AN ESSAY ON METAPHYSICS

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I

ARISTOTLE'S METAPHYSICS

IN writing about metaphysics it is only decent, and it is certainly wise, to begin with Aristotle. Metaphysics, as known to all the peoples whose civilization is derived either wholly or to any considerable extent from Christian or Mohammedan sources, is still the science that Aristotle created. Unless we understand its motive in Aristotle's mind and its function in Aristotle's system we are not likely to understand its later history or the obscurities which surround its present position. The first step, therefore, towards clearing these obscurities away is to ask what the name stands for in Aristotle's writings.

The literally correct answer is that it does not stand for anything there, because it does not occur there. It is not Aristotle's name for an Aristotelian science. The word 'metaphysics'[1] represents the Greek phrase τὰ μετὰ τὰ φυσικά, 'the [books] next

[1] 'Physics', 'metaphysics', 'ethics', 'politics', and 'economics' are plural in English because they are names of Aristotelian treatises, and a treatise which will go into one modern volume had to be spread over several Greek volumes. But because each of these represents only a single science, these plural substantives govern singular verbs: 'physics is . . .' not 'physics are . . .' We say 'logic', not 'logics', because there is no Aristotelian treatise τὰ λογικά. There is, however, a group of works collectively called τὰ ἀναλυτικά, and from this we have in English 'analytics'. Substantives like 'metaphysic', 'ethic', 'analytic', are solecisms, due to pedantic imitation or ignorant translation of forms which are correct in other languages.

after the *Physics*'; and this phrase was used not by Aristotle himself but by his ancient editors as a title for a certain group of treatises which they placed in that position in the *corpus* of the master's works. As to what those treatises contain, the phrase is entirely non-committal. In its first and most proper sense, therefore, as a title borne by one of Aristotle's works, 'metaphysics' is not the name of a science. It is the name of a book. It corresponds in modern usage not with such titles as *Plane Trigonometry* or *The Origin of Species*, but with such titles as *Collected Works, vol. viii.*

For us, no doubt, the word is no longer merely the name of a book by Aristotle. It is the name of a science. The word 'science', in its original sense, which is still its proper sense not in the English language alone but in the international language of European civilization, means a body of systematic or orderly thinking about a determinate subject-matter. This is the sense and the only sense in which I shall use it. There is also a slang sense of the word, unobjectionable (like all slang) on its lawful occasions, parallel to the slang use of the word 'hall' for a music-hall or the word 'drink' for alcoholic drink, in which it stands for natural science.

Metaphysics is for us the name of a science, and has been for many centuries, because for many centuries it has been found necessary, and still is found necessary, to think in a systematic or orderly fashion about the subjects that Aristotle discussed in the group of treatises collectively known by that name.

Towards the end of the eighteenth century Kant observed that logic had undergone no radical changes since it left the hands of Aristotle. The same observation can be made towards the middle of the twentieth about metaphysics. A great deal of work has been done in metaphysics since Aristotle created it; but this work has never involved a radical reconsideration of the question what metaphysics is. A great deal of grumbling has been done about it, too, and a great many people have declared the whole thing to be a lot of nonsense; but this, too, has never involved a radical reconsideration of what the thing is. On that question Aristotle bequeathed to his successors a pronouncement containing certain obscurities; and from his time to our own these obscurities have never been cleared up. To clear them up is the task of the present essay.

Aristotle calls the science of metaphysics by no less than three different names. Sometimes he calls it First Science, *πρώτη φιλοσοφία*, *φιλοσοφία* being his regular name for science as I have just defined the word. The word 'first' refers to logical priority. First Science is the science whose subject-matter is logically prior to that of every other, the science which is logically presupposed by all other sciences, although in the order of study it comes last. Sometimes he calls it Wisdom, *σοφία*, with the implication that this is the thing for which *φιλοσοφία*, science, is the search; this again implying that in addition to their immediate function of studying each its own peculiar subject-matter the sciences have a further function as

leading to a goal outside themselves, namely the discovery of what they logically presuppose. Sometimes he calls it Theology, θεολογική, or the science which expounds the nature of God.

By lavishing three different names upon the same science Aristotle has made it possible for any one who understands his vocabulary to grasp without further explanation how he conceived that science's nature. I will try to show what I mean by offering in the rest of this chapter a paraphrase of the three names I have quoted.

'The subject-matter of any science is something abstract or universal. Abstractness or universality is subject to degrees. Where a generic universal A is specified into two sub-forms B and C, as number is specified into odd and even, A will be more abstract, more universal, than B or C. In such a case A is the logical ground of B and C; that is, A by its own nature gives rise to its own subordinate forms, B and C. If you understand the nature of number you can see that it follows from this nature that there must be odd numbers and even numbers, and that any number must be either odd or even. This is another way of saying that number is the logical ground of oddness and evenness.[1]

'Theoretically, there is or might be a science of any universal. Practically, one science means what it is

[1] The fact that according to Aristotle the generic universal A is the logical ground of its own specific sub-forms, B and C, may be expressed by calling the unity of A a 'self-differentiating unity' We shall meet this phrase again on pp. 212, 219, 220.

convenient to regard as a single subject of study; so for practical reasons we regard geometry as one science and not a number of sciences, viz. trigonometry or the science of the triangle, cyclometry or the science of the circle, and so forth. But theoretically there are these sciences within the body of what we call geometry; and practically it might some day be found convenient to distinguish them.

'Wherever a generic universal A is specified into sub-forms B and C, and wherever B and C are respectively the subject-matters of two sciences, these two sciences have certain principles in common. These principles form the science whose subject-matter is the universal A. Let A be quantity. There are two kinds of quantity, continuous or measurable and discrete or countable. The special science of continuous quantity is called geometry; the special science of discrete quantity is called arithmetic. For the most part geometry and arithmetic run on different lines, each studying problems peculiar to itself. But there are some principles which they agree in recognizing. These principles, because they figure in both sciences, belong to neither; they belong to a general science of quantity as such, or general mathematics.

'This general science of quantity as such will not be studied by the young mathematician until he has found his way about in the special sciences of geometry and arithmetic. From the learner's point of view it comes after them. But from the logical point of view it comes before them. Its subject-matter is the logical ground of theirs. The propositions it

affirms are presupposed by the propositions they affirm. Thus corresponding with the A B C pattern among universals we have an A B C pattern among the sciences that study them. The superordinate science A is always logically prior to the subordinate sciences B and C, but in the order of study it is always posterior to them.

'This A B C pattern among universals is not merely a pattern that crystallizes out among universals here and there. It is present in all universals. All such patterns are part of one single pattern. All universals whatever are to be found somewhere in a system which, according as you look at it, may be called a system of classification or a system of division. Every universal is potentially at least the subject-matter of a science. There is potentially, therefore, a system of sciences corresponding with the system of universals. Within this system any one science will be (i) co-ordinate with another or others whose subject-matter is a universal or universals co-ordinate with its own, as geometry is co-ordinate with arithmetic; (ii) subordinate to another whose subject-matter is a universal superordinate to its own and standing to that as logical ground, as geometry is subordinate to general mathematics; (iii) superordinate to others whose subject-matter is universals subordinate to its own and standing to that as logical consequents, as geometry is superordinate to the special geometries of the triangle and the circle.

'I say this will be true of any one science "within" the system, because it would not be true of the terminal

sciences on the fringes of the system. The system does not go on for ever. At the top and bottom it stops. At the base of the system of universals there are universals which are *infimae species*, not giving rise to any further sub-species. At its top there are universals which are *summa genera*, not species of any higher genus. Or rather, strictly speaking, there is only one *summum genus*. The ten "categories" recognized by logic are the ten species of the genus being; they are the γένη τῶν ὄντων, the forms into which being is specified. Thus there is only one pyramid of universals, and at its peak the universal of being.

'The system of sciences will have the same shape. At its bottom will be sciences of all the *infimae species*, and these will be sciences not superordinate to any others. At its top will be a single science, the science of being; being in the abstract or being as such, pure being, τὸ ὄν ᾗ ὄν. This will be the First Science in the sense that it is logically presupposed by every other science, although from a learner's point of view it is the Last Science, to be approached only when all the others have been to some degree at least mastered.

'As the Last Science it will be the ultimate goal of the scientist's pilgrimage through the realms of knowledge. The person who studies it will be doing what in all his previous work he was preparing himself to do. Hence if any particular science is described as some particular form or phase of or search for a wisdom which within its own limits it never quite achieves, this First and Last Science must be described not as

φιλοσοφία but as σοφία, the Wisdom for which every kind of φιλόσοφος is looking.

'Lastly, since every universal is the immediate logical ground of those immediately subordinate to it, and hence indirectly the ground of the universals which are subordinate to those, the first and last universal, pure being, is directly or indirectly the ground of all other universals, and the First and Last Science is therefore the science of that which stands as ultimate logical ground to everything that is studied by any other science. The ordinary name for that which is the logical ground of everything else is God. The most adequate, explicit, and easily intelligible name for the science which in its relation to other sciences is alternatively called First Science or Wisdom, the name which tells us what it is about, is therefore Theology.'

II

NO SCIENCE OF PURE BEING

In the preceding chapter I have set forth what I take to be Aristotle's programme for a science to be called First Science, Wisdom, or Theology, deducing that programme from those three names. This was the science expounded in the book or books which his editors called the *Metaphysics*; the ancestor of all the subsequent sciences, or attempts at a science, or pseudo-sciences, which have gone under the same name.

This programme is the 'pronouncement' to which I referred as containing certain obscurities which have never been cleared up. There are many things in it about which, however obscure they may be, I shall say nothing. I shall confine my comments to the two following propositions, both contained in it, each of which offers what might be called a definition of metaphysics.

1. Metaphysics is the science of pure being.
2. Metaphysics is the science which deals with the presuppositions underlying ordinary science; where by 'ordinary science' I mean such thinking as is 'scientific' in the sense defined in the preceding chapter, and 'ordinary' in the sense that it is not a constituent part of metaphysics.

In this chapter I shall argue that the first of these two propositions cannot be true because a science of pure being is a contradiction in terms. The second

proposition I take to be true, and this book as a whole represents my endeavour to explain its meaning.

In order to focus the issue I will ask the reader to join with me in assuming, simply for the sake of the present argument, that Aristotle was right in the following points, some at least of which are in fact disputable.

(i) That all science is of the universal or abstract; in other words, that its procedure is to ignore the differences between this individual thing and that, and attend only to what they have in common.

