III.—ARE HISTORY AND SCIENCE DIFFERENT KINDS OF KNOWLEDGE?  


I. By R. G. Collingwood.

From the point of view of the theory of knowledge or logic, must a distinction be drawn between two kinds of knowledge called respectively History and Science?

Such a distinction is usually made: we shall argue that it is illusory. It is implicit in the whole drift of the Platonic philosophy, though Plato nowhere, I think, states it clearly. But Aristotle not only states it, but states it in a way which, though only incidental, implies that it is familiar. In a well-known passage of the Poetics he remarks that poetry is more scientific than history, because poetry deals with the universal, for instance, what a generalised type of man would do on a generalised type of occasion (and this, he implies, as knowledge of the universal, is science), whereas history deals with particular facts such as what, on a particular occasion, a particular person said. History is thus the knowledge of the particular.

I. The distinction between history as knowledge of the particular and science as knowledge of the universal has become common property and is in general accepted without question. We propose to criticise it: and as a preliminary, we shall indicate two difficulties which we shall not follow up.

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1 Contributed to the Joint Session of the Mind Association and the Aristotelian Society at Manchester, July 14th-16th, 1922.
2 I would suggest, for instance, that just so far as Mr. H. J. Paton (Proc. Arist. Soc., 1922, pp. 69 seqq.) is right in identifying eikaria in Plato with art, so far πίστις is to be identified with history, as cognition of the actual, but only γνώσμενον, individual.
3 φιλοσοφοφέτερον. I need hardly remind the reader that what we call science Aristotle regularly calls φιλοσοφία, a usage long followed in this country and criticised rather spitefully by Hegel. What we nowadays (having given in to Hegel) call philosophy Aristotle calls σοφία, θεολογία, or πρώτη φιλοσοφία.
(a) It implies a metaphysical distinction between two kinds of entity, a particular and a universal, such that any cognition may be knowledge of the one in isolation from the other. This dualism is precisely the doctrine which Plato attacked in the Parmenides when he pointed out that the universal, thus distinguished from the particular as a separate object, loses just its universality and becomes merely another particular. The mediaeval nominalists attacked it again, in the form in which the realists held it: and Berkeley once more attacked it in the doctrine of abstract ideas. Any one of these three arguments could be directed with disastrous effect on the metaphysical groundwork of the distinction between history and science: but we shall not undertake this task because the arguments in question are purely destructive, and like all destructive arguments would be waved aside as mere examples of the ‘difficulties’ which seem only to stimulate the faith of the believer.

(b) We might drop metaphysics and appeal to experience, which clearly enough shows the instability of such a dualism. Wherever people have distinguished science and history as different kinds of knowledge they have tended to degrade one into the position of a pseudo-knowledge and to erect the other into the only real knowledge.

(i) In Greek thought science or knowledge of the universal is real knowledge and history or knowledge of the particular is only half-knowledge. For Plato the particular is midway between being and not-being, and therefore our best possible cognitions of it are midway between knowledge and ignorance. They are not knowledge: they are mere opinion. For Aristotle the qualification of poetry as more scientific than history implies that poetry (and therefore a fortiori science) comes nearer to satisfying the ideal of knowledge than history does. This position became traditional, and crops out in a curious way in the nineteenth century. It was common in that period to propose that history should be elevated to the rank of a science: which meant that it had hitherto not been a science because it only recognised the particular, but that now this reproach was to be removed, and after a long apprenticeship spent in the proper Baconian way in collecting facts history was to be promoted to the task of framing general laws, and thereby converted into a science fit to take its place among the other sciences like chemistry and mechanics. This proposal, to redeem history from its degraded infra-scientific position, became part of the regular programme of nineteenth-century empiricism and positivism, and the science into which it was to be converted
was variously entitled Anthropology, Economics, Political or Social Science, the Philosophy of History, and Sociology.

(ii) The opposite tendency has been late in appearing, but it has made amends for its lateness. The chief feature of European philosophy in the last generation has been that movement of reaction from nineteenth-century positivism which has tended to degrade science into a false form of knowledge and to find the true form in history. The metaphysical notion of reality as process, movement, change, or becoming has had its reverse (perhaps really its obverse) side in an epistemology which places history at the centre of knowledge. In this, implicitly if not explicitly, the schools of Mach, of Bergson, of James, and of Croce agree: and even more plainly they agree in holding that science is not knowledge at all but action, not true but useful, an object of discussion not to epistemology but to ethics. Any cognition (such seems to be the Berkeleian principle common to these schools) must be of the particular, and must therefore be history: what is called a cognition of the universal cannot be a cognition at all but must be an action. They do not all intend by this analysis to ‘degrade’ science in the sense of denying its value: for it is, they maintain, useful: what they deny is simply its truth.

Experience shows the difficulty of keeping the balance even and the temptation to identify the genus knowledge with one of its species, thereby reducing the other to the position of an expedient towards knowledge or an inferior kind of knowledge. But no one who really wishes to maintain the dualism will let this deter him. Grant that every one from Plato to Croce has failed to maintain it, he will not fail but will stand by the very simple doctrine that knowledge is a genus with two species: knowledge of the particular, history, and knowledge of the universal, science. This simple faith in the possibility of maintaining a dualism by sheer will-power, undeterred by the spectacle of the bleaching bones of previous adventurers, is left untouched by the expressions of a disillusioned scepticism. We shall not pursue this line of criticism, but shall try simply to describe how the scientist and the historian work, in order to see whether we can detect a fundamental difference between them.

II. It is commonly assumed that what the scientist does, in virtue of which he is a scientist, is to generalise. Everything else which he may do, it is thought, is (in so far as he is a scientist) a means to this end. When it is achieved his work is done and there is nothing more for him to do except to go on and frame a new generalisation. That is the
meaning of the common saying that science is the knowledge of the universal. Is it true?

