitory and conservative kind there are, for instance, the emotional and other such conditions which lead us to interpret the data, i.e to follow ways of selecting and grouping in attention, so that the situations we experience as the outcome of following these ways are not such as to distress us by their strangeness, or by their disturbing effect on our vanity, on our estimates of our loved ones, or on our hopes for mankind.

The influence of the negative factors is familiarly known, perhaps because so much of our educational programme consists of training in the discounting of their influence on our forming of opinions and our reaching of conclusions, but it is not so generally appreciated that, but for some of these positive

[1] E.g. on pages 35, 160, 166.

factors, we should have no opinions and no conclusions at all. In one sense all thinking is wishful thinking.

These psychological factors can be regarded as constituents of the epistemological conditions which form the first of the three kinds of conditions of all our knowing which were distinguished on page 148, or as psychological conditions conditioning the epistemological conditions. The classification matters little; the important point is that if these psychological factors were different then all that we know or experience would be different also. They must therefore be taken into account in any adequate theory of knowledge; and any epistemological inquiry which ignores the work of psycho-analysts, and *a fortiori* any which asserts the irrelevance of it, is a waste of time.[1] These factors are not further discussed in this book, for it is an essay towards a general or fundamental theory, and this can be considered without specific reference to these psychological factors, provided it is borne in mind that in no actual case do we ever have experience or devise theories (including epistemological theories) without being influenced by them in some way.

A parallel comment can be made on the relevance of value judgments to an inquiry such as this, i.e on the controversy between those who maintain that value judgments are not strictly matters for philosophers, and those who maintain that any philosopher who attempts to philosophize, or even to produce narrowly epistemological theories, without taking into account our judgments of what is good as well as our judgments of what is true, is condemning himself to philosophical naïveté. The present inquiry is prior to these issues, and only in the light of a tolerable working hypothesis about the more general or fundamental matters can these issues be adequately discussed.[2]

[1] This is not an assertion of the relevance of *all* psycho-analytic work. Some of it as published seems to me to combine naïve speculation with an arrogant assumption of infallibility, though there is probably no more of these, and no worse, in contemporary psycho-analysis than there was in astronomy, anatomy, physiology, geography and chemistry when these respectable sciences were at a similarly early stage of their development.

[2] Cf. Appendix B.

EPILEGOMENON

Now, at the end of this essay, the reader might reasonably expect some general statement of the findings of it, i.e an answer to the question: 'What does it all amount to?' To do this would involve giving a statement of the general theory of the nature of knowledge of which the various theories discussed in successive chapters are exemplifications or applications in particular regions of the field; and this cannot be done.[1] It is of course possible to make limited generalizations, such as the 'major generalization' of statement, inference, explanation, etc., on page 203, and the assimilation of feelings, emotions, sensations and things on page 164. It is even possible to continue indefinitely in this direction, making progressively more and more comprehensive generalizations, but these become at the same time progressively more and more vague, ambiguous and cryptic, and finally degenerate into philosophical aphorisms.

It ought to be possible to make considerably more comprehensive generalizations than those which have been attempted here, as for instance by pursuing the dictum that 'knowing is not a relation in which a knower stands to what he knows' (which can be regarded as a loose statement of a theory of which many of the theories maintained earlier are exemplifications, or as a loose statement of a generalization of them), but I have been unable to do this. All that I can say as a summary is:

(*a*) that the fundamental epistemological presupposition or complex of presuppositions surmised to be endemic in the

[1] For the reasons referred to on pages 14, 27, 201 and elsewhere.

European-American culture is (whatever else also it may be) such that all who hold it hold, explicitly or implicitly, the views or theories that (for example) the nature of statement and of truth is such that there are propositions which are true or false; that there are facts or data which are independent of any theories; that there is an ultimate and absolute distinction between mere awareness and judgment about what we are merely aware of; that there is an ultimate and absolute distinction between truth and falsity; and so forth.

And (*b*) that the alternative intended to replace the preceding is (whatever else also it may be) such that all who hold it hold the views or theories on more particular epistemological issues which have been indicated in the foregoing chapters.

The history of epistemology seems to me to be a record of the changes in the epistemological attitudes or views of men, as some of them, here and there, have progressively abandoned more and more of the applications and developments of the first-mentioned general attitude or presupposition and replaced them by more and more of the applications and developments of the second-mentioned, with or without any explicit recognition of these general attitudes or presuppositions themselves. Thus each of the philosophers of the past, and each of us to-day, represents some stage, on many different and not necessarily intersecting lines, of the change from the one to the other; which is why a book such as the present appears to one reader to be a totally wrong-headed denial of plain facts, to another to be merely a statement in perhaps more general terms of what has already been said by various writers at various times, and to a third to be partly the one and partly the other.

To say this is only to exemplify how any man can interpret the history of philosophy as a record of erratic approximation by others to the views that he holds himself.

There is no means of knowing whether these views are sound except by assessing them, in reference to our experience as a whole, by the criterion previously referred to, in one or other of its possible forms. Philosophical theories, including epistemological theories, are no doubt invented in the study, but they are neither verified nor disproved there.

Appendix A

DISCRIMINABLE FACTORS IN EPISTEMOLOGICAL SITUATIONS

This appendix is added for the strictly limited purpose of carrying out the undertaking given in Chapter 20, page 196, namely to indicate, but no more than to indicate, what kinds of inquiries form the second of the two subdivisions of the subject or subjects which will in course of time replace logic as a living study if the prognostications in that chapter are fulfilled. It does this by proposing a scheme of discrimination of factors in epistemological situations and then indicating how the study of these and their inter-relations constitutes the inquiries in question.

It is to be emphasized that this does not form nor even contribute to a theory of aesthetics. Some of the factors mentioned are not relevant to aesthetic inquiry in any strict sense, and the discrimination of those that are relevant does not provide any answer whatever to the question why some things are aesthetically better or more valuable than others. That question is an entirely different and separate one, and to it this scheme of discrimination is relevant only as prolegomena.[1]

A man may have various kinds of experience, or may experience various kinds of situation, such as those in which he looks

[1] Cf. page 26.

around and sees things and touches them; those in which he and his friends enjoy each other's society; those in which scientific language is used and understood; those in which poetry and fiction are written and enjoyed; those in which music is created and enjoyed; those in which paintings and statues and the like are made and enjoyed; those in which natural beauty is enjoyed; and so forth. The common view is that these various kinds of situations, or some of them, are essentially different. The alternative is that they are not so, but that in each of them a number of different factors can be discriminated, and that the situations differ one from another by the presence or absence or relative prominence of these various factors in each case. From this it follows that the inquiries forming the second sub-division mentioned, which either now exist or will have to be invented, can best be considered as studies of these factors and their interrelations.

(This of course presupposes the general epistemological theory maintained in the body of the book. As applied to the special purposes of the Appendix, this general theory is to the following effect: there are not poems, pictures, instances of natural beauty, passages of prose and so forth, which exist as such in themselves and can be assessed by themselves, but there are men, who in various situations make poems and paintings and the like, and who experience other things made by other men or naturally existing; and it is impossible to understand and assess any of these unless we take into account explicitly the whole of the epistemological situations in which they occur, even though it is convenient for more superficial purposes to refer to a poem or a painting or an explanation or the like by itself without explicit reference to the man who made it and to the men who experience it.)

By 'discriminating these factors' is meant attending to each of them in turn, to the temporary exclusion of all the others, and then showing that the various experiences or situations under review differ from one another by the relative prominence of the several factors in each case. This is a most unnatural performance requiring considerable application, and to many artists and others would at first be most uncongenial. They might

object that it 'looks at art from the outside' and indicates a radical failure to understand what art is, for artistic creations are wholes and cannot be analysed into separate constituents in this way, any more than they can be created by adding piece to piece. This objection would be a misunderstanding, for the theory of this appendix is in no way incompatible with that view of art, since it is only an assertion—with illustrative examples—that in the situations in question, whether of artistic creation or merely of the commonplace or the scientific, we can discriminate various constituents or factors or aspects or whatever else we care to call them, and that it is found on experience that to do so is illuminating. (It is also found, as might be expected, that after such an examination of the factors discriminable in any situation, when the whole complex situation is experienced again as a whole, the enjoyment of it has been greatly deepened.)