(ii) That there is potentially at least a science of every universal, that is, of everything which is common to the individual things we call its instances.

(iii) That there are degrees of universality or abstractness, and that these give rise to a hierarchy of universals and a corresponding hierarchy of sciences; so that whenever a generic universal A is specified into sub-forms B and C there will be hierarchical relations between the superordinate science of A and the subordinate sciences of B and C.

(iv) That A is not only the indispensable presupposition of B and C, but their sufficient logical ground, so that the subject-matter of any superordinate science can be rightly described as generating or creating, in a logical sense, those of the sciences subordinate to it.

Even if these assumptions are made it does not

follow that there must be, or even can be, a science of pure being. Aristotle himself seems half to suggest this. At any rate he was aware that when the process of abstraction is pushed home to the limiting case and arrives at the summit of the pyramid, the thought which has effected this new abstraction and might seem, therefore, to stand upon the threshold of a new science, the science of pure being, stands in a situation not quite like the situations out of which ordinary sciences arise. The situation in which it stands is in certain important ways unprecedented and unique, and it is a debatable question how far and in what sense anything that arises out of it ought to be called a science.

I say that Aristotle was aware of this because he uses language, and carefully chosen language, that expresses it. As I have already explained, the systematic thinking that arises out of any other situation in which the abstractive intellect may find itself he calls φιλοσοφία; but the systematic thinking done in this situation he calls not φιλοσοφία but σοφία. If we translate φιλοσοφία 'science', this implies that the science (so called) of pure being is not a science but something different. What is it? The question may seem a verbal one; but it is not really a verbal one. We are not asking by what name we shall call our systematic thought about pure being. We are asking whether there can be such a thing as systematic thought about pure being, or whether the conditions that would make such thought possible are lacking.

There is no science except where two conditions

are fulfilled. There must be orderly or systematic thinking, and there must be a definite subject-matter to think about. In the 'science of pure being', however admirably the first condition is fulfilled, the second cannot be. In the case of every other science there is a definite subject-matter whose peculiarities differentiate it from the subject-matter of every other science. But the science of pure being would have a subject-matter entirely devoid of peculiarities; a subject-matter, therefore, containing nothing to differentiate it from anything else, or from nothing at all.

The universal of pure being represents the limiting case of the abstractive process. Now even if all science is abstractive, it does not follow that science will still be possible when abstraction has been pushed home to the limiting case. Abstraction means taking out. But science investigates not what is taken out but what is left in. To push abstraction to the limiting case is to take out everything; and when everything is taken out there is nothing for science to investigate. You may call this nothing by what name you like—pure being, or God, or anything else—but it remains nothing, and contains no peculiarities for science to examine.

This is why the science of pure being cannot be called a science in the sense in which an ordinary science is so called.

An ordinary science is the science of some definite subject-matter, having special problems of its own that arise out of the special peculiarities of the sub-

ject-matter, and special methods of its own that arise out of the special problems; whereas the 'science of pure being' has a subject-matter which is not a something but a nothing, a subject-matter which has no special peculiarities and therefore gives rise to no special problems and no special methods. This is only a roundabout way of saying that there can be no such science. There is not even a quasi-science of pure being: not even a thing which in certain ways resembles an ordinary science and in certain ways differs from it, such as a collection of statements that are not certain but only probable, connected together in ways that are not convincing but only suggestive. There is not even a pseudo-science of pure being: not even a collection of what seem to be statements but are in fact only the record of guesses, intellectual gropings or emotional reactions that take place within us when we confront an object we do not understand.

This is a more than twice-told tale. Everything I have said in this chapter is implied in what Berkeley said when he delivered his famous onslaught upon 'abstract general ideas'. It is all implied in what Hume said when he endorsed Berkeley's attack as 'one of the most valuable discoveries that has been made of late years in the republic of letters'. It is all implied in what Kant said when, in criticism of certain erroneous views as to the nature of metaphysics held in his own day, he argued that 'being is not a predicate'. It is all implied in what Hegel said when he expanded that phrase of Kant's into the more explicit statement that pure being is the same as nothing.

I quote these precedents not because I wish to impress the reader with the authority of well-known names, but because I wish to remind him that what has been said in this chapter is nothing new, but has been a commonplace for over two hundred years.

III

METAPHYSICS WITHOUT ONTOLOGY

I PROPOSE to call the science of pure being, when I want a one-word name for it, ontology. As there can be no science nor even a quasi-science or pseudo-science of pure being, I shall not use the name ontology to designate any inquiries that have actually been pursued or any conclusions that have actually been propounded. Ontology will be my name for a mistake which people have made, Aristotle first and foremost, about metaphysics. I do not forget that books have been written under the title of ontology, and have contained a great deal that is true and valuable; but what they have contained is metaphysics, and their ontological title either implies a sense of the word ontology different from that which I have defined or else it represents not their contents but a mistake about their contents.

The distinction is important. If a man while pursuing or expounding a science makes a mistake as to its nature or the nature of its subject-matter, it is quite possible that this mistake will infect all his work with a certain amount of error. But there is no reason why the infection should go so deep as to deprive his work of all scientific value. Suppose, for example, a 'savage' believed that all disease was due to witchcraft. He would represent all his investigations into disease as so many investigations into the varieties of black magic, and all his attempts to cure

and prevent disease as so many essays in white magic. Assuming that his belief as to the magical origin of disease is a mistaken belief, everything he said and did in the theory and practice of medicine would be consequently infected with error; but it does not follow that his medical theories must be wholly false or his medical practice wholly futile. It is quite possible that beneath the disguise of a witch-doctor he may be concealing the brain of an acute thinker and the hand of a skilful practitioner. Cases of the same general type are to be found everywhere in the history of science. The geocentric system in astronomy, the physiology of the four humours, the chemistry of phlogiston, may have been errors; but if so they were errors in expounding which astronomers and physiologists and chemists contrived to expound a good deal that was true.

Suppose that Aristotle, instead of using the three different names which he actually does use for what we call metaphysics, had used only one; not any one of these, but a name to be translated ontology; and suppose that this one name had been accepted by all his successors down to the present day. It would still not follow that the investigations pursued and the conclusions expounded under the name of ontology by himself or by any of his successors have been scientifically worthless. If anybody says that metaphysics, as the name of a science, means according to those who expound it simply ontology, and that ontology, according to the view put forward in the preceding chapter, is a chimera; and if he goes on to

infer that whatever is expounded under the name of metaphysics is erroneous or nonsensical, all he is doing is to demonstrate that he cannot or will not distinguish between what people are actually doing and what they think they are doing. This may be mere stupidity on his part; but it may also, like many sophistical arguments, involve a certain disingenuousness.

He might, for instance, argue thus. 'Metaphysics is the name given to the non-existent science of a non-existent subject-matter. Now I will not deny that a book professing to be a metaphysical treatise may contain valuable truths; but so far as what it contains is true it is not metaphysics, and so far as it is metaphysics it is not true; therefore everything in the book is either irrelevant or untrue, so nothing in it is worth reading.'

This is not a genuine argument: it is a sophistical excuse for refusing to read the book. It is sophistical because it implies that any account which a thinker gives of his own scientific work must, unless he is so bad a thinker as to deserve universal neglect, be both accurate and adequate; so that if some such account is appended to his book in the shape of a title you can tell from the title whether the book is worth reading. But you cannot. From title to contents *non valet consequentia*. The only way to find out whether a book is worth reading is to read it.

However, this case does not arise. Aristotle did not describe his own metaphysical investigations in terms implying that he regarded metaphysics as

merely synonymous with ontology. In order to satisfy himself that something is left of Aristotle's project for a science of metaphysics when ontology has been dismissed as a chimera, the reader need not do anything so laborious as trying to find out what Aristotle actually said in the books called metaphysical. From Aristotle's metaphysical programme, as I sketched it in the first chapter, I have extracted two propositions about the nature of metaphysics: that it is the science of pure being, and that it studies presuppositions. I have shown that there cannot be a science, nor even a quasi-science or pseudo-science, of pure being. Perhaps the other formula will prove more rewarding.

IV

ON PRESUPPOSING

WHENEVER anybody states a thought in words, there are a great many more thoughts in his mind than are expressed in his statement. Among these there are some which stand in a peculiar relation to the thought he has stated: they are not merely its context, they are its presuppositions.

I write these words sitting on the deck of a ship. I lift my eyes and see a piece of string—a line, I must call it at sea—stretched more or less horizontally above me. I find myself thinking 'that is a clothes-line', meaning that it was put there to hang washing on. When I decide that it was put there for that purpose I am presupposing that it was put there for some purpose. Only if that presupposition is made does the question arise, what purpose? If that presupposition were not made, if for example I had thought the line came there by accident, that question would not have arisen, and the situation in which I think 'that is a clothes-line' would not have occurred.

The priority affirmed in the word presupposition is logical priority. It is not a priority in time, whether that time belong to the history of the clothes-line or to the history of my thoughts about it. When I say that its being for some purpose is a presupposition of its being for that purpose, I do not mean that first the line was for some purpose, that it first had a kind of general or indeterminate purposiveness, and that

then, when it was rigged as a clothes-line, it exchanged this general or indeterminate purposiveness for a particular or determinate one by beginning to serve the purpose of hanging up washing to dry. I am not now asking whether anything like this really happened or not when the line was put up; I am only saying that, even if it did happen, it is not what I was referring to when I used the word 'presupposition'.

Nor did I mean that my thoughts about the clothes-line moved from 'that line is meant for something' to 'that line is meant to hang washing on'. They might have moved in that way, and if I had been thinking about the line in an orderly or scientific manner I should have seen to it that they did move in that way; but as a matter of fact they did not. The thought 'that is a clothes-line' came plump into my mind, so far as I am aware, all at once and unheralded. Only by a kind of analysis, when I reflect upon it, do I come to see that this was a presupposition I was making, however little I was aware of it at the time.

Here lies the difference between the desultory and casual thinking of our unscientific consciousness and the orderly and systematic thinking we call science. In unscientific thinking our thoughts are coagulated into knots and tangles; we fish up a thought out of our minds like an anchor foul of its own cable, hanging upside-down and draped in seaweed with shell-fish sticking to it, and dump the whole thing on deck quite pleased with ourselves for having got it up at all. Thinking scientifically means disentangling all this mess, and reducing a knot of thoughts in which

everything sticks together anyhow to a system or series of thoughts in which thinking the thoughts is at the same time thinking the connexions between them.