As a common opinion it may be countered with another. Generalisations can be learnt by hearsay or reading: for instance, you may learn by heart the list of fossils characteristic of a certain horizon by simply getting them up from a book. Now common opinion holds that a man may be book-learned in a science and yet incompetent in it. A geologist may know the names of fossils, but if we find on putting him down in front of an actual landscape or in an actual quarry that he cannot give us a geological account of this particular object, we say that he is an impostor. He can repeat, it may be, all the generalisations which (we generally think) constitute the corpus of geological science, but if he cannot apply them he is no geologist.

Friends and enemies of the natural sciences agree in thinking the application of generalisations to be characteristic of them, and so it is, but not in quite the way that is generally thought. 'Science' is praised or despised for its practical or economic value, and the geologist is respected or scorned for being able to tell us where to look for coal. It is implied that geology means not merely knowing generalities but interpreting particular facts in the light of these generalities: being able to say 'my geological learning leads me to believe that there is coal just below this sandstone'. And it is implied that the person who says this is more entitled to the name of geologist than one who just reels off general statements.

The common view of science as essentially useful or utilitarian is not wholly erroneous; it conceals an important truth, namely that a scientist is only a scientist ἐνεργείᾳ when he is interpreting concrete facts in the light of his general concepts, and that the framing of these concepts, if regarded as something distinct from the application of them, is not the end of science but the means. The geologist ἐνεργείᾳ is the man who is occupied not in repeating, nor even in inferring, generalised truths, but in looking at country with a geologist's eye, understanding it geologically as he looks at it, or 'applying' his geological concepts to the interpretation of what he sees. To possess these concepts without so applying them is not (as the view which identifies science with generalisation would imply) to be an actual geologist, but only at most to be a potential geologist, to possess the tools of a geologist without using them. But we are here in danger of a serious mistake. The potential geologist is only a mythological abstraction: he cannot really exist: for where
the ‘tool’ is a concept and the ‘use’ of it is the interpretation of individual fact by its means, the tool cannot be possessed in idleness. That would be to strain the metaphor. Interpretation is not the employment of a previously-constructed tool (concept) upon a separately-given material (fact): neither the concept nor the fact is ‘possessed’ (thought and observed respectively) except in the presence of the other. To possess or think a concept is to interpret a fact in terms of it: to possess or observe a fact is to interpret it in terms of a concept.

Science is this interpretation. To live the life of a scientist consists in the understanding of the world around one in terms of one’s science. To be a geologist is to look at landscape geologically: to be a physiologist is to look at organisms physiologically, and so on. The object which the scientist cognises is not ‘a universal,’ but always particular fact, a fact which but for the existence of his generalising activity would be blank meaningless sense-data. His activity as a scientist may be described alternatively as the understanding of sense-data by concepts, or the realising of concepts in sensation, ‘intuiting’ his thoughts or ‘thinking out’ his intuitions. In this process he recognises the objects before him as being of this or that kind: and sometimes this recognition results in the discovery that they are economically valuable, that is, it serves as a basis for action. That is the truth which underlies the idea of science as essentially utilitarian: but if we are to use technicalities we shall say that utility is not its essence but its accident, or at most its property, since ability to use one’s world perhaps follows necessarily from understanding it. And every science has the same character: not only geology and physiology but even what we are accustomed to consider the most abstract sciences. Thus, to be a chemist consists not in knowing general formulae but in interpreting particular changes which we observe taking place by means of these formulae: the science of mechanics consists in the similar interpretation of observed motions: even mathematics does not consist of abstract equations and formulae but in the application of these to the interpretation of our own mathematical operations.

A distinction is often made between the particular and the individual, the former as a mere abstraction, the latter as the concrete fact, synthesis of two opposite abstractions, the particular and the universal. If we must conform to this usage we shall put our contention by saying that there is no such thing as knowledge either of the particular or of the universal, but only of the individual: and that the
sense-datum (pure particular) and concept (pure universal) are false abstractions when taken separately which yet, as elements in the one concrete object of knowledge, the individual interpreted fact, are capable of being analytically distinguished. This may be illustrated by the fallacy of inductive logic. The inductive logician assumes that the task of science is to generalise, to frame universal laws; and that its starting-point is the facts of ordinary observation. The problem of inductive logic then is how, from the particular facts, do we reach the universal law? It tries to describe this process in detail; but when it has done so one cannot help seeing that the alleged particular from which it started was never a pure particular but was already steeped in generality. The process ought to have begun with the pure uninterpreted sense-datum. It never does so begin in the descriptions of inductive logicians, for two excellent reasons: such a pure sense-datum does not exist except as an abstraction and therefore cannot be the concrete starting-point of a process, and if it did exist one could never get beyond it to reach the universal. So the inductive logician makes the process begin with the carefully staged experiment or intelligently recorded observation, which is not a particular at all but an individual, a concrete fact bristling with conceptual interpretations; and from this point, which already contains and presupposes the concept, he proceeds to 'induce' the concept he has surreptitiously presupposed. How, after this, he has the face to accuse syllogistic logic of petitio principii remains a mystery.

The scientist's aim is, then, not to 'know the universal' but to know the individual, to interpret intuitions by concepts or to realise concepts in intuitions. The reason why it has so often been fancied that his aim is to form generalisations is probably that we expect science to be contained in textbooks, much as we expect art to be contained in pictures. Art is to be found not in pictures but in our activity which has pictures for its object; and science is to be found in our activity which uses scientific textbooks, not in the textbooks themselves. The teacher who puts a textbook into the hands of a student must be understood as saying: 'I give you not science, but the key to science: the information here printed is not science, it is something which when you find out how to use it will help you to build up in your own mind an activity which alone is itself science'. It is only because this is so obvious and so continually goes without saying that we habitually overlook it.