It appears to me that eighteen such factors can be discriminated, as in the following list.

1. The words, sounds, symbols, objects, etc., themselves.
2. The aesthetic qualities of these.
3. The moods, emotions, etc., which they arouse.
4. What the words, sounds, etc. (i.e. factor 1), specifically direct attention to.
5. The aesthetic qualities of it.
6. The emotions, etc., which it arouses.
7. The wider situation containing the above (i.e. containing factor 4).
8. The aesthetic qualities of this wider situation.
9. The emotions, etc., which it arouses.
10. What the words, etc., happen also to call to mind, i.e their 'associations'.
11. The aesthetic qualities of these associations.
12. The emotions, etc., which these associations arouse.
13. The 'appropriateness' of the words, etc., to their employment.
14. What the words, etc., impel a man to do.
15. The effort which the maker or formulator of the words, etc., expended in making or choosing them.
16. The sense of expressing himself and his emotions which he

felt in making or choosing them (or the satisfaction of the urge so to express himself, if this was not conscious).

17. The similar sense of expressing himself which another man obtains by seeing, hearing, or otherwise experiencing these words, etc.
18. The moral qualities of the maker or formulator of the words, etc. (including the motives which led him to make or formulate them).

FACTOR 1

This means the sounds, or marks representing sounds, which are words; the material objects or marks which are signs or symbols; the series of sounds which is a musical composition; the material object which is a statue; the variously coloured surface which is a painting; i.e. the thing, or object, etc., itself, irrespective of any significance it may happen to have.

FACTOR 2

This means the aesthetic qualities of the words themselves as sounds or marks; of the symbol as a material object; or the painting as a coloured surface; and so forth; without reference to any significance they may have.

Thus, in the case of the lines *Wenn alle untreu werden, so bleib' ich dir doch treu,* factor 2 is the aesthetic qualities of these words as sounds, or as marks representing sounds, irrespective of their meaning, e.g. the qualities of being rhythmical and melodious. This factor in this case is therefore the same for a man whether he understands German or not. In the case of the word *sausage,* this factor 2 is the unpleasing aesthetic qualities which this sound *sausage* possesses. This again is the same whether he understands English or not.

To discriminate this factor seems to require some effort. For instance, we tend to confuse the aesthetic qualities of the word *sausage* with the aesthetic qualities of a sausage itself (which is a different factor, namely 5).

FACTOR 3

This means the moods, emotions, etc., which are aroused in an observer by factor 1, e.g. by the words simply as sounds, or

by signs simply as objects having certain shapes and certain colours, irrespective of their meaning.

For instance, certain musical phrases and chords, and certain colours and colour-combinations, do of themselves produce an exhilaration or lightness of mood, while others produce a vague melancholy.[1] Again, the mood aroused by the succession of open vowels in *O Thou that from Thy mansion, through time and place to roam,* is very different from that aroused by the staccato *Hickory, dickory, dock, the mouse ran up the clock,* irrespective of the meaning of these words. Some philosophers might say that 2 is merely a name for certain kinds of what causes 3; and others might say that 2 exists in its own right and merely happens to cause 3. Be that as it may—and the question is not one for us here—the two factors are at least distinguishable; but by those without aesthetic training or experience they frequently are not distinguished.

FACTOR 4

When words, or symbols, or any other such devices (i.e. factor 1), are used to 'convey information' as we say, then they cause the observer of them to adopt certain attitudes, etc. and thus to become aware of, or have experience of, a wide situation within which is a sub-situation on which attention is concentrated. This sub-situation is 4.

In such cases it is the most important factor. In cases where 1 is not intended to convey information, as for instance if it is a natural object, or language expressive only of emotion, or a painting which is sheer pattern and is not intended to represent anything, then this factor is entirely absent. The distinction between 'the scientific and the emotive use of language' is a distinction between cases where 4 is the sole preoccupation of

[1] As far as I know, nobody as yet understands in the least why this should occur, though some light may come from the study of electro-encephalographic rhythms. Literary craftsmen and artists of all kinds have accumulated a mass of unco-ordinated factual information on this, and have developed dependable skills in producing required effects such as those referred to, i.e. they can in practice produce more or less what they want as factor 3 by altering factor 1; but more than this nobody seems to know. There is need for a systematic inquiry under properly controlled conditions.

the user and cases where he is concerned with 3, 6, 9 and 12, and also perhaps with 14, 15, 16 and 17.

FACTOR 5

This means the aesthetic qualities of the sub-situation to which attention is drawn by 1, and not the aesthetic qualities of 1 itself. It has therefore to be distinguished from 2. Much muddled criticism in literature and the arts comes from failing to do this.

There appears to be no necessary correlation between 2 and 5. If in any given instance they are markedly out of accord, as for instance when a man with a rasping voice draws our attention to a beautiful view or when sordid trivialities are described in polished language, then we generally notice this, but not always without effort. Indeed a literary craftsman who skilfully uses beautiful or impressive language (i.e. language in which 2 is of good quality) may lead his readers into believing that the state of affairs he is describing is beautiful or impressive (i.e. such that 5 is of good quality), when on further reflection it becomes apparent that it is not so. This confusion is seldom found except along with other confusions, referred to below.

FACTOR 6

This means the moods, emotions, etc., which are aroused in a man when he observes or otherwise experiences the sub-situation, as distinct from the moods, emotions, etc. (i.e. 3) which are aroused in him by observing or otherwise experiencing 1. Factors 3 and 6 are frequently confused, in much the same way as are 2 and 5.

FACTOR 7

This means the wider situation, of which we are usually only vaguely aware, within which is the sub-situation of which we are explicitly aware.

The distinction between this and 4 is of course no more than relative.[1] Thus, if I consider the words *York Minster*, the building itself is 4, and it is set within a wider situation which is the town

[1] Cf. page 96.

of York, and the United Kingdom, and the Church of England and its system of provincial government, and so forth (while this in turn is set within the wide situation which is the outcome of my holding attitudes of very high generality, such as that whereby I experience enduring things and not fluxes of events, and so forth). We could introduce innumerable factors into this scheme to indicate distinguishable successively wider situations, but this would become quite unmanageable and our present purpose is served, I believe, if we distinguish between 4, which is the focus of our attention, and the wider situation which contains it.

FACTOR 8

This means the aesthetic qualities of the wider situation as distinguished from 2 and 5. It is difficult to discriminate this factor, owing to the difficulty of delimiting the 'wider situation' as mentioned above, and it is usually only the narrower ranges of the wider situation which have aesthetic qualities, but these can in some cases at least be distinguished.

FACTOR 9

This factor has similarly to be distinguished from 3 and 6.

FACTOR 10

To see or otherwise experience 1 makes a man think of 4 and 7, the former in most cases explicitly, the latter only vaguely, but it also happens to make him think of many other things.[1] These are commonly referred to as 'associations'.

This factor is negligible or irrelevant in scientific, legal and similar statements, but is of very great importance in literary, artistic and other creations, and in the appreciation of natural objects, and the like. The charm which is in some cases characteristic of these consists usually to no small extent in the presence of this factor, and consequently of 11 and 12. The literary craftsman shows his craftsmanship by choosing and arranging words so that they not only produce 4 and 7 which he primarily wishes them to produce, but also make their readers think

[1] Why and how this comes about is a matter for psychologists. Here we are concerned only with the fact that it does.

of other things of the kinds that he wants them to think about, and not of kinds he does not want them to think about. It is in this factor that there lies the difference between complimenting an eminent politician on his luxuriant shrubbery by saying *How appropriate that laurels should grow so richly round your house* and by saying *How appropriate that the green bay tree should flourish round your house.*

To control in detail what associations shall be aroused by 1 seems to be beyond the power of the craftsman or artist, since they depend so largely on chance circumstance. The literary craftsman or the orator is always in danger of using words which have no ludicrous or other unsuitable associations for him but have them for his audience. A Chartist orator visiting Edinburgh is recorded to have destroyed the influence he had gained over his audience by apostrophizing them with deep feeling as 'Men of the Heart of Midlothian!' being unaware that the Heart of Midlothian was the cant name for the local gaol.