Logicians have paid a great deal of attention to some kinds of connexion between thoughts, but to other kinds not so much. The theory of presupposition they have tended to neglect; and this is perhaps why the theory of metaphysics, which depends on it, has been allowed to remain in an unsatisfactory condition. I will try to state so much of this theory as seems necessary for my present purpose. For the sake of reference later on, I will state it in a formal manner, in numbered propositions, with definitions of such terms as are used in senses they do not bear in ordinary English usage, or of terms whose meaning in ordinary usage depends on the propositions I am expounding. In expounding these propositions I shall not be trying to convince the reader of anything, but only to remind him of what he already knows perfectly well.

PROP. 1. *Every statement that anybody ever makes is made in answer to a question.*

When I speak of statements I do not mean only statements made out loud to somebody else; I include statements made by somebody to himself in the course of solitary thinking. Similarly when I speak of questions I do not mean only questions asked him by somebody else; I include questions asked him by himself.

The reader's familiarity with the truth expressed

in this proposition is proportional to his familiarity with the experience of thinking scientifically. In proportion as a man is thinking scientifically when he makes a statement, he knows that his statement is the answer to a question and knows what that question is. In proportion as he is thinking unscientifically he does not know these things. In our least scientific moments we hardly know that the thoughts we fish up out of our minds are answers to questions at all, let alone what questions these are. It is only by analysing the thought which I expressed by saying 'this is a clothes-line' that I realize it to have been an answer to the question 'what is that thing for?' and come to see that I must have been asking myself that question although at the time I did not know I was asking it.

Note. A question is logically prior to its own answer. When thinking is scientifically ordered, this logical priority is accompanied by a temporal priority: one formulates the question first, and only when it is formulated begins trying to answer it. This is a special kind of temporal priority, in which the event or activity that is prior does not stop when that which is posterior begins. The act of asking the question begins and takes a definite shape as the asking of a determinate question before the act of answering it begins; but it continues for the whole duration of this latter. Unless the person who answered a question were still going on asking it while he formulated the answer, he would have 'lost interest in the subject', and the 'answer' would not have been an

answer at all. It would have been a meaningless form of words. By being answered a question does not cease to be a question. It only ceases to be an unanswered question.

DEF. 1. *Let that which is stated (i.e. that which can be true or false) be called a proposition, and let stating it be called propounding it.*

Note. This is an arbitrary use of the words. In English usage a question or supposition is, equally with a statement, said to be 'propounded', and the word 'proposition' is not exclusively used for that which is stated. I adopt it here, warning the reader that it is jargon, because it is customary among logicians.

PROP. 2. *Every question involves a presupposition.*

It may be doubted whether any question that was ever asked involved one presupposition and no more. Ordinarily a question involves large numbers of them. But a distinction should be made between what a question involves directly and what it involves indirectly. Directly or immediately, any given question involves one presupposition and only one, namely that from which it directly and immediately 'arises' (see Def. 2). This immediate presupposition, however, has in turn other presuppositions, which are thus indirectly presupposed by the original question.

Unless this immediate presupposition were made, the question to which it is logically immediately prior could not be logically asked. Verbally, no doubt, it might be asked. There is no verbal impossibility in

the way of asking a man whom you suppose to be an indulgent husband whether he has stopped beating his wife. But there is a logical impossibility; for that question arises from the presupposition that he has been in the habit of beating her. If he is not supposed to have been in that habit, the question whether he has stopped 'does not arise'.

DEF. 2. *To say that a question 'does not arise' is the ordinary English way of saying that it involves a presupposition which is not in fact being made.*

A question that 'does not arise' is thus a nonsense question: not intrinsically nonsensical, but nonsensical in relation to its context, and specifically to its presuppositions. A person who asks another a question which 'does not arise' is talking nonsense and inviting the other to talk nonsense in the same vein.

As one can ask questions without knowing it, and *a fortiori* without knowing what questions one is asking, so one can make presuppositions without knowing it, and *a fortiori* without knowing what presuppositions one is making. When I ask 'What is that thing for?' I need not be aware that I am presupposing that it is 'for' something. It is only in proportion as I am thinking scientifically that I take trouble to make myself aware of this. For example, when I am trying to decipher a worn and damaged inscription I know very well that before I begin answering the question 'What does that mark mean?' I must first assure myself that the mark is not accidental but is part of the inscription; that is to say, I

must first answer the question 'Does it mean anything?' An affirmative answer, i.e. the statement 'That mark means something', causes the question to arise, 'What does it mean?'

DEF. 3. *The fact that something causes a certain question to arise I call the 'logical efficacy' of that thing.*

The question 'What does that mark mean?' would equally have been caused to arise if I had not stated but only 'assumed' or 'supposed for the sake of argument' that it means something; and this is what, like any other epigraphist, I do when I find myself unable to give a definite answer to the question whether a certain mark is part of the inscription or not. The logical efficacy of the supposition that the mark means something is identical with the logical efficacy of the proposition that it means something.

DEF. 4. *To assume is to suppose by an act of free choice.*

A person who 'makes an assumption' is making a supposition about which he is aware that he might if he chose make not that but another. All assumptions are suppositions, but all suppositions are not assumptions; for some are made altogether unawares, and others, though the persons who make them may be conscious of making them, are made without any consciousness of the possibility, if it is a possibility, that others might have been made instead. When correctly used, the word 'assumption' is always used with this implication of free choice, as when it is said 'let us assume $x = 10$'. Sometimes it is in-

correctly used of malice prepense, by way of an insult; as when a man says to another with whom he is arguing, 'you are assuming that no one will work except for payment', where the point is that no one but a fool would make that assumption, though it is a supposition that might easily be made unawares. Similarly a man who wishes to be insulting may ask 'What do you mean by treading on my toe?' knowing perfectly well that the treader meant nothing by it, because he did not do it on purpose.

PROP. 3. *The logical efficacy of a supposition does not depend upon the truth of what is supposed, or even on its being thought true, but only on its being supposed.*

The point has already been made clear in discussing the previous proposition. It is a matter of common knowledge in the conduct of scientific thinking; where it is possible and often profitable to argue from suppositions which we know to be false, or which we believe to be false, or concerning which we have neither knowledge nor belief as to whether they are false or true. These doubts or negations in no way affect the validity of the argument.

The point is no less familiar in the conduct of practical affairs than it is in the conduct of scientific thinking. A man (or at any rate an intelligent man) does not regard himself as insulted if some one who has paid him a sum of money asks him for a receipt, or if the family of a lady whom he is about to marry proposes that a marriage settlement should be drawn up. He knows that the request or proposal is based on

the assumption that he is capable, or will one day become capable, of acting dishonourably; but though he knows people assume this he does not necessarily think they believe it. He finds no difficulty in distinguishing between their supposing him a rascal and their believing him one, and he does not regard the former as evidence of the latter.

PROP. 4. *A presupposition is either relative or absolute.*

In this context the word 'presupposition' refers not to the act of presupposing but to that which is presupposed.

DEF. 5. *By a relative presupposition I mean one which stands relatively to one question as its presupposition and relatively to another question as its answer.*

Thus, if I do a piece of surveying in the course of which I take some hundreds of measurements with my old 66-foot tape, every time I ask any question in the form 'What is the distance between these two points?' I presuppose that the answer as given by a reading on my tape will be the right answer: that is, I presuppose that my tape is within a certain percentage of the length which it professes to be. But this is only a relative presupposition. A tape by a reputable maker is not likely to have been made grossly inaccurate in the first instance; but it is quite likely to have stretched during years of service in all weathers; and a sensible man will check it from time to time against something not liable to that accident, for example a surveyor's chain. The accuracy of the

tape, which while I am using it is a presupposition of the questions I ask, is one of the two possible answers, the affirmative answer, to the question I ask while I am thus checking it.

A man may use a measuring-tape without its ever occurring to him that the question of its accuracy might be raised. In that case his assumption of its accuracy remains unquestioned, and one might suppose that this fact removed it from the sphere of relative presuppositions as above defined. But this would be a mistake. That a certain conclusion follows from certain premisses is not disproved by the fact that some one who states the premisses fails to see that the conclusion follows. Similarly, that certain presuppositions are questionable is not disproved by the fact that some one who makes them fails to see that they are questionable. The business of logical inquiries, like that on which we are now engaged, is to study high-grade or scientific thinking: their conclusions are not impaired by the fact that low-grade or unscientific thinking also exists.

To question a presupposition is to demand that it should be 'verified'; that is, to demand that a question should be asked to which the affirmative answer would be that presupposition itself, now in the form of a proposition. To verify the presupposition that my measuring-tape is accurate is to ask a question admitting of the alternative answers 'the tape is accurate', 'the tape is not accurate'. Hence to speak of verifying a presupposition involves supposing that it is a relative presupposition.

DEF. 6. *An absolute presupposition is one which stands, relatively to all questions to which it is related, as a presupposition, never as an answer.*

Thus if you were talking to a pathologist about a certain disease and asked him 'What is the cause of the event E which you say sometimes happens in this disease?' he will reply 'The cause of E is C'; and if he were in a communicative mood he might go on to say 'That was established by So-and-so, in a piece of research that is now regarded as classical.' You might go on to ask: 'I suppose before So-and-so found out what the cause of E was, he was quite sure it had a cause?' The answer would be 'Quite sure, of course.' If you now say 'Why?' he will probably answer 'Because everything that happens has a cause.' If you are importunate enough to ask 'But how do you know that everything that happens has a cause?' he will probably blow up right in your face, because you have put your finger on one of his absolute presuppositions, and people are apt to be ticklish in their absolute presuppositions. But if he keeps his temper and gives you a civil and candid answer, it will be to the following effect. 'That is a thing we take for granted in my job. We don't question it. We don't try to verify it. It isn't a thing anybody has discovered, like microbes or the circulation of the blood. It is a thing we just take for granted.'

He is telling you that it is an absolute presupposition of the science he pursues; and I have made him a pathologist because this absolute presupposition

about all events having causes, which a hundred years ago was made in every branch of natural science, has now ceased to be made in some branches, but medicine is one of those in which it is still made.

Absolute presuppositions are not verifiable. This does not mean that we should like to verify them but are not able to; it means that the idea of verification is an idea which does not apply to them, because, as I have already said, to speak of verifying a presupposition involves supposing that it is a relative presupposition. If anybody says 'Then they can't be of much use in science', the answer is that their use in science is their logical efficacy, and that the logical efficacy of a supposition does not depend on its being verifiable, because it does not depend on its being true: it depends only on its being supposed (prop. 3).

