I

METHOD

On a summary view a method is an a normative, open pattern of recurrent and related operations. There are, then, distinct operations. They are so related that one leads to another. The set of relations forms a pattern and, as the pattern is repeated, the operations recur. When the pattern is open, it is repeated and the operations recur with respect to the product of previous operations, and so each repetition adds to what was done before to give to method both its cumulative character and its asymptotic approach to its goal. Finally, this open pattern is normative: it is regarded as the right way to do things, and other ways are ascribed to ignorance or perversity.

1. An Illustration

The foregoing summary view of method may be illustrated by a summary account of method in the natural sciences. For that method inculcates a spirit of inquiry, and inquiries recur. It insists on accurate observation and description: both observations and descriptions recur. It praises above all else discovery, and discoveries recur. It demands the formulation of discoveries in hypotheses, and hypotheses recur. It requires the deduction of the implications of hypotheses, and deductions recur. It urges that experiments be devised and performed to check the implications of hypotheses against observable fact, and such processes of experimentation recur. There are operations; they are distinct; and they recur.

They are also related. Distinct operations do not occur simultaneously, and so there are relations of temporal sequence. But these are a minor matter and are not to be stressed for they admit vat variation.

The operations also are related, and the relations form a pattern. There are, of course, relations of temporal sequence, but they are a minor matter and are subject to variation. What count, are relations of presupposition and complementarity: some operations presuppose others, and they complement the operations that they presuppose. In other words, the pattern is a whole, and single operations are merely parts within the whole. To effect a contribution to the advancement of science, one must combine inquiry, observation, description, discovery, hypothesis, deduction, experimentation, and verification. Inquiry pulls a man out of the routine of ordinary living and directs his efforts to scientific pursuits; but if he merely asks questions and arrives at no answers, his contribution to science is incomplete. Inquiry transforms everyday experience into observation, but observation without description is a private affair that lacks precision and is subject to the vagaries of memory. Observation and description, unless they eventually lead to discovery, are merely an accumulation of insignificant facts. Discovery, unless it is formulated in a hypothesis, is a highly satisfactory event but, like observation without description, it cannot be shared by others and it lacks clarity and precision. Hypotheses, finally, without verification may be brilliant and entertaining but they are not a contribution to science.

There is, then, a pattern, a rounded whole, whose parts are distinct operations. But this pattern is open. For the process of experimentation and verification brings to light data that may or may not square with the hypothesis. If so far as they do, they reveal that the investigation is not entirely on the wrong track. In so far as they do not, they lead to a modification of the hypothesis and, in the limit, to new discovery, new hypothesis, new deduction, new experiments. The wheel of method not only turns but also rolls along. The field of observed data keeps broadening. New discoveries are added to old. New hypotheses and theories express not

merely the new insights but also all that was valid in the old; and so method not only acquires its cumulative character but also engenders the conviction that, however remote the goal of complete explanation may still be, at least we now are nearer to it than we were.

Finally, the open pattern of recurrent and related operations is normative. It is the right way to proceed, and other ways are wrong. I do not mean, of course, that the foregoing sketch adequately defines the scientist's code. I do not mean that the procedures of the natural sciences are to be transferred blindly and slavishly to other fields. I do not mean that future developments in scientific method are to be excluded in advance. But, despite all these reservations, there remains an imperious normativeness to scientific method. It will defend its claim before the people by pointing to the achievements of science. With the learned it will ransack history to show that other notions of science and other procedures either failed miserably or, at least, yielded nothing like comparable results. With the skeptical or philosophic, it will argue that scientific method is just a more elaborate form of the common sense to which all men explicitly by subscribe, if not by their words, at least implicitly by their living.

2. The Ground of Method

As method describes a normative, open pattern of recurrent and related operations, so human knowing spontaneously observes a normative, open pattern of or recurrent and related operations. The ground of method, then, is to be found in human cognitional activity itself

The ground of method, the reason why it is what it is, resides in human cognitional activity. What method describes, human knowing already is -- a normative open pattern of recurrent and related operations.