FACTOR 11

This may be negligible, or may be very important. It has to be distinguished from 2, 5 and 8.

FACTOR 12

This likewise may be negligible or may be very important. It has to be distinguished from 3, 6 and 9.

FACTOR 13

This is difficult to define, but what is meant can be indicated as follows. We should say that the thirteenth factor in the situation was one of marked inappropriateness if we found a signpost to a crematorium which consisted of a chromium-plated nymph balancing on one toe and pointing in the required direction.

Why we should feel that there is this inappropriateness is another question. The relevant point here is that we do feel such appropriateness or the absence of it, and that this is important.

FACTOR 14

In orders, instructions, requests and the like this is the only factor that is seriously important. In some other cases it is important along with other factors, while in still others it is entirely absent. It may be present accidentally, as when a man is led to do something by the associations aroused in him by 1.

FACTOR 15

This is difficult to define but may be indicated as follows. By 15 is meant the effort which is involved in a painting of a landscape and is absent in the landscape itself; which is involved in a sentence in an Act of Parliament drawn up after many laborious attempts and failures by a Parliamentary draughtsman, and is absent in the same sentence when recited by somebody else as a specimen of legal prose; which is involved in a musical chord composed by a musician and absent in the same chord if accidentally struck by me with idle fingers on a piano. As an attempt at a general statement of what 15 is, we may say that it is the effort that went to the making or choosing of 1.

FACTOR 16

This means the sense of expressing oneself and one's emotions which is present when I exclaim 'Eureka, eureka!' after long puzzling over some problem and is absent when I pronounce the words as a part of a Greek verb; which is present in my heaving a log on to a saw-mill bench if I enjoy working on a saw-mill and absent if I do not; which is present in my writing a book such as this essay and absent in my writing a textbook of formal logic; which is present in my picking up a pebble as I walk by the shore and throwing it into the sea, in my writing a not very good sonnet to relieve my feelings, in a baby's chuckling and kicking, in an Opposition leader's denouncing the Government, in a scientist's devoting himself to unrewarded research in preference to lucrative employment elsewhere; and so forth. We may or may not be conscious of the desires or impulses which are satisfied in this way.

In many cases this is by far the most important and conspicuous of all the factors. It could be maintained, and I think

soundly, that language and all the arts, and possibly all conduct, originated in this factor alone, and that all the other factors (apart of course from factor 1), are later developments.

FACTOR 17

This means the same as 16, but as experienced not by the poet but by the reader of his poem, not by the painter but by the observer of his painting, not by the jockey clearing the fence but by the onlooker, not by the romantic novelist but by the library subscriber; and so forth.

The further examination of this is a matter for psychologists. The only general observation to be made on it here is that it appears to depend largely on the so-called 'mechanism of identification', and to diminish in relative prominence from the lower to the higher forms of art. For instance, the enjoyment of a happy-ending film by an escapist film-addict rests primarily on this factor and to a lesser extent on 3, 6, 9 and 12, and hardly at all on 2, 5, 8, 11 and 13, whereas this proportion seems to reverse itself as we instance higher and higher forms. Nevertheless, 17 never disappears. If it did, the person involved would not trouble himself about art.

FACTOR 18

In popular criticism this is often confused with 2 and 3, 5 and 6, 8 and 9, 11 and 12, and 13; but there seems to be no discoverable regularity of relation between the quality of 18 on the one hand and the quality of 2 and 3, etc., on the other. Work of the highest aesthetic quality has been produced by men like Benvenuto Cellini and François Villon, and much bad poetry and bad painting has been produced by worthy persons with the highest of motives; and on the other hand there is no rule that great art may be produced by full-blooded carnal sinners and not by petty characters. There seems to be no general rule at all.

The principal reason for discriminating this factor explicitly here is that the tendency to look for a correlation between it and 2 and 3, etc., is so strong, and so misleading.

This discrimination of eighteen factors is not exhaustive nor

are all the factors mutually exclusive. It is arbitrary, but is sufficiently simple to be manageable and memorisable and at the same time sufficiently full and detailed to make clear what is meant by saying that the various situations which we believe at first to be essentially different do in fact differ only in the relative predominance of the eighteen factors severally in each case. It thus allows of settling a number of questions in the fields of epistemology and critical appreciation of the arts which otherwise seem impossible to deal with.

If the theme of the preceding is in general sound (whatever may be its defects in detail), then there is not that fundamental dichotomy between scientific and artistic activity, nor that fundamental difference between each of these and everyday experience, which is commonly assumed to exist.

The difference between (i) a situation in which scientific knowledge is obtained or enjoyed or applied, (ii) a situation in which artistic experience is enjoyed or artistic creation carried out, and (iii) a situation in which the commonplace affairs of daily life are experienced and commonplace activities carried out, is as follows.

(i) In the first, factor 4 predominates, being both conspicuous and relevant; 7 and 14 may or may not be conspicuous and may or may not be relevant; 15 is almost certainly conspicuous but is not relevant; and 2, 3, 5, 6, 8, 9, 10, 11, 12 and 13 may or may not be conspicuous but are not relevant.

(ii) In the second, 2 and 15 predominate, being both conspicuous and relevant; 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14 may or may not be conspicuous and may or may not be relevant.

(iii) In the third, the relative prominence of the various factors varies much more from case to case than in (i) and (ii). Usually, 4, 14 and 15 predominate, with 2, 3, 5, 6, 7, 8, 9, 10, 11, 12 and 13 absent, or present in minor degree; but in certain cases any one of 4, 14 and 15 by itself, to the complete exclusion of the remainder, may constitute all that is conspicuous or even distinguishable in the situation.

The differences between situations (i), (ii) and (iii) are therefore not differences of kind, nor absolute; even at their most extreme they are differences of degree and not of kind. The

recognition of this seems to me a matter of the first importance.[1] The development of specifically scientific and specifically artistic activity out of the commonplace activity of daily life, as recorded in the histories of the sciences and of the arts, could therefore be described in terms of the progressive preponderance of certain factors over others.

The pursuit of this topic is not our present concern, for we are concerned here only with the traditional epistemological theories in terms of which the old dichotomies between art and science and between both of these and ordinary experience were drawn, and with the alternative epistemological theories maintained here in their place. However, it seems to me a justifiable speculation that if this scheme of discriminable factors in such situations is applied and worked out adequately, then the subject matter of literary and artistic appreciation and criticism will appear in a different light, and many of the problems which traditionally perplex the critics and the philosophers of criticism will be solved, in the sense that it will be seen that they have been artificially created by a failure to discriminate some among these factors from one another.

To illustrate this, consider the two main kinds of groups into which such problems are distinguishable, viz.:

(*a*) questions about which of the various discriminable factors are present in any given case, and about the relative prominence which each of them attains; and questions about which ought to be present, and about what ought to be their relative prominence.

[1] The view, not infrequently held, that the difference between science and art is fundamental and absolute, because science deals in universals and art with particulars, appears to me to be misleading. It undoubtedly has a certain plausibility, since it does account for some of the familiar phenomena experienced in carrying out these two kinds of activity; but the further developments of it lead to difficulties, as appears in the record of the development of aesthetic theories in the histories of philosophy; and in any case it cannot be formulated at all except on the assumption of the traditional theory of the nature and relation of particular and universal which was discussed and rejected in Chapter 18.

That is to say, the view that science deals with universals and art with particulars is, no doubt, useful as a working hypothesis for application to more or less practical issues, but it is out of place in serious aesthetic inquiry.

(*b*) questions which we can call technical.