PROP. 5. *Absolute presuppositions are not propositions.*

This is because they are never answers to questions (def. 6); whereas a proposition (def. 1) is that which is stated, and whatever is stated (prop. 1) is stated in answer to a question. The point I am trying to make clear goes beyond what I have just been saying, viz. that the logical efficacy of an absolute presupposition is independent of its being true: it is that the distinction between truth and falsehood does not apply to absolute presuppositions at all, that distinction being (see def. 1) peculiar to propositions.

Putting the same point differently: absolute presuppositions are never (see def. 1) propounded. I do

not mean that they sometimes go unpropounded, like the so-called 'propositions' of the fashionable modern logic, which are called propositions even when nobody in fact propounds them, and would on that account be more accurately called 'proponibles'; I mean that they are never propounded at all. To be propounded is not their business; their business is to be presupposed. The scientist's business is not to propound them but only to presuppose them. The metaphysician's business, as we shall see, is not to propound them but to propound the proposition that this or that one of them is presupposed.

Hence any question involving the presupposition that an absolute presupposition is a proposition, such as the questions 'Is it true?' 'What evidence is there for it?' 'How can it be demonstrated?' 'What right have we to presuppose it if it can't?', is a nonsense question.

Hence, too, it is nonsense to say, as some modern logicians do say, that supposing is one of various 'attitudes' which we can take up towards a proposition, where a proposition means something which can be either true or false. This is merely a device for imposing on unwary readers the dogma, of which more will be said hereafter, that all presuppositions are relative, or that there are no absolute presuppositions.

V

THE SCIENCE OF ABSOLUTE PRESUPPOSITIONS

IN low-grade or unscientific thinking we hardly know that we are making any presuppositions at all. Because of their tangled condition, the thoughts which come up out of the bottom of our minds present a deceptive appearance of 'immediacy'. I find myself thinking 'That is a clothes-line', and if I merely reflect on this thought without analysing it I decide that what has happened is this: I have been confronted with something which in itself, quite apart from what anybody may think about it, just is a clothes-line; and being a clever fellow I have just 'apprehended' that clothes-line, or 'intuited' it, for what it really is, a clothes-line. And if I never think at all except in this quite casual and unscientific way, I shall always be content to believe this is all that knowledge can ever be: the simple 'intuition' or 'apprehension' of things confronting us which absolutely and in themselves just are what we 'intuite' or 'apprehend' them as being.

This theory of knowledge is called 'realism'; and 'realism' is based upon the grandest foundation a philosophy can have, namely human stupidity. Any one, at any moment, without taking the smallest trouble, can put himself in a position where first-hand experience will prove to him that a 'realistic' theory of knowledge is true. All he need do is to let

his mind drift until he is thinking in so casual and haphazard a way that he is hardly thinking at all; and at that moment he will find himself automatically doing exactly what the 'realists' tell us that we all do whenever we think.

There would be no objection to 'realism', let me observe in passing, if this were all it professed to be: a study of the ways in which anchors get foul, the twists in their cables and the odds and ends that are found sticking to them, when mariners are negligent and the bottom is bad. All this is very interesting. Moreover, in calm weather and at neap tides an anchor in that condition may actually hold the ship. 'Realists' point triumphantly to cases in which, thinking almost at zero-level of efficiency, we say 'That is a clothes-line', 'What I am looking at is my hand', 'The book-case is farther away than the table', and are right. The only harm is that people sometimes suppose this 'realism' to be doing over again, and doing it better, what people like Descartes and Kant have done in their so-called theories of knowledge; not realizing that even the best account of unscientific knowledge can never supersede even the worst account of scientific knowledge, and that a whole library of books about foul anchors will not replace one page of Descartes or Kant, who knew well enough that anchors get foul, but cared about making them hang the right way up, so that even in a tideway or a gale the ship would be safe.

To return. In the lowest type of low-grade thinking we are wholly unaware that every thought we find

ourselves thinking is the answer to a question. We are wholly unaware that the question arises from a presupposition. This low-grade thinking, therefore, will never give rise to metaphysics; and this is why 'theories of knowledge' which accept instances of low-grade thought as adequate examples of what thought is can never understand why there should be metaphysics, or what metaphysics is about.

If man has succeeded in dominating the natural forces within him and around him, and in giving both to himself and to his environment a unique character, the character of being a self-made inhabitant of a world called civilization which he has made for himself to live in, the original nature both of himself and of his surroundings serving only as the raw material of his craft; if man has done this, it is because in addition to low-grade thinking he is capable of high-grade or scientific thinking.

High-grade thinking means thinking energetically instead of idly: thinking hard instead of allowing your mind to drift.

The higher types of animal organism are higher because instead of being content to function placidly at a low level of intensity they have found out how to store energy against an occasion when it will be needed, and when such occasion arises to meet it by an expenditure of energy that lifts their mechanical effectiveness high above its average level and overwhelms the obstacle as if by a tidal wave.

What the higher animals have learned to do with their bodies is what man has learned to do with his

mind. To call him the only animal that has learned how to think hard would probably be untrue; but it is certainly true that he is the only animal who has learned this lesson so thoroughly as to transform the whole structure of his life by its means, as the structure of life in the higher animals has been transformed by their learning how to store chemical energy and release it at need. Everything that we call specifically human is due to man's power of thinking hard.

Mere increase of effort, intellectual or any other, does little to increase its effectiveness unless the increased effort is well directed. Without such direction the additional effort is always in great part, and sometimes completely, wasted. High-grade thinking, therefore, depends on two things: increase of mental effort, and skill in the direction of that effort.

Increase of mental effort brings about not only a difference of degree in the intensity of thinking but also a difference of kind in its quality. At the lowest level of intensity, as we have seen, one is conscious only of 'intuiting' or 'apprehending' what presents itself to one's mind. To say that it presents itself to one's mind is only a way of saying that one thinks about it without noticeable effort. When one becomes aware of effort, one becomes aware of a mental hunger that is no longer satisfied by what swims into one's mouth. One wants what is not there and will not come of itself. One swims about hunting for it. This ranging of the mind in search of its prey is called asking questions. To ask questions, knowing that you are asking them, is the first stage in high-grade

thinking: the first thing that distinguishes the human mind from the sea-anemone mind of the 'realist' theory of knowledge.

The second stage is not merely to hunt one's prey but to hunt it cunningly. To hunt it at all is to ask questions; to hunt it cunningly is to ask questions with skill, or scientifically.

Here again there are two stages. The first is disentangling, the second is arranging. When a question first comes into one's mind it is generally (I speak for myself, and perhaps I am not here very different from other people) a confused mass of different questions, all of which, because all must be answered before I can catch my dinner, and because I am hungry, I ask at once. But they cannot all be answered at once. Before they can be answered they must be distinguished, and the nest of questions resolved into a list of questions where each item is one question and only one.

The logic-books furnish a well-known example. 'Have you left off beating your wife yet?' is there given as the stock instance of the 'fallacy of many questions', the logical vice of asking what, logically, are many questions in a form of words which, grammatically, has the form of a single question. A skilful thinker, practised in disentangling such knots, will quickly resolve it into four:

1. Have you a wife?
2. Were you ever in the habit of beating her?
3. Do you intend to manage in future without doing so?
4. Have you begun carrying out that intention?

After disentangling comes arranging. The reason why questions have to be arranged is because one of them may be contingent upon a certain answer being given to another. The question whether you ever beat your wife does not arise unless an affirmative answer has been given to the question whether you ever had one. Scientific or 'orderly' thinking, as I pointed out at the beginning of Chapter IV, is orderly in the sense that it deals with things in their logical order, putting what is presupposed before what presupposes it. I have already given an example by not only resolving into four questions the grammatically single question 'Have you left off beating your wife yet?' but arranging these four in their logical order, that is, arranging them so that each arises when, and only when, an affirmative answer has been given to the one next before it.

The power of causing a question to arise I have called logical efficacy; and in Chapter IV, prop. 3, I have said that the logical efficacy of a supposition does not depend upon the truth of what is supposed, or even upon its being thought true, but only on its being supposed. In a case like the present, therefore, the process of thought from question to question does not depend on each question's being answered truly, but only on its being answered: and not upon the questioner's thinking the answers true, but only on his accepting the answers given him, or 'assuming them for the sake of argument'.

This work of disentangling and arranging questions, which in the preceding chapter I have called analysis,

may be alternatively described as the work of detecting presuppositions. The question whether a man has left off beating his wife yet presupposes that he has formed the intention of leaving off. That presupposes that he used to beat her. That presupposes that he has one. All these are relative presuppositions: each of them stands now as the presupposition to a question, now as the answer to one. Each is both a presupposition and a proposition.

But there are absolute presuppositions. And no one can call a presupposition relative until he has asked whether it is relative or absolute. Not, that is, if he is thinking scientifically. The question 'What does this presuppose?' itself presupposes an affirmative answer to the question 'Does it presuppose anything?'; and to ask that question is to contemplate the possibility of the thing's being an absolute presupposition, and to claim that you would know it for one if it was one. The analysis which detects absolute presuppositions I call metaphysical analysis; but as regards procedure and the qualifications necessary to carry it out there is no difference whatever between metaphysical analysis and analysis pure and simple as I have been hitherto describing it. In either case the question is being constantly asked, 'Is this presupposition relative or absolute?' and the *modus operandi* is the same, whichever answer is given.

As regards its *modus operandi*, then, all analysis is metaphysical analysis; and, since analysis is what gives its scientific character to science, science and

metaphysics are inextricably united, and stand or fall together. The birth of science, in other words the establishment of orderly thinking, is also the birth of metaphysics. As long as either lives the other lives; if either dies the other must die with it.

In saying this I am assuming that metaphysics is the science of absolute presuppositions. I am assuming it because it is what I find in Aristotle, who invented metaphysics; or rather, because it is what I find left in Aristotle's account of what metaphysics is, when something else which I have shown to be nonsensical has been removed. The reader may say, 'Whether you assume it or not is your own affair; it is of no interest to me until you prove it'. But if he says this I do not know, and I doubt whether he himself knows, what he is asking for. The only thing, so far as I can see, which a sensible man would ask for in these terms would be an examination of some admittedly metaphysical problems and discussions, and a demonstration that these are concerned with absolute presuppositions. This I propose to give in Part III of the present essay. If I do not proceed to it at once, the reason is that I prefer, before considering whether it is true that metaphysics is the science of absolute presuppositions, to consider what it means.