III. The scientist generalises, certainly; but generalisation
is subordinate to his real work as a scientist, the interpretation of individual fact. But the historian does not remain at a level of thought below generalisation: he generalises too and with exactly the same kind of purpose. Such generalisations as charters, mediaeval scripts, types of handwriting characteristic of the early fourteenth century, guild institutions, and so forth, go to the interpretation of a scrap of parchment which fits into its place as a link in the history of a town precisely as fossils, Jurassic fauna, shells peculiar to the Portland beds, and so on, are the concepts through which a geologist works out the geological history of a valley. Of late, the historian’s concepts have tended increasingly to group themselves into what seem to be independent sciences, palæography, numismatics, archaeology and so forth. If, as is mostly the case, they do their work better for being thus incorporated into chartered societies, well and good. But their work is the interpretation of individual fact, the reconstruction of historical narrative: and there is a certain danger that the archaeologist, under the influence of the false theory of science which we have criticised, may forget this. He may even think that poor old history has been quite superseded by his own science and others like it, whose aim is not to individualise but to generalise: to reach conclusions not in the form ‘we can now assert that Agricola built this fort’ but in the form ‘we can now assert that Samian bowls of shape 29 went out of use about A.D. 80’. The latter is certainly the form in which the conclusions of many valuable monographs appear: but that is just because the monograph as a whole is only an incident in the scientific lives of its writer and readers, an incident whose importance lies in its bearing on the interpretation of individual facts. Monographs are not archeology: or if they are, then archeology is a false abstraction and we must say monographs are not history, since history is the concrete activity which produces and uses them.

The nineteenth-century positivists were right in thinking that history could and would become more scientific. It did, partly as a result of their work, become at once more critical and trustworthy, and also more interested in general concepts. But its interest in general concepts, reflected in the rise of archeology and such sciences, was the interest of a workman in the improvement of his tools. History did not subordinate the determination of facts to the framing of general laws ‘based on them; that idea was part and parcel of the inductive fallacy. It created within itself new bodies of generalised thought subordinated to its own
supreme end, the determination or interpretation of individual fact.

IV. The analysis of science in epistemological terms is thus identical with the analysis of history, and the distinction between them as separate kinds of knowledge is an illusion. The reason for this illusion is to be sought in the history of thought. The ancients developed a very much higher type of scientific than of historical thought: such sciences as mathematics, physics, logic, astronomy, etc., in the hands of the Greeks attained a pitch of excellence which history did not rival till the seventeenth century. Their philosophical reflexions were therefore concentrated on scientific thought and not on the less remarkable achievements of history: and from that time till the nineteenth century a lack of balance between the epistemology of science and that of history continued to exist. The result was that in the theory of science attention has always been drawn to the concepts or principles of interpretation according to which the active work of thought proceeds, while the theory of history has contented itself with attending to the finished product of thought, the fully-compiled historical narrative. This is the root of all the alleged differences between history and science. Thus it has been said that science predicts, whereas history only records the past. That is untrue (geology records the past, history predicts that green-glaze pottery will be found in a mediaeval ruin) except in the sense that what we arbitrarily call history—the finished narrative when the historian has stopped working on it—is complete and immovable, while what we arbitrarily call science (the mere abstract generalisation) is an early stage in the process of thought which looks forward to its own completion in what inductive logic calls verification.

Again, it is said that the mainspring of science is critical thought, that of history authority. That again is wholly untrue unless we are speaking of incipient science and completed history: for every kind of work is critical so long as the conclusion is not yet reached, and every kind dogmatic when it is. A working historian is critical in all the same ways as a working scientist, and a scientist who has come to a conclusion states it, everybody knows, as dogmatically as a Pope: it would be a pedantic and insincere affectation if he did not.

These and other fancied distinctions are the result of comparing an inside view of science with an outside view of history—science as an actual process of thought with history as a dead, finished article. When both are regarded as
actual inquiries, the difference of method and of logic wholly disappears. The traditional distinction, we have suggested, has its origin in a simple historical fact, the fact that science became an object of philosophical reflexion long before history: not in any epistemological dualism. To erect such a dualism is to falsify both science and history by mutilating each of one essential element of knowledge—the element of generalisation or the element of individualisation: and so mutilated, it is not surprising if now history, now science, should appear an illegitimate form of knowledge.

II. By A. E. Taylor.

My belief is that they are different, and I am now to give a brief statement of my reasons for thinking so. I say my reasons and no one else's, because I do not see that a discussion of the kind we are now engaged in is likely to be profitable if it resolves itself into an attempt to count heads and to make out, largely by doubtful argumentation, that Plato or St. Thomas or Hegel has taken sides and Rome has therefore spoken and there is nothing left to discuss.

The view I believe to be false in principle can perhaps be most readily indicated, and the reasons for thinking it false most briefly suggested, by stating it in what will perhaps be thought an exaggerated form, though, if the view were only true instead of false, I do not see that such a statement would be anything but perfectly appropriate. Spinoza, we all know, undertook to write Ethica more geometrico demonstrata, though most of his readers have held that the promise was not really redeemed by the performance. How if Gibbon had promised the world, or if some enthusiast for the opinions of the late Sir John Seeley were yet to promise an Historia Imperii more geometrico demonstrata? Should we, or should we not, expect to find that in proportion as the work was good history, the "geometrical method" eo praefulgebat quia aberat? I believe we should, and I want to show very succinctly why I believe we should be right.