As an example of a question of the first group or kind, consider the ancient dispute between those who maintain that what an author says is what matters, and that the way he says it is unimportant, and those who maintain that literature is concerned with the style of saying, rather than with what is said.[1]

There is no way of settling this dispute as it stands. If, however, we make a discrimination of the eighteen factors in this case, we come to see that the upholders of the first view are maintaining that factors 1 and 4 are alone important, and that the remaining sixteen are negligible or nearly so; while the upholders of the second view are maintaining that 4 is of comparatively little importance (and consequently that 5 and 6 are of comparatively little importance), and that 2, 3, 7, 8, 9, 10, 11 12, 13 and 15 are of substantial importance, most of them more important than 4, and some of them immeasurably so.

A similar examination with a similar outcome can be made of the dispute between those who maintain that this or that painting is bad because it looks like nothing on earth, and those who are infuriated by such criticism and maintain that paintings need not look like anything other than themselves to be good, and need not even be beautiful, provided they are what their creator intended them to be, and provided their being this is good by some standard, not necessarily aesthetic. Thus, criticisms that such paintings are bad in perspective and very ugly are irrelevant even if true, for the painter and his appreciative critics are not interested in factors 2, 4, 5, 6, 8, 11, 13, and possibly 15, but are interested in factors 3, 7, 10, 12, 14 and particularly 16 and 17.

Again, the same sort of examination can be made of the dispute whether some cacophonous and erratic twentieth-century poetry is good or worthless. To complain of it, as some critics and most plain men do, that it is ugly and uncomfortable and depressing and restless is as unreasonable as to complain of a painting that it is inaudible. In such cases the poet is interested primarily in factor 16 and to a lesser extent in 3, 6,

[1] Only a naive theorist would maintain either of these views unqualified. I quote them only as an instance of this kind of question.

9, 12 and 17, and in 7 and 14, as are his appreciative readers. And similar examinations can be made of the familiar disputes of critics in innumerable other fields.

We can, I believe, expect and in fact achieve a measure of general agreement on this scheme of discrimination (i.e. on the epistemological theory that in the situations specified there are these eighteen factors), or on a better or more adequate one towards which the one given here is an approximation. That is to say, it is at least possible that critics may agree that in any of the kinds of situation with which they as critics are concerned, x factors can be discriminated, and that these various kinds of situation are not radically or essentially different from or opposed to one another, but differ only in the relative prominence of these x factors in each.

We cannot, however, expect any general agreement about which of the various factors *ought* to predominate and about the extent to which they ought to do so, since the way a man answers this latter question seems to depend to some extent on what we can call dispositional considerations. The position is perhaps analogous to that of epistemological and metaphysical questions as referred to on page 15, where it was said that there is a prospect of agreement on epistemological questions but none, as far as I can see, on metaphysical ones.

The second group or kind of questions are those which may be called technical. These include, for instance, the question of which colours produce which moods, and how they do so; which verbal or other rhythms produce which moods and how they do so; why minute scents revive 10 and 12 in such astonishing plenitude; why the creation of tension and its subsequent release in a musical composition is aesthetically satisfying; how precisely it is that the literary craftsman succeeds in achieving his complex result by correlating the many factors involved; and similarly of other arts and other experiences; and so on indefinitely.

These two groups or kinds of topics or inquiries together constitute the second of the two sub-divisions of the subject or

subjects which will replace logic as a living study, as referred to on the first page of this appendix. It appears to me that drastic reformulation of the traditional questions on the general lines indicated here, however defective in detail the suggested scheme may be, is a necessary pre-condition of any substantial advance in aesthetic inquiry and in artistic criticism.

Appendix B

NOTE ON DISCRIMINABLE FACTORS IN MORAL SITUATIONS

It seems to me that an analysis of moral situations on lines similar in principle, though not at all parallel in detail, to that of epistemological situations in Appendix A is a necessary pre-condition of any substantial advance in moral theory.

In any moral situation it is possible to draw up and apply any scheme of discrimination of factors that we choose. It would be possible to draw up a very comprehensive one which would comprehend both the discrimination of factors given in the preceding appendix and also the discrimination of factors for purposes of moral assessment and understanding, but this would produce so complicated a result that I think it is better to follow the one scheme for the one purpose and the other scheme for the other.

To maintain the preceding is itself a moral theory, and admittedly a debatable one, but as far as I can see there is no possibility of more adequate understanding of ethical questions if it is not accepted. Of course, even if it is accepted, the discrimination of different factors in this way would not give any theory of ethics. Some of the factors thus discriminated are not relevant to ethical theory in any strict sense, and the discrimination of those that are relevant does not provide any answer whatever to the question why some characters or some actions are morally better than others. This question is entirely separate and different, and to it the discrimination of these various factors would be relevant only as prolegomena.[1]

[1] Cf. page 214.

ADDITIONAL NOTES

These are amplifications and recapitulations placed here to avo id repetition in the text.

[1]

This note consists of further examples intended to illustrate the same two points, first, that what we call an attitude lays down limits within which must fall all our opinions within its range of relevance and such of our actions as follow from these; and, second, that we have difficulty in recognizing and giving an articulate account of the attitudes we hold.

Take an example from law. A professional lawyer and a man who has never had any legal training differ in two distinguishable ways. In the first place the lawyer will be familiar with many statutes, precedents, maxims and the like which the other will never have heard of. In the second place, and more importantly for our purpose, the lawyer will have an outlook on all legal matters which is characteristically different from the ordinary man's. The two hold different attitudes.

The first point is that the attitudes they hold lay down limits within which will fall all their opinions on legal matters and such of their actions as follow from these opinions. If, for instance, we know that a man has the characteristic lawyer's attitude, then we know also that his opinion on the legal validity of a given contract will be formed independently of the personal merits or demerits of the parties to it. What precisely his opinions and actions will be depends on other conditions (discussed in Chapter 16), for the attitude does no more than lay down limits. It determines the opinions and actions in the sense that if it were different they would be different also.

The second point is that a man may hold an attitude without being aware of holding it and, even if aware, may be unable to

describe it adequately. The layman in the example may be unaware that he has an attitude of his own on legal matters, even though he is no doubt dimly aware that the lawyer has; and he is almost certainly unaware that lawyers may hold alternative attitudes, and that the Roman and other jurisprudents devoted much labour to the study of these and gave technical names to the principal among them, such as Proculian and Sabinian.

Further to illustrate, take an example from anthropology. Consider some remote and primitive village on an East Indian island, whose inhabitants are carrying out some magical practice under the eyes of three typical observers. Suppose that an elderly man of the tribe, a visiting anthropologist and a European tourist are all onlookers at some village festival, in which the young men carry in procession a figure roughly formed of the last sheaf cut in the harvest, and then stow it in the rafters of the village headman's house 'to ensure that there will be a good crop the following year'.

These three observers will differ not only in knowing different things but also in holding different attitudes to the ceremony in question and to all similar ceremonies, practices and beliefs. The tribesman's outlook will be such that ceremonies of this kind appear to him to be effective in producing good crops, and indeed to be essential if a lean year is to be avoided. The cruising tourist's outlook will probably be that they are merely superstitions, and interesting only as being quaint and worth photographing. The anthropologist will have a very different attitude, such that he can regard the ceremony not as an isolated primitive oddity, but as one instance of a very widely-spread belief and mode of behaviour. He can see it as connected on the one hand with beliefs and practices of now extinct cultures of which he has read in the classical authors or which have been reconstructed by his fellow-anthropologists, and on the other hand as connected with attenuated survivals in the present, dissimilar only in appearance, such as the 'kirns' occasionally held on Border farms in Scotland to this day.

The attitude that each man holds lays down limits within which must fall all his relevant beliefs and such actions as are consequent upon these. If we know the attitude then we can forecast what sort of beliefs and practices there will be. If we know the tribesman's attitude, then we can forecast that if there should be a crop failure in the following season, he will think that the ceremonies have not been carried out properly or have been vitiated by the malevolence of some enemy. If we know the cruising tourist's attitude, then we can

forecast the sort of comments he will make to his friends at home when he shows them his photographs. If we know the anthropologist's attitude, then we can forecast the sort of account he will give when he writes up his findings, and the sort of way in which he will behave while he is living among the tribe and observing their customs.