People do not need to analyse their thoughts very deeply in order to find out that there are a good many things they take for granted without asking whether they are true; but this expression generally means not that they have decided on consideration that it would

be nonsensical to ask whether these things are true, but that they have asked this in a half-hearted way, and have been satisfied with answers that would not have satisfied a resolute and unprejudiced inquirer. In such cases the analysis has not been pushed home with sufficient firmness to settle the question whether the things are being taken relatively for granted or absolutely for granted: whether they are suppositions whose verification is being deferred to a more appropriate occasion or procrastinated out of idleness or faintness of heart, or suppositions which in principle neither admit nor require verification.

It might seem that the question should be an easy one to answer, because presupposing is a thing people do in their minds, and the distinction between presupposing relatively and presupposing absolutely is a distinction between two ways of doing it, so that a man need only be ordinarily intelligent and ordinarily truthful, one might think, to give an accurate answer to the question which of them he is doing.

But things are not quite so simple as that. To begin with, people may have a motive for deceiving themselves and each other. Where certain things which may happen in people's minds are conventionally regarded with disapproval, the lengths to which people in whose minds they actually do happen will go, in order to persuade themselves and others that they do not happen, are most remarkable. In modern Europe absolute presuppositions are unfashionable. The smart thing to do is to deny their existence. Even people who regard this as a silly

fashion may very well be so far influenced by it as to weaken at the critical moment when every available ounce of determination is needed in order to decide whether a given presupposition is absolute or relative; and may allow a kind of mass-suggestion to decide them in favour of its being relative.

In the second place candour and veracity of themselves, and even combined with intelligence, can do very little towards answering the question, because the question is not one that can be settled by introspection. Introspection can do no more than bring into the focus of consciousness something of which we are already aware. But in our less scientific moments, when knowledge appears to us in the guise of mere apprehension, intuiting that which simply confronts us, we are not even aware that whatever we state to ourselves or others is stated in answer to a question, still less that every such question rests on presuppositions, and least of all that among these presuppositions some are absolute presuppositions. In this kind of thinking, absolute presuppositions are certainly at work; but they are doing their work in darkness, the light of consciousness never falling on them. It is only by analysis that any one can ever come to know either that he is making any absolute presuppositions at all or what absolute presuppositions he is making.

Such analysis may in certain cases proceed in the following manner. If the inquirer can find a person to experiment upon who is well trained in a certain type of scientific work, intelligent and earnest in his

devotion to it, and unaccustomed to metaphysics, let him probe into various presuppositions that his 'subject' has been taught to make in the course of his scientific education, and invite him to justify each or alternatively to abandon it. If the 'inquirer' is skilful and the 'subject' the right kind of man, these invitations will be contemplated with equanimity, and even with interest, so long as relative presuppositions are concerned. But when an absolute presupposition is touched, the invitation will be rejected, even with a certain degree of violence.

The rejection is a symptom that the 'subject', cooperating with the work of analysis, has come to see that the presupposition he is being asked to justify or abandon is an absolute presupposition; and the violence with which it is expressed is a symptom that he feels the importance of this absolute presupposition for the kind of work to which he is devoted. This is what in the preceding chapter I called being 'ticklish in one's absolute presuppositions'; and the reader will see that this ticklishness is a sign of intellectual health combined with a low degree of analytical skill. A man who is ticklish in that way is a man who knows, 'instinctively' as they say, that absolute presuppositions do not need justification. In my own experience I have found that when natural scientists express hatred of 'metaphysics' they are usually expressing this dislike of having their absolute presuppositions touched. I respect it, and admire them for it; though I do not expect scientists who give way to it to rise very high in the scientific world.

This is a precarious method, because the qualifications it demands in the 'subject' are too delicate. As soon as the 'subject' understands what is going on he will lose the ticklishness on which his value depends, because it is conditional on a kind of virginity in the reflective faculties. Perhaps there was a kind of justice in the allegation that Socrates, the great master of this method, 'corrupted the young men', where the word translated 'corrupt' was the same word which, when used of a girl, meant 'seduce'. The only altogether satisfactory method is for the analyst to experiment on himself; because this is the only case in which familiarity with the experiments will make the subject more valuable, instead of less valuable, to the inquirer. But it demands great resolution, and the temptation to cheat is stronger than one would expect.

The purpose of the experiments is to find out what absolute presuppositions are as a matter of fact made on a certain occasion or on occasions of a certain kind. The process, simply *qua* analysis, is identical with the analysis of ordinary science. In either case presuppositions are brought to light, and about each one the question is raised and settled whether it is relative or absolute. But after this the two processes diverge. In ordinary science the relative presuppositions are put into the basket, and later on the question is raised when and how they shall be justified. The absolute presuppositions are thrown back. In metaphysics it is the relative presuppositions that are thrown back, and the absolute presuppositions that are put into

the basket; not in order to justify them, because to talk of justifying them is to talk nonsense (Chap. IV, prop. 5); but in order to have them scientifically described.

Aristotle's identification of metaphysics with theology may serve as a reminder that no human being can contemplate these two alternative procedures with quite the same feelings. You may call it superstition or what you will, but hard names make no difference to the fact that there is something a little uncanny about absolute presuppositions. They give people more than a touch of the feeling which Rudolf Otto called numinous terror. This mattered less at a period of history when people had their well-established methods (magic, we call them) of dissipating the terror and enabling themselves to face the things that inspired it. Ours is an age when people pride themselves on having abolished magic and pretend that they have no superstitions. But they have as many as ever. The difference is that they have lost the art, which must always be a magical art, of conquering them. So it is a special characteristic of modern European civilization that metaphysics is habitually frowned upon and the existence of absolute presuppositions denied. This habit is neurotic. It is an attempt to overcome a superstitious dread by denying that there is any cause for it. If this neurosis ever achieves its ostensible object, the eradication of metaphysics from the European mind, the eradication of science and civilization will be accomplished at the same time. If a sufficient number of Europeans

want to destroy science and thus accomplish the suicide of civilization, nothing I can do will stop them; but at present, in England, they have not the power to prevent me from warning those who neither share nor suspect their design.

To sum up. Metaphysics is the attempt to find out what absolute presuppositions have been made by this or that person or group of persons, on this or that occasion or group of occasions, in the course of this or that piece of thinking. Arising out of this, it will consider (for example) whether absolute presuppositions are made singly or in groups, and if the latter, how the groups are organized; whether different absolute presuppositions are made by different individuals or races or nations or classes; or on occasions when different things are being thought about; or whether the same have been made *semper, ubique, ab omnibus*. And so on.

There will also be something which I call pseudo-metaphysics. This will be a kind of thought in which questions are asked about what are in fact absolute presuppositions, but arising from the erroneous belief that they are relative presuppositions, and therefore, in their capacity as propositions, susceptible of truth and falsehood. Pseudo-metaphysics will ask such questions as this, where AP stands for any absolute presupposition: Is AP true? Upon what evidence is AP accepted? How can we demonstrate AP? What right have we to presuppose it if we can't?

Answers to questions like these are neither metaphysical truths nor metaphysical errors. They are

nonsense: the kind of nonsense which comes of thinking that (as the logicians say) supposing is one of the attitudes we can take up towards a proposition, so that what is absolutely supposed must be either true or false. That kind of nonsense I call pseudo-metaphysics.

Note to Chapter V.—I have hinted above (p. 45) and said explicitly below (pp. 49 seqq.) that absolute presuppositions change. A friend thinks readers may credit me with the opinion that such changes are merely 'changes of fashion', and asks me to explain what, otherwise, I believe them to be.

A 'change of fashion' is a superficial change, symptomatic perhaps of deeper and more important changes, but not itself deep or important. A man adopts it merely because other men do so, or because advertisers, salesmen, &c., suggest it to him. My friend's formula 'if we like to start new dodges, we may' describes very well the somewhat frivolous type of consciousness with which we adopt or originate these superficial changes. But an absolute presupposition is not a 'dodge', and people who 'start' a new one do not start it because they 'like' to start it. People are not ordinarily aware of their absolute presuppositions (p. 43), and are not, therefore, thus aware of changes in them; such a change, therefore, cannot be a matter of choice. Nor is there anything superficial or frivolous about it. It is the most radical change a man can undergo, and entails the abandonment of all his most firmly established habits and standards for thought and action.

Why, asks my friend, do such changes happen? Briefly, because the absolute presuppositions of any given society, at any given phase of its history, form a structure which is subject to 'strains' (pp. 74, 76) of greater or less intensity, which are 'taken up' (p. 74) in various ways, but never annihilated. If the strains are too great, the structure collapses and is replaced by another, which will be a modification of the old with the destructive strain removed; a modification not consciously devised but created by a process of unconscious thought.

VI

METAPHYSICS AN HISTORICAL SCIENCE

TOWARDS the end of the last chapter I gave some examples of metaphysical questions. The reader may have noticed that they all had in common not only the fact of being about absolute presuppositions, but also the fact of being historical questions: questions as to what absolute presuppositions have been made on certain occasions. This was not an accident. All metaphysical questions are historical questions, and all metaphysical propositions are historical propositions. Every metaphysical question either is simply the question what absolute presuppositions were made on a certain occasion, or is capable of being resolved into a number of such questions together with a further question or further questions arising out of these.

This is the central point of the present essay. I will try therefore to put it, even at the risk of repeating myself, as clearly as I can. For this purpose I will go back to the example of causation, and remind the reader of three familiar facts.

(*a*) In Newtonian physics it is presupposed that some events (in the physical world; a qualification which hereinafter the reader will please understand when required) have causes and others not. Events not due to the operation of causes are supposed to be due to the operation of laws. Thus if a body moves freely along a straight line $p_1, p_2, p_3, p_4 \ldots$ its passing

the point p_3 at a certain time, calculable in advance from previous observation of its velocity, is an event which is not according to Newton the effect of any cause whatever. It is an event which takes place not owing to a cause, but according to a law. But if it had changed its direction at p_3, having collided there with another body, that change of direction would have been an event taking place owing to the action of a cause (see Note on p. 57).