The root of the difficulty does not lie, as is often said, in the distinction that "science" deals with the "universal" but history with the "individual". This is, no doubt, true, but if it were all, a clever disputter could make out a plausible case for neglecting the distinction by arguing that the universal truths of science hold true of individual cases, and that the individuals whose doings form the subject of history
are only known to us as objects with this or that complex of "universal" attributes. The real difficulty is rather that science, when it is "pure," that is when you have freed it from complication with any extraneous preoccupations, when it is all through "science" and nothing but "science," never affirms and never attempts to affirm anything but a formal logical implication between a proposition which it calls a demonstrated conclusion and a group of other propositions which it calls the premisses for the conclusion; history, when it is pure history, freed, to repeat myself, from all preoccupation with the extraneous, always tries at least to affirm the truth of a categorical proposition. Thus, to take a pair of illustrative examples, it is no concern of purely scientific science whether or not the famous Pythagorean proposition is true. The scientific work is done when it has been shown that a certain small group of postulates, all explicitly asserted or tacitly assumed without proof by Euclid, imply as a logical consequence the theorem of Pythagoras, and that if any member of this group of postulates were omitted there would be no such implication. Whether these various postulates are themselves true or not is not a problem for the geometer as such. He may, so far as I can see, hold that they are true, that, as it is quaintly put, the "space in which we actually live" is "Euclidean"; he may hold that some of them are not true, that we "live in a non-Euclidean space"; he may hold that one or other of these views is true but that we cannot tell which; or finally, as it seems to me—and I could quote names, if necessary, to prove that this is not merely a view of an "outsider" in geometry—he may think that the problem itself is on the same level as the question whether the body we call Jupiter really is Jupiter, or whether the true reckoning of money is by pounds and shillings, by francs or by dollars. Our view of his common sense may be affected by his verdict on this issue, but not our view of his competence as a geometer. Or again, if you start with certain very simple postulates about the type of structure of the integer-series, you can, as Frege has shown more elaborately than anyone else, deduce the whole system of rules which make up simple Arithmetic, but it may remain in doubt all through, as Frege left it in doubt, whether there really is anything which answers to the notion of an integer as defined by your initial postulates. Only the doubt does not in the least affect what you have really asserted, viz., that if your two or three initial assumptions are granted, the whole bulk of your conclusions follow with strict logical necessity. You would show yourself a bad "arithmetician" if you de-
clared a consequence to follow when it does not follow. You do not show yourself a bad arithmetician because it may be doubtful whether one of your postulates is true. All that is really demanded in regard to them is that they shall be as few and simple as possible, and that each of them shall be independent of all the others, i.e., that the consequences alleged to follow shall not all follow if any one of the postulates is expunged from the list. Your crew must be sufficient to row your boat, and it must contain no "corkers".

For the sake of contrast, take any proposition about history you please, the simpler and more childish the better for my purpose, e.g., "Richard III. murdered the sons of Edward IV. in the Tower," "William III. was an accessory to the Rye House Plot". The main point of interest here to the historian of our country is whether these allegations are themselves true or not. If the princes were still alive when Henry VII. reached London, or if "Hooknose" knew nothing about the Rye House Plot until the arrest of the real or alleged plotters, these statements are simply false history. The existence of a logical implication between the premisses and the conclusions based on them is here only interesting in a secondary way for its bearing on the truth of the conclusions themselves. In point of fact, the historian only rarely, if ever, really succeeds in putting the logical implication beyond all doubt. In our own example, the first proposition is one which most historians have accepted, the second one which they have rejected. Yet the kind of evidence produced to establish the connexion of premisses with conclusion appears to be about as good in one case as in the other; in both, as a matter of logic, alternative readings of the facts are really left open.

It is not to the point to argue against this real distinction by urging that the individual persons and events of history have universal characters and that it is these characters which make up what we really know about them. The question is what it is we are interested in establishing and what we think it our business to establish in history. We are emphatically not interested, when we write the history of Richard III., to make out the proposition that a politician with the character we believe King Richard to have had is very likely to put rivals whose pretensions may be a source of difficulty and danger out of the way if he has them in his power. We may grant this implication quite freely, and yet, if some one were to produce undeniable evidence of the existence of the two princes after the battle of Bosworth, though the evidence might not lead us to make any alteration
in our hypothetical estimate of Richard’s character, and so would leave the general implication still standing, we should certainly feel that we were in the presence of a new historical fact, and we should feel called on to rewrite history accordingly. The plain fact is that what the great representatives of the scientific ideal have always been interested in is viewing things, as one of the greatest wrote, \textit{sub specie quadam aeternitatis}. They are only interested in their temporal character so far as this can be regarded as a clue to their eternal character; they may have to allow, in some cases, for the temporal in their premisses; their aim is to exclude it, if they can, from their conclusions, and this is the real reason for the "hypothetical-deductive" method which all science does its best to follow. But, thank God, all our interest and all our knowledge is not confined to the \textit{species quaedam aeternitatis}; we are also interested in the temporal as temporal, and we can know a great deal about it; even if you decline to call this knowledge science, as I think you ought, it is "information," and it is just because we care about information that there is a substantive study of history. Of course you can make the study merely subservient to that other interest in the non-temporal. You can treat history as merely offering a starting-point for the framing of hypothesis about tendencies in human nature. At its best, however, the result of that kind of study is not history but "Politics," the study of the legislator and statesman; at its worst, it becomes the medley of crude guesses which has dignified itself appropriately enough by the vulgar and hybrid appellation of "sociology," an unlovely \textit{simia Politicae}. But Politics and sociology are both discriminated from true science by the multitude of their unproved postulates, the vagueness of them, and the total neglect of any care to insure that the postulates shall be sufficient and shall be independent of one another. The historian's aim is at bottom quite different from that of the student of Politics or sociology. They are concerned with the "moral" of the fable; the true historian only cares for the "moral" in a wholly secondary way. He knows that the moralising tendency is so widely diffused that men will read his narrative, as too many of them continue to read \textit{Hamlet} or \textit{Don Quixote}, for the sake of the "moral" to be got out of it, and he must prefer that the "moral," since moral there is to be, should be one in conformity with the actual facts and not otherwise. But his real interest is, with the story, a story of the deeds of individual men or individual societies which he does not expect to recur and does not, at least in his quality of historian,
regard as "cases" or "instances" of a law of tendency. They may very well be that, but it is not because they are that that he takes so deep an interest in their story. One might, for example, be interested in the History of the Roman Empire simply as a striking case in point to show how what is at bottom a military usurpation, under a constitutional mask, comes to show itself in its true character in spite of the ablest attempts of the most intelligent of the wielders of the usurped power to "save appearances" and to hide away even from themselves the true "secret of empire"; how the ultimate break-down of this attempt, aided by the over-greatness of the burden to be borne and the tendency of new social strata to work to the surface and of new blood to find its way into the boundaries of the "civilised" state, leads in the end to the dissolution of the institution itself. But it is plain as the day that this was not the chief interest which the tale of the Decline and Fall of the Roman Empire had for our great historian of it. To him the great interest of the Empire was that its history and its institutions were the source of so much in the life and institutions of the society in which he lived. From the point of view of a pure sociologist, the interest of the Roman Empire and its fortunes should be quite independent of the "empirical" fact that its historian lived in the Europe of the eighteenth century and not in the moon, and that he was the heir of the Graeco-Roman tradition of life. To Gibbon these "temporal" facts made nine-tenths of the interest of his subject. And so it must always be with all of us. Sub specie aeternitatis, and as material for the sociologist's queries, the past of China or Japan may be as important as that of France or England; for us who are Frenchmen or Englishmen it cannot possibly be so. Just so, though for God the life of any man may have as much interest as that of Dante or Chatham or Knox, it cannot be and ought not to be the same with us who are the heritors of what they did, wisely or amiss. It is no answer to repeat the old story that whether we are contemplating sub specie aeternitatis or sub specie temporis that which we contemplate is in either case the same thing, that every universal is also particular and every particular universal. Even if this were true, as I, for my part, do not believe that it is, the observation would be irrelevant. It would still be one thing to study the particularity of the universal and another to study the universality of the particular. In a different field of study, it may be true that our real concern with a great philosopher is to discover what he meant to say, and that the words in which he chose to say
it are a secondary matter, but every scholar would subscribe to the statement that it is our business to fix the text, say of Plato, before we proceed to our interpretation and that in fixing the text our immediate concern is not with what we rightly or wrongly suppose to be the "Platonic philosophy," but with the MSS. and the ancient testimonia. In history the point is even clearer for the reason I have just given. Just as we are interested in our own relatives and friends and enemies, not primarily as "social types" illustrative of psychological laws, but because they are our relatives or friends or enemies, we are legitimately interested in the same way in the special past to which we owe our own traditions, and in a lesser degree to the past to which other races of men owe their traditions, because it is the past of ourselves or of our fellow human sojourners on this particular world of all the worlds God has made. The past of a race living on a satellite of Sirius, if Sirius has satellites, may reasonably be of equal value as illustrating laws of tendency: it would be irrational to hold that it can have the same interest for us.