2. The Ground of Method

Apprehension of a method may go no further than a set of fragmentary slogans; its acceptance may have no better basis than the other-directedness of the conventional mind; and then its use will be unresourceful, inflexible, obtuse. The rules of the game are known and obeyed but, unfortunately, they are not understood; they serve to safeguard the prestige and privileges of an in-group, but prevent rather than promote the advance of science.

To seek the ground of method is to seek an understanding of method; it is to try to see why method is what it is and why it works so successfully. It is an arduous inquiry. It is far easier to omit it than to undertake it. But it is the sovereign remedy against fragmentary apprehension, conventional acceptance, inflexible and unresourceful use. And it seems a necessary step if one is to discover and work out a method for theology.

The ground of method, then, is to be found in human cognitional activity. For such activity satisfies an implicit, open, normative pattern of recurrent and related operations; and one has only to make that implicit pattern explicit to discover the foundations of method. Such an explicitation we must now attempt, not indeed in the manner needed to expound the rudiments of the matter (we endeavoured to do that in our little book, Insight), but in a fashion that will recall to the initiated the principal features of the analysis.

First, let us distinguish three different meanings of the word, presence. There is presence in, and it has no connotation of cognitional activity: such is the presence of cells in one's body, of statues in the museum, of buildings in the city. There also is presence to; it connotes cognitional activity, but is of two quite different kinds, namely, intentionality and consciousness. Intentionality is the presence of objects to a subject: of the spectacle to the spectator, of music to the listener, of thoughts to

of objects of thought to the thinker, of truths to the man that judges rightly. Consciousness is presence to the subject of the subject himself, of his intentional operations, and of the connectedness of such operations. Such presence to is concomitant with intentionality but quite distinct from it. When the spectacle is present to the spectator, the spectator also is present to himself and so is his gazing; but though simultaneously present, neither the spectator nor his gazing are ~~mark~~ is part of the spectacle. When music is present to the listener, the listener too is ~~pr?~~ present to himself and so is his listening; but though simultaneously ~~simultaneously~~ present, the listener and listening are no part of the music; their presence is, at it were, in another dimension; it is the presence that is not listened to but listens; and without that presence, the music would be only sound waves in the air and physiological effects upon the ear. When objects of thought are present to the thinker, the thinker is present to himself and his thinking too is present to him; but they are present, not as further objects of thought to distract his attention, but as the origin and source whence objects of thought so submissively proceed to be distinguished, compared, combined, related, ~~mmmmmmmm~~ opposed, dismissed.

Distinct yet concomitant, intentionality and consciousness also are linked by two distinct bridges. There is the bridge of continuity between the conscious human subject and the body in which he is incarnate. Consciously, he may move his fingers, hands, arms. Intentionally, he may watch as objects his moving fingers, hands, arms. There is also the bridge of introspection: it is a shift of attention by which we advert to the data of consciousness. Introspection, then, is not to be confused with consciousness: we must already be conscious, if there are to be any data of consciousness; and there must already be data of consciousness, if by introspection we are to advert to them. Further, in the act of introspecting itself, there are to be distinguished both consciousness and intentionality of a second order: consciously the subject shifts his attention to ~~xxxx~~ advert to himself and his conscious operations;

of objedcts of thought to the thinker, of truths to the man that judges rightly. Consciousness is presence to the subject of himself, of his intentional operations, and of the connectedness of his intentional operations. When the spectacle is present to the spectator, the spectator too is present to himself; and his being present to himself is no part of the spectacle. When the music is present to the listener, the listener is present to himself; and his being present to himself is no part of the music. When objects of thought are present to the thinker, the thinker is present to himself; and he is present, not as another object of thought, but as the origin and source whence objects of thought proceed to be compared, combined, opposed, related.