(*b*) In the nineteenth century we find a different presupposition being made by the general body of scientists: namely that all events have causes. About the history and interpretation of this I shall have more to say in the concluding chapters. Here I will anticipate only so far as to say that I do not know any explicit statement of it earlier than Kant; and accordingly I shall refer to the physics based upon it as the Kantian physics. The peculiarity of Kantian physics is that it uses the notion of cause and the notion of law, one might almost say, interchangeably: it regards all laws of nature as laws according to which causes in nature operate, and all causes in nature as operating according to law.

(*c*) In modern physics the notion of cause has disappeared. Nothing happens owing to causes; everything happens according to laws. Cases of impact, for example, are no longer regarded as cases in which the Laws of Motion are rendered inoperative by interference with one body on the part of another; they are regarded as cases of 'free' motion (that is, motion not interfered with) under peculiar

geometrical conditions, a line of some other kind being substituted for the straight line of Newton's First Law.

It might seem, but wrongly, as I shall try to show, that the metaphysician is here confronted by a rather embarrassing problem. It might seem that there are three schools of thought in physics, Newtonian, Kantian, and Einsteinian, let us call them, which stand committed respectively to the three following metaphysical propositions:

(i) Some events have causes.
(ii) All events have causes.
(iii) No events have causes.

It might seem that these three propositions are so related that one of them must be true and the other two false; and that the metaphysician's duty is to say which of them is true: an important duty, because when we know which of the three propositions is true we shall know which of these three schools of physicists is on the right lines, and we shall know that the others are doomed from the start to a career of illusion and error owing to faults in their metaphysical foundations.

I call it an embarrassing problem for the metaphysician because I assume him to be a conscientious man. If he is an irresponsible and dogmatic person it will not embarrass him at all. He will pronounce loudly and confidently in favour of one alternative, whichever he fancies, expressing the fact that he fancies it by calling it 'self-evident' or the like, and will pour scorn on any one who hesitates to agree

with him; and this will give him a good deal of satisfaction. But if he is a conscientious man, who thinks that the right way of dealing with problems is to solve them, the problem will embarrass him because there is no way in which he or for that matter any one else can solve it. This is because it is what at the end of the preceding chapter I called a pseudo-metaphysical problem: a problem in the form 'Is AP true?' What I have now to explain is that the reason why it is not a metaphysical problem is that it is not an historical problem.

The sentences numbered (i), (ii), (iii), above, express absolute presuppositions made respectively in three different schools of physical science. Each is important, and fundamentally important, to the science that makes it, because it determines the entire structure of that science by determining the questions that arise in it, and therefore determining the possible answers. Thus every detail in these respective sciences depends on what absolute presuppositions they respectively make. But this does not mean that it depends on these presuppositions' being thought true, or that the truth of the conclusions arrived at depends on the presuppositions' being in fact true. For the logical efficacy of a supposition does not depend on its being true, nor even on its being thought true, but only on its being supposed (see Chap. IV, prop. 3). It is a mistake, therefore, to fancy that by investigating the truth of their absolute presuppositions a metaphysician could show that one school of science was fundamentally right and another

fundamentally wrong. The 'embarrassing problem' does not arise.

A reader may reply: 'I see that you have proved metaphysics to be perfectly useless for the purpose for which it is generally thought useful, namely assisting the progress of science by showing which presuppositions, and therefore which schools of scientific thought, are justified in the light of metaphysical criticism and which are not. But whereas I draw from this conclusion the inference that metaphysics is a futile occupation and had better be stopped, you seem to be inferring that metaphysics is not, for example, the attempt to decide whether it is true or false that all events have causes, but an attempt to do something different. This seems to me perverse.'

There is no need to repeat the grounds upon which I am assuming metaphysics to be the science of absolute presuppositions, because the point at issue between myself and the reader I have just quoted lies in the interpretation we put upon the phrase 'science of absolute presuppositions'. He thinks that there are two things you can do with absolute presuppositions: you can presuppose them, which is what the ordinary scientist does with them; or you can criticize them in order to find out whether they are true or false, which is what the metaphysician does with them, though actually it is of no use: I deny this, because the second thing (the thing which my reader calls metaphysics and I pseudo-metaphysics) is one which simply cannot be done, whether usefully or uselessly. To inquire into the truth of a

presupposition is to assume that it is not an absolute presupposition but a relative presupposition. Such a phrase as 'inquiry into the truth of an absolute presupposition' is nonsense (p. 33).

But I agree with my hypothetical reader that there are two things you can do with absolute presuppositions, and I agree that one of them is what the ordinary scientist does, and the other what the metaphysician does. You can presuppose them, which is what the ordinary scientist does; or you can find out what they are, which is what the metaphysician does. When I speak of finding out what they are I do not mean finding out what it is to be an absolute presupposition, which is work for a logician; I mean finding out what absolute presuppositions are in fact made. When I say that this is what metaphysicians do I mean that this is what I find them doing when I read their works from Aristotle onwards. I shall give a few examples in Part III.

Let us return to my three numbered sentences. The business of an ordinary scientist relatively to these three sentences is to presuppose in his scientific work:

(AP i) if he is a Newtonian, that some events have causes;

(AP ii) if he is a Kantian, that all events have causes;

(AP iii) if he is an Einsteinian, that no events have causes.

The business of a metaphysician is to find out:

(M i) that Newtonian scientists presuppose that some events have causes;

(M ii) that Kantian scientists presuppose that all events have causes;

(M iii) that Einsteinian scientists presuppose that no events have causes.

I have marked these last three propositions with an M, by way of indicating that they are metaphysical propositions. These three are true metaphysical propositions; their contradictories would be false metaphysical propositions. It will be clear that the true metaphysical propositions are true historical propositions and the false metaphysical propositions false historical propositions. It is the proper business of a metaphysician to answer the question what absolute presuppositions are or were made by Newtonians, Kantians, Einsteinians, and so forth. These are historical questions.

The historical nature of the metaphysician's inquiries is at once evident when the propositions he makes it his business to state are stated as they are above in the examples (M i), (M ii), (M iii). What makes it evident is that the wording of each statement includes the formula 'so-and-so presupposes (or presupposed) that . . .'. Since the presupposition alleged to be made is an absolute presupposition, and since the question whether it is made is not a personal one but one concerning the peculiarities of a certain phase of scientific thought, the formula would be more accurately rendered: '*in such and such a phase of scientific thought it is* (*or was*) *absolutely presupposed that* . . .'. This formula I call the 'metaphysical rubric'.

In a long discussion about the absolute presuppositions of any one phase of thought it would not only be intolerably wearisome to introduce every sentence expressing one such presupposition by prefixing to it the metaphysical rubric; it would also be an insult to the reader; and in such cases, therefore, it is omitted on the assumption that the reader is intelligent enough and enough accustomed to this kind of literature to put it in for himself.

This is common form. History has its own rubric, namely 'the evidence at our disposal obliges us to conclude that' such and such an event happened. What I call scissors-and-paste history has the rubric 'we are told that' such and such an event happened. There is also a rubric for use in narrating legends, which in some kinds of legendary literature is here and there explicitly inserted: 'the story says that . . .', or 'now the story goes on to say that . . .'. Where the reader is assumed to know the ropes these rubrics are left out.

There may be an alternative reason for leaving them out: namely because the writer himself does not see that they are required. It is only when a man's historical consciousness has reached a certain point of maturity that he realizes how very different have been the ways in which different sets of people have thought. When a man first begins looking into absolute presuppositions it is likely that he will begin by looking into those which are made in his own time by his own countrymen, or at any rate by persons belonging to some group of which he is a member.

This, of course, is already an historical inquiry. But various prejudices current at various times which I will not here enumerate have tended to deceive such inquirers into thinking that the conclusions they have reached will hold good far beyond the limits of that group and that time. They may even imagine that an absolute presupposition discovered within these limits can be more or less safely ascribed to all human beings everywhere and always. In that case, mistaking the characteristics of a certain historical milieu for characteristics of mankind at large, they will leave out the metaphysical rubric on purpose, and present a piece of purely historical research as if it were a research into the universal nature of understanding. But their mistaking it for something else does not alter the fact that it is history.

Note to pp. 49–50.—The reader must not object: 'In Newton "free" motion is a hypothetical limiting case, a type of event that never actually happens, though it would happen if all interferences were removed, which they never are; the events which happen uncaused are events which never actually happen; all events which actually happen are caused; and the contradiction between "Newtonian" and "Kantian" science is removed.'

For in Newton 'free' motion is not a limiting or hypothetical case. In the *Principia*, a motion that is subject to interference is analysed into two 'momenta', the 'free' motion and the motion due to the interfering cause (see the Corollaries to the Third Law). In the world of actual events Newton certainly thought that 'free' motion occurred only in such combinations; but this is a very different thing from saying it never occurs at all. If he had said this second thing he would have built the whole fabric of the *Principia* on a breach of his own rule 'hypotheses non fingo'.

VII

THE REFORM OF METAPHYSICS

METAPHYSICS has always been an historical science; but metaphysicians have not always been fully aware of the fact. This was not altogether their fault, because it is only within the last half-century that the aims and methods of history have defined themselves with the same sort of precision that those of natural science achieved round about the year 1600. Until that happened people did not understand that history is a kind of thinking whereby absolutely cogent inferences about the past are drawn from interpretation of the evidence it has left behind. Or rather, the people who understood this were rare even among historians, and the occasions on which they understood it were exceptional. The ordinary belief was that history is a repeating of statements about the past which are found ready-made in the writings or on the lips of persons whom, because the historian believes what they tell him, he calls his authorities. This repetition of ready-made statements which the historian is allowed within limits to decorate with comments of his own devising I call scissors-and-paste history: a phrase in which the word 'history' means 'history improperly so called'.

Some readers of this book will reject my statement that metaphysics is an historical science because, being half a century out of date in their notions as to what history is, they fancy it to be an affair of scissors

and paste. I hasten to assure them of my sympathy. I should never dream of suggesting that metaphysics was a scissors-and-paste affair. For it does not proceed by the scissors-and-paste method of accepting testimony; as I explained in Chapter V, it proceeds according to a method called metaphysical analysis, by which the metaphysician discovers what absolute presuppositions have been made in a certain piece of scientific work by using the records of that work as evidence. It is because people until lately regarded history as a scissors-and-paste affair that they could not realize the historical character of metaphysics.

But history to-day is no longer a scissors-and-paste affair. Instead of repeating statements accepted on the testimony of authorities, the historian of to-day makes his own statements on his own authority according to what he finds the evidence in his possession to prove when he analyses it with a certain question in his mind. And I know perfectly well that people who understand the nature of historical thought, as historical thought exists to-day among even the rank and file of quite ordinary historians, will not need to be convinced that metaphysics is an historical science. They will need only to understand the statement in order to see at once that it is true.