I have dwelt so long on these obvious considerations mainly because they ought to keep us from introducing false methods of study into history. The point is one which has been made admirably, though without any special reference to the particular problem we are discussing, in Baron von Hügel's wise and tender essay, Preliminaries to Religious Belief (Essays and Addresses on the Philosophy of Religion, pp. 98-118). The great concern in science is that the postulates which form the protases of our statements of logical implication should be as few and simple as the case permits of. (I should say, perhaps, as a caution, that by a "postulate" I mean any undemonstrated proposition used as an ultimate premiss in science. I make no assumption that "postulates" may properly be assumed at the dictates of our "volitional nature," i.e. because we should like to assume them, still less that the mere making of the "postulate" in any way guarantees its truth. I am using the word in the mathematician's sense, not in that of some "philosophers"). Hence strict science rightly and properly follows the lead of Descartes in insisting that its postulates shall convey "clear and distinct" ideas. But in the actual growth of knowledge, even about our fellow-men, still more about God, as von Hügel rightly insists, we never begin with or rest our knowledge on "clear and distinct ideas". The reality with which we are in contact, when we begin as infants to "know" our nurses and parents, when in any stage of life we have the religious
man's direct sense of touching God, is in its nature so very rich and complex that our "knowledge" of it is bound to be inadequate and dim, the sort of "knowledge," as the same writer says, that a dog has of its master, only still dimmer. Von Hügel is specially concerned with directing this argument against the agnostic in theology who argues that because our supposed knowledge of God is so dim and confused, it is worth nothing, and quite probably it is not knowledge of anything at all. But the same sort of considerations, in a lesser degree, are applicable to the study of human history. Our interest in the men and the ages of the past which has shaped the traditions under which we live is of the same kind, not as our interest in the observations which will confirm or refute a suspected mathematical law or a formula in physics or chemistry, but as an interest in our personal friends and foes.

We want, quite legitimately, to know what manner of men these were; what they really did; whether the benefit or the harm accruing to us from their deeds was foreseen and intended or not, and if not, what it was that they really purposed. This sort of interest is quite unlike that of the strict follower of science; the motive at the bottom of it is quite different from his passion for reducing the course of events to law and formula. A statesman may, to be sure, read the history of the past, mainly to learn from it how to shape his own path among the uncertainties of life, but for that very reason, his interest in history is that of the politician, not that of the historian. At bottom, I take it, we all want to know these things for the very good human reason that we want to feel gratitude where gratitude is deserved and not to bestow it where it would be wasted on the undeserving. And for that reason we properly ask of a great historian something we should never demand from a writer on science, just as we ask the same thing, under easier conditions, from a great novelist. Of the man of science we ask no more than that he should "explain" the course of things to us, make it smooth and easily to be taken in as a whole, by showing how it all follows by logical deduction from a few simple unproved principles taken in conjunction with a comparatively few close observations of actual fact as a "control". If history were what it has often wrongly been taken to be, disguised political theory or even disguised "sociology," we ought to be content to ask no more of the historian. In point of fact we do ask something more and very different.