Again, it is or may be very difficult to give an account of the attitude held. If the tribesman were interrogated, he would almost certainly be unable to give an account of his outlook on this and similar ceremonies. The tourist might have great difficulty in giving an account of his attitude because of its inconsistencies, e.g. he would probably regard such ceremonies as futile superstitions, while on other matters not essentially dissimilar, such as traditional cures and patent medicines, he might have a different attitude. The anthropologist on the other hand could give an account of his own attitude, but this would not be easy and would indeed constitute the hardest part of his work when he came to write up the results of his expedition.

[2]

The anthropological evidence is that the belief in progress is not found nowadays among primitives, and presumably was not held by our own primitive ancestors. In the early civilizations of Egypt, Babylon, pre-Classical Greece and elsewhere, it appears from the literary evidence (and I understand from the archaeological evidence also) that there was no such belief. The Jews of the Old Testament certainly did not believe that there was progress in history. Indeed, among them and among the Greeks of classical and Alexandrian times a decidedly contrary belief was explicitly held, namely that the state of mankind was steadily becoming worse. They believed that there once had been a Golden Age and that all subsequent conditions of mankind up to the present were merely stages in the decline from that lost perfection. Connected with this, no doubt, was the view so strongly held by Plato and others that the immutable alone is essentially good and that all change is a falling away. Various refinements of this view were current, such as that of cycles, which was forced on the relentlessly logical by the consideration that things cannot go on getting worse for ever and that there must be some end, possibly of utter chaos, after which the cycle can begin anew, and so go on indefinitely. The Roman poets and philosophers held similar views and there is much moralizing on this theme in

their writings. In early Christian teaching the view that there is no continuing progress was taken for granted, and it was believed that the only way in which decline and deterioration could be reversed or even arrested was by some special Divine interposition contrary to the run of the natural order. After the close of the brief period in which an early Second Coming was expected, such Divine interpositions were not hoped for in other than special cases so unusual as to be called miraculous. The Christian and the pagan alike believed that the state of man here below was continually worsening, each quoting the opinions and behaviour of the other as additional evidence for this conclusion. Throughout the Dark Ages, the medieval period and the Renaissance period these views continued largely unchanged. Some few thinkers, such as Machiavelli, took a more detached view, believing that there is no discoverable trend in the history of civilization, one way or the other, and that the state of mankind may become better or may become worse.

In the later Renaissance period there appear what are perhaps the first signs of a fresh view, and in the seventeenth century there is indubitable evidence that some few men here and there, particularly writers on political theory, were beginning to adopt tentatively the view that civilization does progress, and by its nature must continue to do so, though there is not much evidence until the eighteenth century of the view's being held explicitly. When it did come to be held explicitly, it spread fairly rapidly, and by the middle of that century it had become almost a dogma in certain circles, such as those of which the Encyclopaedists were typical and those on which they exerted an influence.

This new belief in progress was still far from universally accepted, and men widely different in other respects agreed in rejecting it. Gibbon spoke of history as no more than a record of the crimes, follies and miseries of mankind, and John Wesley believed that the trend in human development was for the worse. Even so, the belief in progress became more and more widely held among educated people in Western Europe as the eighteenth century went on, and in the course of the nineteenth century it continued to spread, accelerated by scientific advances and their application. By the end of the century, the majority of the educated classes in Europe and America held it expressly, and the majority of the uneducated classes accepted it at least tacitly.

In more recent years, the belief in the certainty of progress has lost its hold. As early as the turn of the present century, creeping doubts or at least a diminished confidence had become apparent among serious

thinkers, and were noticeable in even popular writings on serious subjects. These weakenings were, however, comparatively unimportant, and it was not until the nineteen-twenties and thirties that the belief began to show signs of passing out of general acceptance. To-day we can all find among our contemporaries some who still hold it, including some who hold it or something like it for Marxist reasons, but we can also find others who would maintain that there is no natural tendency either to betterment or decay, and that either may occur as chance may have it. The revival of emphasis on original sin doctrines in contemporary theology is no doubt connected with this substantial weakening or disappearance of the nineteenth-century confidence in the inevitability of progress, while a more recondite reaction has been expressed some years ago in works such as Spengler's *Untergang des Abendlandes*, and subsequently in the speeches of Hitler and others, which take a view of civilizations as organic and as having in consequence a youth time, a maturity, a decrepitude and death.

We could not, I think, find any now who hold the ancient belief in a decline from a Golden Age. No doubt we could find some who would assert that we are now in the imminence of destruction, and that our civilization is about to disintegrate into authoritarianism or vulgarity or both, but this is not a revival of the old belief in an inevitable decline. It is the belief that there is no trend or pattern.

[3]

A limited amount of evidence is available on the beliefs of very ancient and primitive peoples about this matter. The archaeological evidence can, I understand, be interpreted as indicating that they took a teleological view. If they did hold such a belief, it was not a belief in any one purpose in the world around them, but in many different purposes, some of these being mutually antagonistic. Later, in the ancient civilizations, a teleological view of the natural universe was widespread and explicit, with some Epicurean and other exceptions. The belief was held similarly in Roman times, and under Christian influence the exceptions mostly disappeared. Men thought that things are what they are, because God for his purposes made them so. The contrary view must still have been held, as references to minor heresies involving it crop up in the theological controversies of the early Church, but it was held by few, and obscurely.

For many hundreds of years thereafter, up to the eighteenth century, the belief that the material universe was a work of design

was held in much the same way, and with much the same sorts of dissentients. In the eighteenth century the first considerable doubts begin to appear. By the end of that century, it had become at least a matter of explicit controversy in learned circles whether the belief was properly tenable, but it was not until about the middle of the nineteenth century that there was any widespread decline in the acceptance of it, and then mainly owing to the indirect effect of advances in the sciences. Since then, there has been a further decline, until to-day the belief has almost entirely passed out of educated thought except among those who have special considerations constraining them to retain it, such as certain types of theologian. Outside educated circles, it still remains widely held.

[4]

A frequently quoted example is explanation of the phenomenon of post-hypnotic suggestion. A subject may be hypnotized, told to open a certain window at a specified time some hours or even days later, told also to forget that the suggestion was made to him, and then brought out of hypnosis. As the specified time approaches, he will become restless, will move about the room, and at the time itself will make some remark such as: 'This room is getting stuffy. I think we'd better have the window open', and open the window. He will himself be unaware of the cause of his behaviour, and he will believe himself to have carried out a purposive act. The psychologist who hypnotized him knows that the act is to be causally explained, because he himself was responsible for the cause, and that the subject's own explanation of his act in terms of purpose is a 'rationalizing' after the fact.

In other cases of human behaviour apparently purposeful, and believed by the actor to be purposeful, the psychologist also seeks similarly for a cause, and does not consider that he has explained the behaviour until he has found it. If we are interested in psychology, particularly in its modern developments, we from time to time observe ourselves attempting the same on our own behaviour, trying to find out what are the causes which have made us act in ways that seemed to us at the time to have been purposive, and sometimes being startlingly successful.

[5]

The doctrine that this division of properties and accidents is funda-

mental and absolute is still taught in formal logic to the satisfaction of the duller students and the uneasiness of the more penetrating. The uneasiness arises on their finding cases in which the traditional doctrines of property, accident, definition and the like cannot be made to apply without what appears to them to be 'cooking'. That is to say, this doctrine or complex of doctrines has a history parallel to that of any other theory of high generality. When it is invented it constitutes an enormous advance and brings order and comparative simplicity into a field which was previously chaotic, as in this case Aristotle's doctrine conspicuously did. The impressiveness of this advance leads to the new theory's being regarded not as a theory but as the mere recognition of what simply is, and therefore to its being treated as not open to question. When, later, particular instances are found in which it is patently inadequate, these are not at first considered as evidence that the theory itself is inadequate and that it ought to be abandoned and replaced, but instead they are dealt with by further *ad hoc* additions to and refinements of the original theory. An extensive body of additional doctrine is thus built up until the point is reached when it is recognized that the theory itself is defective, at which point the theory and all its developments and refinements are abandoned *in toto*, and disappear into the histories of the subject.