Intentionality and consciousness, then, are both instances of <u>presence to</u>; they are quite distinct instances. But though they are distinct, still they are always concomitant: the subject does not intend objects unless he is present to himself; and he is not present to himself unless he is intending some object. Distinct and concomitant, intentionality and consciousness also are linked by two bridges. There is the bridge of continuity, for the human subject is incarnate; he moves his own fingers, arms, legs consciously; and simultaneously he may see as objex objects his moving fingers, arms, legs. There is also the bridge of introspection, which is a shift of attention There is also the bridge of introspection: it presupposes consciousness, else there would be nothing to be introspected; it consists in a shift of attention, whereby the attending and so conscious subject attends to the data of consciousness and thereby makes the data objects of attention

Such adverting is both conscious and intentional, but the consciousness and intentionality in question are of a second order, for they supervene upon a prior consciousness and intentionality. Such second-order consciousness is the presence of the subject to himself as introspecting; and such second-order intentionality is of first-order data of consciousness as objects of introspection. It follows that when, as at present, we introspect introspecting, our operating is of a third order with respect to a second. Finally, but most important of all, introspection and consciousness are not to e be confused; it is only occasionally that we introspect; but we are conscious ~~hhm~~ not only all the time we are awake but also, though only inchoately and fragmentarily, in our dreams. To say that we have to introspect to be conscious, is to say that we spend practically the whole of our waking hours and all of our dreams in a statɜe of unconsciousness.

To conclude this first step, there exists a class of human operations that are both conscious and intentional. There further exists a class of supervening operations Such operations are to be divided of primary or first-order operations

To conclude this first step, anyone that cares to may will find in himself a class of operations that are both intion intentional and conscious; and further he may divide this class into two subcls subclasses; some intentional and conscious operations are primary or first-order; others supervene and are of a second or higher order.

The second step is to distinguish four levels of intentional and ~~xxxxx~~ conscious operations and the three operators by which the subject moves from the first level to the second, from the second to the third, and from the third to the fourth. As is apparent, this account of levels and operators takes us from operations as of a class to operations as conforming to a pattern or structure.

operations to the objects with which they deal. Still, this interdependence of method and object never is the whole story. For the object, which method would reveal, is an unknown; and method succeeds in bringing it to light, not because it already knows it, but because it is familiar with the operations by which the unknown can become known. So it was that we described method in general, not by referring it to objects, but by relating its recurrent operations to one another in an open pattern. The long and short of the matter is that, if we could not know, to talk about method would necessarily be a manifestation of ignorance; and if we could not learn, method would be useless to us. At the root of all cognitional method is man's ability to learn, and that ability consists in the original and basic open pattern of recurrent and interrelated operations. So it is that scientists have often felt their methods to be but a more elaborate form of common sense; inversely, in my little book, Insight, I used the explicit procedures of scientific method to work out an account of the common sense we all possess and employ without any precise knowledge of what it is.

Now, unless specialized methods are to be mere techniques, faithfully followed because they happen to work, it is necessary to reduce them to their foundations in the spontaneities and inevitabilities of man's conscious and intentional activities. Such a reduction must itself be conducted methodically, and so besides the specialized methods there is need for a foundational method that uncovers the original pattern and structure of human learning and reveals specialized methods to be so many variants that adapt the original structure to specialized tasks. Moreover, foundational method may be partial or total: partial, if it restricts its concern to certain particular methods; total, if from a single ground it accounts for all spontaneous and methodical

Still, the constitutive conditions of a science are one thing; its object is another. No more than the physicist or the chemist, does the psychologist or the sociologist examine the consitutive conditions of chemistry, physics, chemist, psychology, or sociology. For such conditions are objects, not of the particular sciences, but of their foundations.

There remain the terminal values, and they present two aspects. On the one hand, they are facts. They result from the de facto exercise of human freedom. They do so under historical conditions to reflect those conditions and to represent some particular development of human perceptiveness, intelligence, reasonableness, and responsibility. As such, they are objects of empirical human science

There remain the terminal values, and they present two aspects. Under one aspect they are legitimate objects of empirical study; under another the other aspect they call for critical study.