We expect the really great historian not merely to "explain" events to us but to make us "understand" the doers of historical deeds. He must bring it home to us with conviction
what manner of men they were, who were doing, and what
they believed themselves to be doing. Now this is where
"science" inevitably falls short. I can illustrate my point
most readily by an obvious example. A man may be a
thoroughly "scientific" psychologist with all the latest theories
and laboratory facts at his fingers' ends, and yet he might be
quite incapable of telling a story of human action, even one in
which all the events were certified "facts," in such a way as
to make us accept the personages of the story as "real";
they might impress us as mere products of the laboratory
with labels attached to them, because, as we should probably
say, we simply cannot "understand" their proceedings. On
the other hand, men who have probably never opened a book
about analytic or genetic psychology in their lives can tell a
tale of the doings and feelings of quite fictitious characters in
a way which makes us feel that we "understand" their per-
sonages all through; we can enter into, or as Adam Smith
would have said, "go along with" all they say or do. This
is why we call the fictitious characters in such men's books
"real," and often speak, with some ambiguity, of their creators
as profound "psychologists". So they are in a sense, but it
is a peculiar sense; Henry James and William James may
both be called "psychologists," but not quite in the same sense
of the word.

Now I maintain that it is this power of "going along"
with the actor in an historical scene and making his readers
"go along" with him, which may be wholly wanting in
the subtlest analyst of situations or deviser of political
theories, that is the supremé gift of the really great historian.
And it is not a gift which can be got by any devotion to
"scientific method". It has nothing to do with "clear and
distinct ideas"; which of us has what the logician would
pass as "clear and distinct ideas" of his most intimate friend?
The ordinary good Psychology manual will give you much
clearer and distincter ideas of the assumed typical man whose
mind it proposes to analyse and watch as it grows. But you
would be badly at sea if you attempted to read the riddle of
a real man's character by dependence on even so admirable a
textbook as the Manual of my colleague Prof. Stout, as I
should imagine he would be the first man to admit.

I do not mean, of course, that a great historian is a brilliant
novelist under another name. I should not ask anyone to
regard the very brilliant novel called "Froude's History of
England" or the hardly less brilliant novel of Macaulay as
typical historical masterpieces. The historian works under a
control from which the novelist is free. The novelist is at
liberty to "see" his characters first and then shape the course of their doings to correspond to his vision. The historian has to start by "documenting" himself about the complicated web of events and then to divine the actors. It is the same process, on a larger scale and applied to the past, which each of us performs in his way, when he judges the persons among whom his life is cast by what he knows of their words and acts. What I do mean is that the performance of this task is incumbent on a historian and that it is success in it—success in making us "understand"—which stamps the really great historian. A man for whom the acts of men are no more than events, like the fall of a cathedral spire, or the occurrence of an unexpected storm at the crisis of a battle, might, for all I can see, quite well supply the student of Political Science or its counterfeit "Sociology" with materials for constructing more or less sound theories about "social tendencies," but no man will be an historian unless he understands that, even if there really are any mere "events," the acts of fully awake and accountable human beings are acts and not mere events and that our quite unscientific but quite legitimate interest in a past which is our own past will not be satisfied until we have been made able to "understand" the actor behind the act. For this reason, though I see no reason why the historian should always add the function of the judge to his own and insist on formally pronouncing sentence on the persons with whom he deals, I must confess that Lord Acton seems to me to have understood what is properly to be expected of an historian better than Seeley and his followers, who seem to think that when the work of providing Political Science with materials for its formulæ has once been done, nothing much is left for the historian but to compose "Tales of a Grandfather".

III. By F. C. S. Schiller.

The theory of the three-member Symposium is supposed to be that the first string develops his Thesis, the second harps upon the Antithesis, while upon the third performer devolves the onerous duty of finding (if he can) the Higher Synthesis which resolves their discords. In practice, however, this is so arduous an undertaking that it is easier to make a triangular duel of it, and not infrequently it happens that the aims of the parties are so little co-ordinated that they attack, not one problem, but three or more. Usually this
comes about unintentionally, owing to the infirmity of philosophic purposes; but on this occasion I understand that Prof. Taylor wishes us to legitimate the practice, and consciously to aim at independent treatment, that is, to disregard the history of the debate. And though I am a little apprehensive that this procedure, if it became common, would foster in 'symposiasts' a vice to which philosophers are all too prone; that of solitary drinking—I mean, of course, thinking—in the present case I have no difficulty in complying with Prof. Taylor's request. For, sooth to say, I find that my predecessors have been singularly reasonable. They have abstained from firing off philosophic paradoxes at our common target, and from bombarding their audience with cryptic conundrums. Neither of them has asserted that Science alone is knowledge, and History is not, or that History is knowledge and Science is not. Neither has asserted that Science is concerned only with eternal truth, or that History has no relation or relevance to scientifc truth. Both have refrained from the verbal juggling with the terms 'particular' and 'universal' which has so long seemed to be the sole contribution philosophy could make to any problem.¹ Both the unity of knowledge and the diversity of its kinds have been upheld in quite a moderate way.

Consequently it would not have been easy to quarrel with either of them, though incidentally both of them reveal that they do not quite understand pragmatism. With Mr. Collingwood's attitude indeed I find myself in such cordial agreement that I can accept all his contentions, though I think some of them may prove misleading unless they are safeguarded and supplemented by extensions and corollaries which he does not mention. Prof. Taylor's interesting paper I could not swallow so whole-heartedly: parts of it should, I think, definitely be rejected. But my reasons for so doing are so very simple that they would not lend themselves to any very protracted debate. Accordingly it seems quite possible that in this instance dialectics will be less instructive than a more direct approach to the problem;

¹ I am particularly appreciative of their abstention from this practice, in which neither term was ever defined or distinguished from the other. But if we cannot say wherein either particularity or universality consists, what is the use of predicating either of anything? And further, what meaning can it have to say that everything is both 'particular' and 'universal'? If that is so, and if neither 'particular' nor 'universal' can be, or be defined, per se, the distinction between them becomes an arbitrary distinction without a difference, and explanation in these terms is meaningless.
at any rate I will endeavour to develop our question independently and shall only refer incidentally to the points where my predecessors' treatment seems to me to require comment.