[6]

The observations on pages 114 ff. on the conditions which have to be satisfied if I am to be successful in 'conveying information' to another man can be restated in reference to these two distinctions of form and matter as follows.

In any case of a man's 'being told something' or 'understanding a statement', both of these distinctions are involved. When I make a statement, I am using linguistic devices which have or may have the effect of making other men adopt certain attitudes or follow certain ways of selecting and grouping in their attention, and I may succeed or fail, partially or wholly, in making them do so precisely in the ways I intend. My success or failure is dependent partly on the form of the linguistic devices which I employ and partly on the form of the situation which my interlocutor is already experiencing as the outcome of the attitudes he is already holding or the ways of selecting and grouping in his attention he is already following. In other words, if I am to be understood when I make a statement to a man, two conditions must be fulfilled. The first is that we must both speak or at least understand the same language; i.e. the 'forms in sense (*a*)'

of the linguistic contrivances which I employ must be such that they do in fact lead my interlocutor to adopt the attitudes and follow the ways of selecting and grouping in attention that I intend.

The second condition can be indicated as follows. When I am about to make a statement to a man, he does not await my statement in a state of utter ignorance. He already has a certain complex experience, or in other words, he already holds certain attitudes or follows certain ways of selecting and grouping in his attention, and experiences a certain wide situation with various sub-situations within it. Any statement that I make to him will therefore be unintelligible unless the wider situation which I experience and the wider situation which he experiences are sufficiently similar, i.e. unless their 'forms in sense (*b*)' are the same or sufficiently similar.

[7]

The conclusion of earlier chapters as applied to this case of the 'real' pyramid (i.e., the conclusion reached by taking into account the whole, and not merely a part, of the epistemological situation in which I see this little wooden pyramid) is that there is no pyramid existing as a separate, self-complete entity in and by itself, common to us all. What I refer to as 'the pyramid' is a part of what I experience as the outcome of my following certain ways of selecting and grouping in my attention. In the independent reality—in so far as this can intelligibly be referred to—there is neither a little wooden pyramid nor no little wooden pyramid. There is a pyramid only in the situation I experience because I follow these ways and not others.

This holds of what were described in earlier chapters as 'ways of high generality'. For instance, I experience the pyramid because I hold the attitude or follow the way which eventuates in my experiencing relatively enduring particular objects and not a series of events or flux of processes, and which eventuates in my experiencing these as spatially related, and as causally related, and so forth.

This holds also of 'ways of lower generality'. That is to say, my seeing the pyramid is the end-product of complex processes of selecting for attention a very little indeed out of what is available to me to select from, and by grouping in my attention in certain ways what I have selected.

Further, when I have the experience which we refer to as 'seeing the wooden pyramid', what I am seeing and otherwise experiencing is not a pyramid in isolation by itself, but is a vast and complex situation within which is this pyramid on which latter my attention

is concentrated. Consider it as, for instance, a spatial situation, since this is probably the most obvious way in which the point can be illustrated. What I experience is not a pyramid in isolation by itself, but a vast spatial situation within which, in the focus of my attention for the time being, is this pyramid, in spatial relations to all the rest of this vast situation, such as what it is resting on, and my own head and eyes, and the furnishings of my study, and the Forth Bridge and Cassiopeia. These other objects are of no special interest to me at the moment, and are therefore not expressly attended to, and no explicit reference is made to them, but they also are there in the same sense as is the pyramid. What I experience is, similarly, a temporal situation, within which is my seeing the pyramid now; and a situation of innumerable causally interrelated events and conditions, within which is my seeing the pyramid now; and so forth. The discussions of all the preceding chapters could be repeated afresh again with reference to this particular example. The essential point is that what I experience when I see the pyramid is not simply the pyramid in isolation but this vast situation within which is a more limited sub-situation, i.e. 'the little wooden pyramid', on which my attention is concentrated.

This could be stated in another metaphor as follows. When I see the wooden pyramid I do so only because I am holding certain attitudes (or theories, hypotheses, etc.). If these attitudes were not what they are, then I should not see a pyramid, but something different. These attitudes form a hierarchy of various levels. Those on what we may call the higher levels determine what was referred to above as the wider situation, i.e. they lay down limits within which it must fall, and those on what we may call the lower levels determine similarly what was referred to as the sub-situation within it.

[8]

The arguments for this can be recapitulated as follows. In the first place, as in the case of the real pyramid, there is no illusory pyramid as a separate, self-complete entity, in and by itself. There is no such separate unit of illusion. What I refer to as 'the illusory pyramid' is a part of the experience I have as the outcome of my following certain ways of selecting and grouping in my attention. In the independent reality—in so far as this can intelligibly be referred to—there is neither an illusory pyramid nor no illusory pyramid. There is a pyramid only in the situation which I experience because I follow these ways and not others. For instance, this is so

because I follow the way which eventuates in my experiencing these as spatially related; and as causally related; and so forth. That is to say, my seeing the illusory pyramid is the end-product of complex processes of selecting for attention a very little indeed out of what is available to me to select from, and by grouping in attention in certain ways what I have selected.

In other words, what I experience when, as we should ordinarily say, I look through the stereoscope and see a pyramid, is not 'a pyramid' but a vast and complex situation within which is this pyramid on which my attention is concentrated.

It may be convenient to repeat in some detail the parallel with the case of the real pyramid. Consider this situation in its spatial respects. What I experience is not this pyramid in isolation by itself, although this alone is what I am interested in for the time being, but a vast spatial situation within which is the pyramid, in spatial relation to all the rest of that vast situation, such as my head and eyes, the page on which the diagrams are printed, the stereoscope itself if I am using one, and the desk and the rest of the furniture in my study.

It may be objected that all this is irrelevant, since when I look through the stereoscope I see the illusory pyramid and nothing else. To this objection, the answer is that the objection depends for its cogency on the epistemological theory that I experience particular items or have particular sensations which are so in themselves, whereas the argument of this book is that I do not, and that these particular items are noticed by me as particular items only as the outcome of my processes of selecting for attention a very little from among what is available for me to notice, and of grouping in attention what I have thus selected. For practical purposes, it is convenient for me to make no explicit reference to these various other objects, etc. which are of no special interest to me at the moment, but they are nevertheless there in the same sense as the illusory pyramid is, and it stands in spatial relations to them. What I experience is, similarly, a temporal situation, within which is my seeing the illusory pyramid now; and a situation of innumerable causally interrelated events and conditions; within which is my seeing the illusory pyramid now; and so forth.

The essential point is that what I experience when I see the illusory pyramid is not simply a pyramid in isolation, but this vast situation within which is a limited sub-situation, i.e. 'the pyramid I see through the stereoscope', or simply 'the pyramid', on which latter my attention is concentrated.

[9]

When we first learn something of the structure and function of the eye, we are impressed by the fact that the retina is, as we say, sensitive to light waves. Light waves, or electro-magnetic radiations of various periodicities, fall on the eye, and then, after complicated physiological changes in the retina and the higher levels of the central nervous system, something happens which we call 'seeing'. In the next stage of our increasing acquaintance with the eye, we are astonished to discover how very small a range, out of the total range of periodicities which we know from the work of the physicists to fall on the eye, do in fact produce any such effects. We note that the eye is not only an organ which reacts to radiations within a certain range of periodicity, but is also, and equally importantly, an organ which does not react to any outside that range. The eye is in this sense selective, and astonishingly exclusive in its selective action.

This selectivity varies from person to person, as we well know from acquaintance with colour-blind persons and similar cases. It varies extremely from species to species among animals and insects, and it may vary also from time to time in any one person or animal or insect. In human beings it varies to a small but detectable degree under the effects of fatigue or drugs, while in some animals and insects, particularly bees, there are astonishingly wide variations at different times and seasons.

The sum of the matter for our present purpose is that our eyes carry out this selective function, and that it is only because they do so that we see what we do see. If our eyes performed this selective function differently, then we should see different things.