Dissatisfaction with the state of metaphysics has been endemic among philosophers ever since at least the time of Kant. It has been partly the fault of metaphysicians and partly the fault of those who have been dissatisfied. I will not say whose fault I think

has been the greater. My business is to show how the dissatisfaction can be removed.

It can be removed by taking seriously the proposition that metaphysics is an historical science. Let it be understood both by metaphysicians and by their critics that metaphysics is the science of absolute presuppositions. Let the distinction between metaphysics and pseudo-metaphysics be firmly grasped. Let it be understood that the business of metaphysics is to find out what absolute presuppositions have actually been made by various persons at various times in doing various pieces of scientific thinking. Let it be understood that if a certain absolute presupposition has been made on one occasion by one person this fact makes it probable that the same presupposition has been made by other persons having in general what may be called the same cultural equipment as himself: the same outfit of social and political habits, the same religion, the same sort of education, and so forth; but correspondingly improbable that it has been made by persons whose cultural equipment was noticeably different. At the same time let it be understood that probabilities are not history, which demands proof; and that the only way to prove that somebody has made or has not made a certain absolute presupposition is to analyse the records of his thought and find out.

When this is done the peculiar perplexities and obscurities that have always been felt to surround the work of the metaphysician will disappear. At the same time the scope of metaphysical inquiry will be

greatly enlarged. New and interesting problems will arise, not hitherto envisaged because the possibilities of metaphysical thinking have been as imperfectly understood as its methods. I will make a few observations on each of these two heads.

1. *Perplexities removed.*

(*a*) As to subject. What is metaphysics about? Ever since the time of Aristotle this has been a perplexing question. I have shown that the perplexity goes back to Aristotle himself. Aristotle knew well enough that the science he was creating was a science of absolute presuppositions, and the text of his *Metaphysics* bears abundant witness to the firmness with which he kept this in mind and the perspicacity with which he realized its implications; but Aristotle is also responsible for having initiated the barren search after a science of pure being, and for the suggestion that a science of pure being and a science of absolute presuppositions were one and the same. This perplexity has never been overcome. The history of metaphysics since Aristotle shows that at no point have people become quite clear in their minds as to what metaphysics was about. With this perplexity has gone another, as to how the metaphysician should train himself for his work. In the Middle Ages it was supposed that his preliminary training should consist chiefly of logic; in the seventeenth century, of physics; in the nineteenth, of psychology.

These questions can now be answered. Metaphysics is about a certain class of historical facts,

namely absolute presuppositions. Its subject-matter is as clearly defined as if it had been, for example, the history of mathematics or metallurgy. Because the metaphysician is a special kind of historian, his training should consist first in a general historical education; secondly in special attention to the history of science; and finally in concentrating on problems of the following type: Here is a document providing evidence about the history of science; what light does it throw on the question what absolute presuppositions have been made?

(*b*) As to method. The perplexity as to what metaphysics is about has naturally bred perplexity as to how it should proceed. The ghost of Aristotle's science of pure being has always haunted it with the suggestion that some part at least of its proper method consists in groping blindly for what is not in fact there. If its object is inaccessible the search for that object can only consist in doing something futile; and although no metaphysician has ever taken this inference quite seriously, it cannot be denied that most of them have been to some extent daunted by it into half thinking that their proper place is among the shades, and that a little flitting, a little gibbering, are among the duties of their profession.

This again is now cleared up. The problems of metaphysics are historical problems; its methods are historical methods. We must have no more nonsense about its being meritorious to inhabit a fog. A metaphysician is a man who has to get at facts. He must be quite clear in his mind what facts he wants to get

at and by means of what evidence he proposes to get at them. We live in the twentieth century; there is no excuse for us if we do not know what the methods of history are.

Another perplexity as to method, or perhaps only the same one over again, arises from the recognition that metaphysics investigates presuppositions. Surely, it is argued, a science that investigates presuppositions must avoid making presuppositions in the course of its own work; for how can you detect a presupposition in your neighbour's eye if you have a whole faggot of them in your own? So the idea got about that metaphysics must be a science with no presuppositions whatever, a science spun out of nothing by the thinker's brain.

This is the greatest nonsense. If metaphysics is a science at all it is an attempt to think systematically, that is, by answering questions intelligently disposed in order. The answer to any question presupposes whatever the question presupposes. And because all science begins with a question (for a question is logically prior to its own answer) all science begins with a presupposition. Metaphysics, therefore, either has presuppositions or is no science. The attempt at a metaphysics devoid of presuppositions can only result in a metaphysics that is no science, a tangle of confused thoughts whose confusion is taken for a merit. Not only has metaphysics quite definite presuppositions, but every one knows what some of them are, for as metaphysics is an historical science it shares the presuppositions of all history; and every one,

nowadays, has some acquaintance with the principles of historical thought.

(*c*) As to form, two different perplexities may be instanced. First, should a metaphysician aim at completeness? Is there a certain repertory of problems which are 'the' problems of metaphysics; and is it the duty of a metaphysician who takes his work seriously to tackle the whole set?

I call this a perplexity because a great many metaphysicians, as any one can see from their writings, have been troubled by it: conscious of an attraction always drawing them towards the idea that there is what I have called a repertory of metaphysical problems and that the proper way of going about their business is to solve the whole lot systematically, and yet conscious that when they come closer to grips with this idea it fails to fulfil its promises, for either their problems will not make up into a really systematic form, or the desire to make them up into such a form fails to survive a closer acquaintance with the problems themselves. All science undoubtedly is systematic; and metaphysics, if metaphysics is to be a science, will be systematic too; but does this imply that metaphysical thinking should aim at system-building? Thus doubts arise, as with the other problems I have enumerated; and these in practice lead for the most part to compromises that satisfy nobody: repertories of problems which are not quite closed, systems that are not quite systematic, and a general air of pretence to do what hardly anybody firmly believes to be worth doing.

These doubts can now be resolved. Metaphysics aware of itself as an historical science will be systematic in the sense in which all historical thought is systematic and in no other. Its systematic character will be exhibited in the clear-cut and orderly manner in which it states problems and marshals and interprets evidence for their solution. But the idea that these problems form a closed repertory, or even a repertory with the door ajar, is the purest illusion. So, therefore, is the corresponding idea that the metaphysician's business is to 'cover the ground' of this repertory, to deal with all the problems, and thus to build a system. *Nil actum reputans si quid superesset agendum*, Kant quoted, stuck fast in the grip of this illusion. The historian's work is never finished; every historical subject, like the course of historical events itself, is open at the end, and however hard you work at it the end always remains open. People who are said to 'make history' solve the problems they find confronting them, but create others to be solved, if not by themselves, by their survivors. People who write it, if they write it well, solve problems too; but every problem solved gives rise to a new problem.

A second perplexity as to form arises from the question whether the various problems of metaphysics are so related that a correct solution of one would lead to the correct solution of others: whether, in technical language, there are relations of implication or entailment between their various solutions. This is the question often asked in the shape of the question whether metaphysics is a 'deductive' science.

The answer is, unhesitatingly, No. Let us suppose that the metaphysician is trying to analyse out one single set of absolute presuppositions, namely those of ordinary science in his own society and his own time. I speak of a set of absolute presuppositions, because if metaphysics is an historical science the things which it studies, namely absolute presuppositions, are historical facts; and any one who is reasonably well acquainted with historical work knows that there is no such thing as an historical fact which is not at the same time a complex of historical facts. Such a complex of historical facts I call a 'constellation'. If every historical fact is a constellation, the answer to the question 'What is it that such and such a person was absolutely presupposing in such and such a piece of thinking?' can never be given by reference to one single absolute presupposition, it must always be given by reference to a constellation of them.

What is the logical relation, then, between the presuppositions making up this constellation? The constellation, complex though it is, is still a single fact. The different presuppositions composing it are all made at once, in one and the same piece of thinking. They are not like a set of carpenter's tools, of which the carpenter uses one at a time; they are like a suit of clothes, of which every part is worn simultaneously with all the rest. This is to say that, since they are all suppositions, each must be *consupponible* with all the others; that is, it must be logically possible for a person who supposes any one of them to suppose concurrently all the rest.

It need not, however, be anything more than this. It need not be a relation of such a kind that a person supposing any one of them is logically committed to supposing all or indeed any of the others. Metaphysicians have often thought it was; but that is because they thought of metaphysics as a kind of quasi-mathematics, and did not realize that it was a kind of history.

I say that the relation between the constituents in a single constellation of absolute presuppositions need not be of this kind; but actually it cannot be. For if any one of these constituents logically necessitated any other, the first would be a presupposition of the second, and therefore the second would not be an absolute presupposition. Taken together, the constellation forms a single historical fact; but any constituent within it taken separately is also a single historical fact, discoverable by the metaphysician only in the way in which any historian discovers any historical fact, by the interpretation of evidence. If a given person in a given piece of thinking makes the absolute presuppositions AP_1, AP_2, AP_3, AP_4 . . ., each of these is a genuinely independent presupposition which can no more be deduced from the rest than waistcoat can be deduced from trousers or from trousers and coat together. Metaphysics, aware of itself as an historical science, will abandon once for all the hope of being a 'deductive' or quasi-mathematical science.

It follows that the literary form of a treatise in which a metaphysician sets out to enumerate and

discuss the absolute presuppositions of thought in his own time cannot be the form of a continuous argument, leading from point to point by way of quasi-mathematical demonstration, as in the *Ethics* of Spinoza. It must be the form of a *catalogue raisonné*, as in the fourth book of Aristotle's *Metaphysics* or in the *Quaestiones* of a medieval metaphysician.

(*d*) As to the effect which a metaphysician hopes to produce on the minds of his readers, there is a foolish idea that his business is to found a 'school', if he is a great enough man, and if not, to bring recruits into the 'school' to which he himself belongs, the school of Platonists, Aristotelians, Thomists, Scotists, Cartesians, Hobbists, Spinozists, Leibnitians, Berkeleians, Humians, Kantians, Hegelians, or whatever it may be. This once more I call a perplexity because a great many people can see, when they think, how foolish it is and yet cannot entirely rid themselves of it. They find themselves on the whole agreeing with A's doctrines rather than B's; why not say so?