It is permissible perhaps to begin with a truism. Our question obviously implies that, whether or not Science and History are identical, they are not wholly different, but relevant to each other and to the nature of knowledge. For if they were not different, they would not be distinguished; while if they were utterly different, they could not be compared, and so no question could arise as to the precise difference between our cognitive procedure in Science and in History. It is also antecedently probable that such differences as may be found will not be very serious, for if they were, they would gravely detract from the unity of knowledge and the utility of recognising it. Further, if the differences between Science and History are not serious, it will be a question whether they are to be dignified with the title of 'differences in kind'.

I will follow up my first truism with a second, which ought to be deemed its equal. Of all the multitudinous definitions an object of inquiry may receive, the most significant is one which expresses the purpose for the sake of which it has become an object of inquiry. In other words, in order really to understand the nature and function of Science and of History, we must discover why they become objects of human interest and to what ends they minister, and then define them accordingly. If they serve a number of purposes and have several ends, it will be necessary to evaluate these ends, and to decide which of them is the highest and worthiest, and really justifies the interest taken in the object. For example, food is probably as universal an object of interest as can be found among men; it appeals to high and low, young and old, savage and civilised, and much is said and written about it. It has interest for biology, economics, ethics, politics, gastronomy, physiology, medicine; nay even for theology, seeing that the earliest religions appear to have been forms of food magic. It is evident, however, that the ends for the sake of which men are interested in food are not all of equal value.

The cases of Science and History seem similar. Both may be pursued for various, and for the same, ends. Thus some may study Science and some History, because it amuses them. Others, for the sake of a livelihood. The former end will appeal more to the amateur, the latter to the professional. Or again, both Science and History may be useful to the
politician, and be exploited accordingly. But none of these ends would yield a very adequate definition of these interests, and they would certainly not enable us to distinguish between the function of Science and of History.

We must therefore try again. Perhaps a deeper and more specific end is to be sought in the functions which human life is enabled to fulfil by knowing Science and History. What, then, is the vital value of each? Vital value both must clearly have, in some way or other; otherwise they could not maintain themselves as spiritual industries.

Now in the case of Science the answer to this question has become pretty obvious. The essential characteristics of scientific knowledge, which distinguish it from pseudo-science, divination, guesswork, metaphysics, verbiage, and nonsense, are prediction and control. It is that whereby we foresee the future and calculate the distant, and guide our action accordingly. It is the knowledge which is power, and which ministers to our desire for power. It is the knowledge which extends our power beyond the present into the future, which forecasts the consequences of our activities and enables us to foresee what will happen next. It liberates us, therefore, from the restriction of actual experience to the passing moment.

This achievement, however, is not enough. It is not enough to know the real as it is, in order really to know it, in order to control it. We must know also what it will be, and what it has been. To understand the actual and to treat it rightly, we must extend our knowledge backwards into the past, and regard it as a product of the ages.

We ask, therefore—how has the actual come to be as it is? This is the essential question which History tries to answer. Its province is the past; its purpose to reveal it, to redeem it from oblivion, to relate it to the present, in order that we may have the power over things that comes from knowledge of their past. It follows from this definition that prophecy is not the primary business of History; it leaves this to Science, which is not, however, restricted to the future; Science can calculate the past as well as the future, though only with the aid of History. The ultimate aim of both, however, is to minister to our need of controlling a reality that kills us if we don’t.

If these definitions be accepted, it is clear what the difference is between History and Science. It is not, however, inconsistent with its recognition to add a warning that it does not imply any antagonism between Science and History, but demands their close co-operation. Clearly the historian
may, and must, use all the technique of calculation which Science proffers, to reconstruct the past. In return, the scientist must recognise that, in all that concerns the past, he needs the help of History.

In the last resort this means that he needs it everywhere. A birth-story attaches to every scientific fact, and an umbilical cord once connected it with the womb of time. All the data out of which scientific ‘facts’ are fabricated are primarily historical. If it is not historically true that a certain Mr. Dawson once found certain bones at a certain distance from each other in a certain deposit, the Piltdown skull was that of a man and the teeth were those of an ape, and Eoanthropus Dawsoni cannot be put together, and becomes a myth. If it is not true that trustworthy observers have seen the fall of meteorites, Laplace was right to argue that ‘there are no stones in heaven, ergo none can fall from heaven’. If seers of ghosts and witnesses of miracles are always liars, the beliefs based on ghosts and miracles fall to the ground. In short, the truth is that all scientific laws presuppose scientific facts, and all scientific facts presuppose historical facts; thus every known ‘law of nature’ would crumble or evaporate if a limited (and usually quite a small) number of historical observations should be rejected as untrustworthy. Every scientific truth, therefore, has a past and a history, on which it remains dependent.

But every scientific truth also hopes to have a future. It means to remain true. It has the ambition and the duty to predict: it claims to regulate a course of events which it admits to be unique. The idea that a scientific law is a timeless formula, having eternal truth or validity and exempt from all obligation to embody or exemplify itself in the flux of events is a philosophic blunder, a blunder which scientists repudiate, because they know that the time-relation is left a blank only in order that their ‘law’ may be applied to and at any time. It retains a certain popularity among philosophers who have learnt nothing since the days of Plato; but I am glad to see that my colleagues are not of this kind. Mr. Collingwood is quite explicit in repudiating the notion that the whole business of Science is to generalise and that it has no concern with the particular: its function is to interpret particulars by means of generalisations. And he makes this his chief ground for denying any essential difference between Science and History. Prof. Taylor, too, admits that it can be argued that “the universal truths of science hold true of individual cases,” though he would not, perhaps, admit that they are meaningless unless they do. As, however, unlike
Mr. Collingwood, he wishes to stress the difference between Science and History, he adopts an ideal of 'pure' science, of which that can be alleged which is manifestly false of actual science. 'Pure' science has no truck with 'fact,' and no connexion with 'applied'. It takes no dip in the great stream of events. Being purely 'hypothetical,' it has no relation with 'pure' history, which tries to be 'categorical'. But it has not occurred to him that if so, 'pure' science will neither work nor wash; it is pure fiction and a creature of abstraction. It is futile fiction and false abstraction. For the 'pure' principles must be used, and the pure science be applied. Moreover, Prof. Taylor's point can not be proved thus; for to show that 'pure' science and 'pure' history have no relation, either with each other or with our purposes, is no proof that actual Science and History are not interdependent and intended to co-operate with each other and with us. The actual collaboration of actual science and actual history Prof. Taylor does not appear to deny: it is only as 'pure' abstractions that they are irreconcilable. And this is merely a way of saying that these abstractions are unreal and useless; they do not serve to elucidate the actual functioning of knowledge, in which all our activities play into each other's hands.