There is a suggestive parallel between this strictly physical or physiological selectivity and the 'selectivity on the mental level' shown in the writing of history and in the other examples quoted in earlier chapters. The principal apparent difference is that, in the case of the eye, altering the selectivity does not appear to be directly within our powers in any way. The outcome is determined by the physical and physiological structure and functioning of the eye and the relevant parts of the central nervous system. The eye seems to be selective in the sense in which a potato-riddle is selective, when it retains big potatoes and passes little ones. (In this, no account is taken of any apparent non-responsiveness of the eye due to psychological factors, as in the functional blindnesses investigated by psychiatrists. At this point we are concerned with strictly physical or physiological selection only.) In addition, there appears to be

also, in the strictly physical or physiological functioning of the eyes and the central nervous system, something akin to what was described earlier as grouping in attention. This is particularly striking in the phenomena of binocular vision. Here again the grouping processes, if we can so call them, appear to differ in different persons, and in the same person at different times. Of course, we cannot properly separate the selective from the grouping functions in this physiological context, though it is superficially possible to do so, any more than we could when discussing selecting and grouping 'on the mental level'. Here again, 'selecting' and 'grouping' are partial descriptions in metaphorical terms of a more complex process.

For our present purpose, the sum of the matter is that we see the things we do see only because these physical and physiological processes which can be metaphorically described as 'grouping' are what they are. If these processes were different, then we should see different things.

[10]

This objection can be answered in two ways. The first is to point out that it presupposes that what we make statements about in any given case is an independently-existing object or situation which is common to us all. That is to say, the answer is that the objection presupposes two theories which are untenable for the reasons given in earlier chapters, namely:

(*a*) that the fact in question, or the person, object, etc., concerned, is a fact, or person or object, etc., in and by itself,
(*b*) that the fact, etc., is common to us all.

As Chapter 12 was inserted specially to emphasize, to maintain pre-supposition (*a*) is to hold and apply an epistemological theory, and this theory is untenable. If it is presupposed, as it ordinarily is both by plain men and by philosophers with some few exceptions, then the question of the nature of truth and falsity is certainly one of the difference between a true statement which is in accord with the facts and a false statement which is not so. Any man who tries to answer the question thus posed will find himself producing one or other of the various theories of truth which have already appeared in the philosophical tradition. He will probably begin by producing the correspondence theory, and will then find so many objections to it that he will have to replace it by some other, and this will probably be some form of what we now know as the coherence theory. If

he then works out the consequences of this new theory, he will find that he has raised new problems for which he cannot find any solutions. He will thus recapitulate in his own brief course the succession through which the philosophers of the European-American tradition have progressed in the passage of several centuries. He will in this way find out for himself that if any man starts inquiring into the nature of truth and falsity on the assumption that there are facts which are so in and by themselves, he will end by raising problems for which there are no solutions; and will come by this path to the conclusion reached by another one in Chapter 12 on Facts.

Just as it has for some time been recognized that laws of nature and the like are not mere announcements of what is absolutely so, independent of any theories, but are themselves theories or hypotheses attempting to account for the data in the particular field concerned, so has it to be recognized that all statements about even the most limited and concrete matters of fact are hypotheses attempting to account for the data in the limited fields in question. (The doctrine propounded by some formal logicians that universal propositions are, or are to be understood as, hypothetical propositions, is, I believe, an approximation to a recognition that all statements are hypothetical in the sense of the view in the text. This is not in itself an argument in favour of the view in the text, but is at least an indication of a recognition by some formal logicians that the common or traditional view of the nature of statement is unsound in at least some respects.)

Mr. Baldwin was Prime Minister in 1936, though it has of course the appearance of being a simple statement of an isolated fact which is a fact in and by itself, is the expression of an hypothesis attempting to account for the relevant data in the field of recent British politics; just as *The planets revolve round the sun* has the appearance of being a simple statement of an isolated fact which is a fact in and by itself, but is the expression of an hypothesis attempting to account for the relevant data in the field of astronomy.

These two hypotheses do account for all the relevant data in their respective fields. Other hypotheses, such as *Mr. Baldwin was Lord President* and *The planets revolve round the earth* may account for some of the relevant data, but do not account for all. When we are comparing the statements *Mr. Baldwin was Prime Minister* and *Mr. Baldwin was Lord President*, we are comparing two hypotheses, and what we have here to inquire into is the criterion by which we hold that the first is a more adequate hypothesis than the second. That is to say, presupposition (*a*) is not tenable.

As to presupposition (*b*), the essential point, of which Chapter 12 on Facts and Chapter 14 on Language and Statement and indeed all the earlier chapters leading up to them are lengthier expositions, is that the common or traditional epistemological view or theory is untenable, according to which we, when comparing what we call 'true and false statements about the same situation', are really comparing statements which 'are about' or 'refer to' one situation which is common to us all. In place of that view we have to take the radically different one that in the cases of the statements under consideration we have two or more men (or the same man at different times) holding somewhat different attitudes, or following somewhat different ways of selecting and grouping in attention, and that the adoption of these attitudes or the following of these ways, or the more explicit recognition that these are held or followed, is brought about by certain series of linguistic contrivances; and that what we are comparing are the attitudes or ways which each man severally follows, and the situations which each man severally experiences. In the example quoted, there is no independently real political situation common to us all. In the independently real which is common to us all, if such can be intelligibly referred to, there is neither a political situation nor no political situation. A political situation exists only within the situation which each man experiences by holding these attitudes, or following these ways of selecting and grouping in attention.

The answer to the objection is, therefore, that the epistemological theory in terms of which alone it can be intelligibly formulated depends on two presuppositions which are themselves rejected for the reasons given.

This same answer in another form could be given by answering the specific question: 'What is it that we are selecting for attention and grouping in attention in the two cases of (*a*) Mr. Baldwin in the position of Prime Minister and (*b*) Mr. Baldwin in the position of Lord President?' To give the answer here would be to repeat afresh in this context, with reference to this specific instance, the whole of the theme of Chapter 16 on Appearance and Reality.

[11]

To exemplify fictional statements take some novel, e.g. *Barchester Towers*, and to exemplify comparable true statements take accounts of life in and about the Close of Lincoln or some other cathedral city in the eighteen-fifties, such as one would find in contemporary

sources or in works based on them. In the second example, we have many long series of linguistic contrivances which lead a reader to adopt certain attitudes or theories or to follow certain ways of selecting and grouping in his attention, the outcome of which is his having an experience which we describe as an experience of the Close of Lincoln and of the ecclesiastical and social life in and about it at that period. What we have to inquire into is therefore not what constitutes the difference between the 'true statements' and the 'fictional statements' (for the reasons referred to in Chapter 19 on Truth), but what differentiates the attitudes or theories or ways of selecting and grouping or situations experienced in the first case from those in the second.

It may be objected that this approach is altogether wrong. It may be said that we know very well that the city and cathedral of Lincoln existed in the eighteen-fifties and that the city and cathedral of Barchester did not, and that what we have to do is to leave all these sophistications aside and find out wherein the true statements differ from the fictional statements. The same objection may be made in more particular form as follows. The objector will no doubt allow that it is intelligible to talk of the way of selecting and grouping in attention whose outcome is an experience of Lincoln, because from the vast and complex situation that confronts us we can select Lincoln for attention, to the exclusion of the remainder; but he will also maintain that it is unintelligible to talk of a way of selecting and grouping in attention whose outcome is an experience of Barchester, because from that vast complex we cannot select Barchester for attention, since there is no Barchester in it.

This can be answered in one way by pointing out that the objection depends for its cogency on certain presuppositions which have been found to be untenable (which would involve repeating Note 10) and in another way by answering the question *What is it that we are selecting and grouping in our attention when we know or experience the imaginary city of Barchester?* which would involve repeating the whole of Chapter 16 on Appearance and Reality.

Our position is that here we have what would ordinarily be described as a large number of true statements and a large number of fictional ones, and we have to investigate the difference between them. This difference, i.e. the difference between the epistemological situations in which these true and false statements are made and have their effects, can be described in various ways as follows.