Metaphysics, aware of itself as an historical science, will abolish in one clean sweep not only the idea of 'schools' but the idea of 'doctrines'. It will realize that what are misdescribed as A's 'metaphysical doctrines' are nothing more than the results of A's attempt to discover what absolute presuppositions are made by scientists in his own time. Thus it is not a 'metaphysical doctrine' or 'metaphysical theory' of Spinoza's that Nature is the same as God. If you understand the metaphysical rubric when you read

what he says about this you will see that what he is doing is to state an historical fact about the religious foundation of seventeenth-century natural science. When I accept what Spinoza says on this subject I am no more going Spinozist in a war of metaphysical sects than I am going Tacitean in a war of historical sects when I accept Tacitus's statement that Agricola conquered southern and central Scotland. What I am doing in either case is to say: 'Here is a statement as to certain facts made by a contemporary writer. The evidence at my disposal proves that it is true.'

Sometimes a metaphysician will make a mistake and say that an absolute presupposition is made which in fact is not made. It is still being said to-day, for example, in spite of a public and altogether right protest made several years ago by Earl Russell,[1] that 'all events have causes'. His protest was altogether right because the point he made was the point that mattered: that the idea of causation is not presupposed in modern physics. In such cases it would be *suggestio falsi* to call the mistake a 'metaphysical doctrine' of the persons who make it. It is not a doctrine, it is a blunder.

Sometimes we find a metaphysician of the past correctly describing an absolute presupposition made in his own times which is still being made to-day; sometimes one which is to-day obsolete. No one who understands that metaphysics is an historical science will be so silly as to say in the first case that his

[1] 'On the Notion of Cause'. *Proc. Arist. Soc.*, 1911–12; reprinted in *Mysticism and Logic*, 1918.

'doctrine' or 'theory' is true, and in the second that it is false.

All this stuff about schools, doctrines, theories, agreement and disagreement, useful though it certainly is for amusing the minds of would-be metaphysicians who cannot get ahead with their work because they do not know how, has nothing to do with metaphysics. It belongs to the apparatus of pseudo-metaphysics.

2. *Scope enlarged.*

Metaphysicians up to now, so far as they have evaded the perplexities mentioned above and have attended to their own proper business, the study of absolute presuppositions, have been working no doubt at history; but their unawareness that history was what they were working at has narrowed the scope of their work. It has prevented them from studying the absolute presuppositions that have been made in the so-called past, because that would be history, and has confined their attention to those made in the so-called present, because that is not history but metaphysics. I say the 'so-called' present and past because the 'present' referred to in that antithesis is not really a present, it is a past, but a relatively recent past. The 'so-called present' means the more recent past, the 'so-called past' means the remoter past.

Metaphysics not aware of itself as an historical science; accordingly, has been in the habit of confining its attention to the absolute presuppositions made in that recent past which is loosely called the

present. Aristotle describes us the absolute presuppositions of Greek science in the fourth century B.C.; St. Thomas those of European science in the central Middle Ages; Spinoza those of European science in the seventeenth century, or rather those of them which he thinks relevant to his special purpose. This habit of attending only to the recent past cannot survive the discovery that metaphysics is an historical science. That discovery enlarges the scope of metaphysical study by opening to it no longer the merest antechamber of the past, but the past in its entirety.

(*a*) The first consequence of this enlargement is that the metaphysician, instead of being confined in his studies to one single constellation of absolute presuppositions, has before him an indefinite number of them. He has as many worlds to conquer as any conqueror can want. He can study the presuppositions of European science at any phase in its history for which he has evidence. He can study the presuppositions of Arabic science, of Indian science, of Chinese science; again in all their phases, so far as he can find evidence for them. He can study the presuppositions of the science practised by 'primitive' and 'prehistoric' peoples. All these are his proper work; not an historical background for his work, but his work itself.

If he is a lazy or a stupid man, he may find this enlargement embarrassing; but no one is asking him to eat all the thistles in his field, only the kind he likes best, and so many of them as he has a stomach for. The ordinary metaphysician will treat this field

very much as any ordinary historian treats any historical field. He will recognize that it is inexhaustible and will decide for reasons of one sort or another what part of it he will make peculiarly his own. In this part he will do genuine, first-hand historical work. In the parts that impinge on it he will be content to know the first-hand work that others have done, without doing any himself. In remoter parts he will be content to look at second-hand work: compilations and text-books and what are called, *a non lucendo*, 'histories'; and where the penumbra shades off into complete darkness he may even sink so low as to consult the encyclopaedia.

(*b*) When he has some knowledge about several different constellations of absolute presuppositions, he can set to work comparing them. This is not a high class of historical work, but it has its uses. For one thing it will convince the metaphysician, if it is honestly done, that there are no 'eternal' or 'crucial' or 'central' problems in metaphysics. It will rid him of the parish-pump idea that the metaphysical problems of his own generation or, more likely, the one next before his own are the problems that all metaphysicians have been worrying about ever since the world began. For another thing it will give him a hint of the way in which different sets of absolute presuppositions correspond not only with differences in the structure of what is generally called scientific thought but with differences in the entire fabric of civilization.

(*c*) But all this is still a very superficial kind of

historical study, based as it is on the false assumption that an historical 'phase'—a civilization, a phase of scientific thought, a set of absolute presuppositions—is a static thing, whose relations with others can be adequately studied by comparing them and noting resemblances and differences. The essential thing about historical 'phases' is that each of them gives place to another; not because one is violently destroyed by alien forces impinging on its fabric from without by war or from within by revolution, but because each of them while it lives is working at turning itself into the next. To trace the process by which one historical phase turns into the next is the business of every historian who concerns himself with that phase. The metaphysician's business, therefore, when he has identified several different constellations of absolute presuppositions, is not only to study their likenesses and unlikenesses but also to find out on what occasions and by what processes one of them has turned into another.

This is the only legitimate (that is, historical) way in which he, or anybody else, can answer the question 'Why did such and such people at such and such a time make such and such absolute presuppositions?' Like all questions in metaphysics, this is either a nonsense question or an historical question. It is a nonsense question if the answer it expects is one which identifies the cause of the historical fact in question with something outside history, like the geographical or climatic environment of that fact or the psycho-physical characteristics of the human beings

concerned in it. It is a significant question if it expects an answer in the form: 'Because they or the predecessors from whom they inherited their civilization had previously made such and such a different set of absolute presuppositions, and because such and such a process of change converted the one set into the other.' If any one is dissatisfied with this kind of answer his dissatisfaction shows that the question, as he was asking it, was a nonsense question.

(*d*) The dynamics of history is not yet completely understood when it is grasped that each phase is converted into the next by a process of change. The relation between phase and process is more intimate than that. One phase changes into another because the first phase was in unstable equilibrium and had in itself the seeds of change, and indeed of that change. Its fabric was not at rest; it was always under strain. If the world of history is a world in which *tout passe*, *tout lasse*, *tout casse*, the analysis of the internal strains to which a given constellation of historical facts is subjected, and of the means by which it 'takes up' these strains, or prevents them from breaking it in pieces, is not the least part of an historian's work.

Thus if Gibbon seems out of date to a modern student of the Roman Empire it is not because Gibbon knew fewer facts than the modern student knows; it is because Gibbon was not sensitive enough to the internal strains of what he wrote about. He begins by depicting the Antonine period as a Golden Age, that is, an age containing no internal strains what-

ever; and from the non-historical or anti-historical tone of its opening his narrative never quite recovers. If Hegel's influence on nineteenth-century historiography was on the whole an influence for good, it was because historical study for him was first and foremost a study of internal strains, and this is why he opened the way to such brilliant feats as that analysis of internal strains in nineteenth-century economic society which entitles Karl Marx to the name of a great historian. If Oswald Spengler, who was so much talked about a few years ago, is to-day deservedly forgotten, it is because whenever he set himself to describe a constellation of historical facts (what he called a 'culture') he deliberately ironed all the strains out of it and presented a picture in which every detail fitted into every other as placidly as the pieces of a jig-saw puzzle lying at rest on a table.

Where there is no strain there is no history. A civilization does not work out its own details by a kind of static logic in which every detail exemplifies in its own way one and the same formula. It works itself out by a dynamic logic in which different and at first sight incompatible formulae somehow contrive a precarious coexistence; one dominant here, another there; the recessive formula never ceasing to operate, but functioning as a kind of minority report which, though the superficial historian may ignore it, serves to a more acute eye as evidence of tendencies actually existing which may have been dominant in the past and may be dominant in the future. And even an historian whose eye is not acute enough to

detect this recessive element may have feelings sensitive enough to savour the peculiar quality which its presence imparts to the whole. The historian in his study can perhaps afford to neglect these strains, because he does not really care about being a good historian; but the man of action cannot afford to neglect them. His life may depend on his ability to see where they are and to judge their strength. It was not by gunpowder alone that Cortez destroyed Montezuma; it was by using gunpowder to reinforce the strains which already tended to break up Montezuma's power.

The same characteristic will certainly be found in any constellation of absolute presuppositions; and a metaphysician who comes to his subject from a general grounding in history will know that he must look for it. He will expect the various presuppositions he is studying to be consupponible only under pressure, the constellation being subject to certain strains and kept together by dint of a certain compromise or mutual toleration having behind it a motive like that which causes parties to unite in the face of an enemy. This is why the conception of metaphysics as a 'deductive' science is not only an error but a pernicious error, one with which a reformed metaphysics will have no truce. The ambition of 'deductive' metaphysics is to present a constellation of absolute presuppositions as a strainless structure like a body of propositions in mathematics. That is all right in mathematics because mathematical propositions are not historical propositions. But it is all

wrong in metaphysics. A reformed metaphysics will conceive any given constellation of absolute propositions as having in its structure not the simplicity and calm that characterize the subject-matter of mathematics but the intricacy and restlessness that characterize the subject-matter, say, of legal or constitutional history.

This is the answer to the somewhat threadbare question 'How can metaphysics become a science?' The answer is: 'By becoming more completely and more consciously what in fact it has always been, an historical science.' The reform of metaphysics, long looked for and urgently needed, can be brought about by nothing more abstruse or difficult than its adoption of principles and methods which are now common form among historians. And the extent to which metaphysics has already been a science in the past is governed by the extent to which it has already been history.

By this reform metaphysics will find a complete and conclusive answer to the various criticisms which at various times have been brought against it, so far as those criticisms have been justified by defects in its own practice. And so far as they have not been justified it may help people to clear them out of their minds.