Nevertheless there are differences between Science and History, and they should not be overlooked. We should note in the first place that, though both aim at an unambiguous account of their subject-matter, neither of them quite succeeds. Science, though it assumes, as a postulate of method, that the future is fixed and unambiguously calculable, does not succeed in predicting it completely. It ascribes this failure, quite consistently, to the infirmity of human knowledge, and not to any inherent recalcitrance of the real, or any impossibility of predicting the course of an indeterminate agent. But despite this explanation, the fact remains that our science cannot fully determine the future.

At first sight we are better off in regard to the past. We are accustomed to say that though the future may be, or seem, contingent, at any rate the past is fixed unalterably. It is dead and done with, and what is done cannot be undone, even by the gods. History is a record that stands, and cannot be shaken. All these beliefs are dangerous delusions. They spring from illusions that rest upon a false abstraction. We can abstractly conceive the past as existing per se and apart from our means of knowing it; if we do this, we can represent it as determinate and unalterable.

But such is not the character of the past as known.
The past in which we believe, and which we believe our histories to record, is not the object of an assured, determinate and definitive knowledge. It is always incomplete, dubious, undetermined. Its history is only a hypothetical reconstruction, often highly imaginative, out of utterly inadequate material. The more the logical character of historical evidence is examined, the more unsatisfactory it seems. It is full of bias, folly, error, discrepancy and contradiction. There is always too little evidence for it, and usually too much. For so much of the evidence is so bad and unenlightening. The historian therefore has to appraise and select at every step, and if he compiles a plausible tale—perhaps only a fable convenue or a masterpiece of propaganda—he is acclaimed as great. Another may achieve as much, and then we can accept whichever tale we please. For there is no verification of either, as in Science, and no crucial test. The only verification History can claim lies in alleging nothing grossly improbable, and nothing from which our actual present could not have followed. It must not be said that Hannibal, not Brennus, captured Rome and burnt it. For if he had, Mediterranean man would presumably now be speaking a Semitic, not a Latin, tongue.

But this verification by consonance with the actual is wholly insufficient. A thousand histories, all different, might equally conduct to the actual facts. When therefore we look back upon the past, a thousand threads of historical sequence radiate from the present into the past. There are a thousand roads which we might follow. Which of them shall we choose as the 'true' history, to lead us to the past as it 'really was' and changes not? We do not know. We cannot know. Actually, we choose the history which seems to us most promising and congenial; we choose with the character, the intelligence, the knowledge, the prejudices, the history, we have. Is it astonishing that we choose differently, that the fashions change in history as in medicine, and that all the really important questions, i.e., those which are felt vitally to affect the present, remain matters of partisan debate? Actually, therefore, the past is for us as indeterminate as the future: the determination of both remains an overbelief which does not debar us, in either case, from reckoning with alternatives.

So far the scientist and the historian appear to be, very definitely, in the same boat, even though they do not row on the same side of it. The scientist, however, has one definite advantage. The verification of a historical hypothesis, which deduces the actual from what is judged to be the best
interpretation of the evidence, was, we saw, very imperfect, and if any portion of the structure is insecure, there is no help for it. Nothing can be done, because History cannot be re-enacted, and observed afresh. It never quite repeats itself, because if it tried to, the very fact that it had occurred before would, if it were remembered, alter the result. Hence the historian cannot experiment. The scientist can. If he is not satisfied with the evidence for his hypothesis, he can devise fresh tests, or repeat the old ones. True, such repetition is never absolute, and a theoretic quibbler may always object that therefore the case may not turn out to be the 'same,' nor indeed a case at all, of the theory under examination. But experience shows that over extensive fields of scientific research the conditions practically can be repeated and the differences between the various experiments rendered minimal and irrelevant. Hence verification is a much more potent weapon in Science than in History, though even in Science no amount of verification of a 'law of nature' by subsequent fact suffices to prove it absolutely true.¹

The truth, therefore, both of Science and of History is pragmatic; it is established in the same way as the rest of our knowledge. In ultimate analysis there is but one truth, and one way of ascertaining it. There are differences in the working of our method in Science and in History; but these are due to the different recalcitrance of the material to our various purposes. In the end, however, Science and History stand and fall together; and I at least can conceive no worthier aim for a philosopher than to stand by both.

¹In regard to mathematical 'truth' it may be observed, (1) that to admit that it is deducible from postulates which are 'arbitrary' (in the sense of admitting alternatives) is an admission that it is not absolute, while (2) the necessity of accounting for the actual choice of postulates imposes empirical conditions on its truth. For the postulate-systems preferred are either chosen on subjective grounds, or are those which have shown themselves convenient and useful in the interpretation of our experience. Their empirical validation, however, disposes of the Platonic charge that the principles of the sciences are arbitrary and insecure. They would be arbitrary only if they were chosen without rhyme or reason, they would be insecure, only if they had not received overwhelming confirmation from the working of the sciences.