We may say that what we have to compare are two experiences,

or two situations which are experienced. In the first case, there is the situation, or 'wider situation' in the terminology of page 95, which is the whole of my experience or the whole of what I experience, within which, as a sub-situation on which my interest and attention are concentrated, is what we can describe as *Lincoln and its Close and the men and women in and about it.* In the second case, there is the wider situation which is the whole of my experience, or the whole of what I experience, within which, as a sub-situation on which my interest and attention are concentrated, is what we can describe as *Barchester and its Close and the men and women in and about it.* It is, of course, to be borne in mind that what we are comparing is one situation experienced by me under certain conditions (of the three kinds mentioned on page 148), and another situation experienced by me under slightly different conditions of these three kinds. As emphasized in that chapter and elsewhere, there is no 'independent situation' common to us all. What is common is the third of the three kinds of conditions mentioned there, and from it we each select, under the other two conditions, what we *call* the situations we experience. The two situations under consideration here differ in certain respects, but—and this is the essentially important point—these respects in which they differ are minor in comparison with the respects in which they do not differ. In other words, the 'wider situations' in the two cases are similar, while the 'sub-situations' are different. Consider what was referred to as the 'wider situation' in the two cases under review. The situations are in the first place situations in which there are human beings in a spatio-temporal setting, in which there is a dependable regularity in natural happenings, in which there is order, in which there are objects which are relatively enduring through time, in which there are persons who retain their personal identity through time, and so forth. Further, the two situations are both in what we can refer to as Victorian England, and much of what we can refer to as social usage and the like is similar in them both. It is only when we concentrate our attention on what we can call the limited sub-situation within the wider situation that we find differences.

We may say that what we have to compare are two ways of selecting and grouping in attention, namely the way whose outcome is what we should ordinarily call an experience of Lincoln in the eighteen-fifties, and one whose outcome is what we should ordinarily call an experience of the fictional or imaginary Barchester at the same period. These two ways differ in certain respects, but these are

minor in comparison with the respects in which they do not differ. E.g. in both cases we follow those ways of selecting and grouping in attention whose outcome is our experiencing a spatio-temporal world in which there are objects and persons which are relatively enduring through time, in which events can be discovered to be causally connected, and so forth. The two cases differ in the comparatively small respect that in the one case we select for attention and group in our attention those elements or constituents or parts which we call Lincoln, etc., and in the other case we select for attention, and group in attention certain other elements or constituents or parts of the ultimate reality which we call Barchester.

If it is objected to this that Barchester is not discovered but is invented or created, then the answer is that this is indeed so, in the ordinary sense of these words as used in the practical affairs of life; but it is not so in the sense of the discussions in this and earlier chapters of what it is that we select and group in attention. That is to say, this objection is sound and conclusive if the theory of the nature of statement is held which is traditional in our society, but which is controverted and rejected in Chapter 14 on Language and Statement and in subsequent discussions. If the alternative view is adopted and applied, then it becomes clear that the difference between what we call the true or real state of affairs which is discovered and what we call the fictional or imaginary one which is invented, is a difference like that between what is true and what is false as discussed earlier in Chapter 19.

We may say that what we have to compare are two theories, namely the theory indicated in the records and the like about Lincoln which were referred to, and the theory indicated in *Barchester Towers*. Each of these may be regarded as a theory endeavouring to account for or explain the relevant data, namely the state of England, particularly ecclesiastical England, at that period. The first of these is markedly better by any criterion for this purpose than the second, which is why we say that it is true, but the second is tenable for certain limited purposes, like many another theory, and is therefore retained, with a recognition that it is tenable for these limited purposes only, which is why we call it fiction. We should agree that the accounts of Lincoln were true and the accounts of Barchester not so, though we might perhaps add that a man could learn more about life in early Victorian cathedral circles by reading the untrue statements about Barchester than by reading the true ones about Lincoln.

That is to say, the theories, or ways of selecting and grouping, or experienced situations which are the outcome of holding or following these, are in the first case preferable by some standard to those in the second, i.e. we make this discrimination by the criterion already referred to in similar connexions.

In addition we make a further assessment, saying that the various fictional statements which together make up the story called *Barchester Towers* are coherent one with another, and are thus 'fiction' and not a string of unrelated false statements.

It may at first appear that the criteria employed in these two different cases are themselves different, but this is not so. The criterion by which we hold that the various constituents of the situation which we call Barchester and the happenings in it and in its Close are compatible with, or coherent with, each other (and thus constitute convincing fiction), is the same criterion by which we hold that these as a whole are not compatible with, or coherent with, the remainder of the wider situation which we should refer to as Victorian England at that particular period (and are thus fiction and not truth, as we say).

We can generalize very roughly these conclusions about the criterion by which we discriminate between the true and the false and between reality and fiction. We can see that where we have a body of statements that are coherent among themselves, we have what we call fiction, and when these are coherent with all of our experience, then we have what we call truth. That is to say, truth is what we have when all our experience is in this way coherent. In this sense, the coherence theory is at least free of the radical misunderstanding involved in the correspondence theory, since there are some things that can cohere, but there is nothing to correspond, (except of course in terms of the theory or attitude which is endemic in our society, and which produces problems which have no answer, and which therefore has to be abandoned).

It can thus be seen that the discussion of the nature of coherence is not a discussion of epistemological fundamentals, but is a discussion of a problem on the second level immediately below the supreme one, which is not itself discussed. The discussions in Chapter 19 have been an attempt to deal more directly with the higher level attitude, and that is why there are no references to coherence as such in it.

[12]

A similar account of mediate inference can be given. Consider for this purpose the familar textbook instance of the elderly abbé who, while talking of his early experiences as a priest, responded to a tea-table comment that the secrets of the confessional must sometimes be of a kind disturbing to a young man by agreeing that it had indeed been so in his case, for the first confession he ever heard was one of murder. After his departure, his visit was mentioned to a later caller, a local proprietor and notability, who remarked that the abbé and he were very old acquaintances. 'Indeed', he added, 'I was his first penitent.' Here the two items of information were given by different persons, at different times, and were independent of each other, and yet, when taken together, they provided a third and fresh item of information.

The first statement is a series of linguistic contrivances which have the effect of drawing the attention of any person who understands them to (i.e. have the effect of making him have experience of) a certain broad situation, namely France at the period in question, with a social structure in which there were landed classes, in which priests heard confessions, and so forth, with special interest in and concentration upon a sub-situation within it, namely the fact that the young priest's first penitent was a murderer. The second statement is likewise a series of linguistic contrivances which have the effect of drawing the attention of any person who understands them to (i.e. have the effect of making him have experience of) the same broad situation, but this time with special interest in and concentration on a slightly different sub-situation within it, namely the fact that the young priest's first penitent was the local magnate. When the complex situation to which attention is thus drawn is considered, it is *observed* that the magnate is a murderer. The description of this fact, i.e. the series of linguistic contrivances which would draw attention to the same situation, but with special interest in and concentration upon this last fact as a sub-situation, is what we call the conclusion.

That is to say, the first statement or premise of the argument is one description of the situation; the second statement or premise is a second description; and the conclusion is a third. The connexion between the premises and the conclusion lies in the situation itself.

A similar account can be given of inferences of other kinds. Con-

sider the example which commonly appears in textbooks as an instance of arguments which cannot be put into syllogistic form, namely that A is to the right of B, B is to the right of C, therefore A is to the right of C. The first premise is a series of linguistic contrivances which serve to draw attention to a certain situation, namely the spatial one in which objects and our bodies are located, with special attention to the sub-situation, namely the spatial relation in which stand A and B and the observer. The second premise is a series of linguistic contrivances which serve to draw attention to the same broad situation, with special attention to the spatial relation in which stand B and C and the observer. A man contemplating the situation to which his attention is thus drawn then further notices something—among other points not relevant—to which attention could be drawn by the linguistic contrivances we call the conclusion, namely that A is to the right of C. Again, the first premise is one description of the situation; the second premise is another; and the conclusion is a third. The connexion between the premises and the conclusion lies in the situation itself.

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