I have been attempting to indicate the pattern or structure of our conscious and intentional operations, and my purpose has been to provide foundations at once for methods and for a discussion of methods. But before asking whether the foundations in question have been reached, it will not be out of place to reflect a little on the precise meaning of what has been said.

The foregoing paragraphs may be considered as a set of words and sentences, but neither the words nor the sentences are to be envisaged as foundations of method. Words and sentences are fixed; methods are discovered, developed, revised; and so the foundations of method must themselves exist, so that method can be discovered in them; they must be capable of development and self-criticism, so that methods can develop and be revised.

Again, the foregoing paragraphs may be taken as a set of meanings, as the opinions of the present writer. But I am not presenting my opinions as foundations of method. There is no reason to expect that everyone concerned will method will understand my opinions or agree with them.

Thirdly, the foregoing paragraphs may be understood as referring to a reality that is meant. But such reference is ambiguous. The objects of, say, theoretical physics

In the foregoing outline of the structure or pattern of our conscious and intentional operations

not in the sense that we experience causality, but in the sense that we do not have to ask why we are afraid for our fear to centre on the mastiff. On the intellectual level things are notably different. There we are experiencing our own intelligence; we experience it not only in our acts of understanding but also in the inquiry and investigation in which we intelligently strive to understand and, again, in our thinking and speaking in which we intelligently express what we have grasped by understanding. Not only the operations but also their relations are experienced, and what is experienced is intelligence intelligently proceeding from one operation to another. Such an experience is an experience of causality and, indeed, of a higher form of causality than is attributed to material things; for in the latter attribution we do not suppose material things to be intelligent but merely to be intelligible. In like manner on the rational and responsible levels of consciousness we experience not only operations but also their relations; we say that our judgments are because of the evidence, and our choices because of the motives; but prior to the 'because' that we conceive and name and affirm, there is our conscious rationality that demands sufficient evidence for judgement and, when sufficient evidence is forthcoming, does not permit us not to judge; and similarly there is conscience, our consciousness of freedom and of moral responsibility, inviting and challenging and obliging us to confer on our doing the detachment of our objective knowing.

The third step is judging. Is our account of our conscious and intentional operations and their pattern or structure such as has been said? Is it not just a psychological hypothesis that further investigation will not merely expand and enrich but also revise and transform? Now, that much more can be added is, perhaps, evident from my own book, Insight. But to expand and enrich is one thing, to revise and transform is another. A revision rests on bringing to light new data which previous views

if we prescind from introspection on the formation of concepts, never brings to light the conceptual content, causality. But it does reveal processes, the dynamism of the ~~part~~ pattern or structure of our operations, with a wealth and variety that makes the category of causality appear thin and poor. On the empirical level, it is true, process is spontaneous; it is intelligible only in the sense that it can be understood. But with inquiry the intelligent subject comes into his own, and then the succession of his operations is not spontaneous but intelligent, not merely intelligible but the active correlative that seeks understanding, and understands, and operates in the light of having understood. It is not the category of causality but the history of science to which we have to appeal to objectify this level of the ~~subject's~~ subject's conscious activity. Next, inquiry comes to a term or an impasse, and then intelligence intelligently yields place to critical reflection; as critically reflective the subject is moved, not by impulse or ~~fa~~ force, not by appetite or fancy, but only by sufficient reasons; and if we would state what that means, we now have to move from the sciences to the philosophies, for man as ~~critical~~ critically reflective stands in a conscious relation to an absolute -- the absolute that makes us regard the positive content of the sciences as only probable. There is the final level on which we are free and responsibly exercise our freedom; and if we would explore that dimension of our being to objectify it, we encounter the religious leaders, the moralists, the personalists, the existentialists, the theorists of human history. All that man can intend has an originating correlative in the subject that intends. Subjects are mediated, revealed to themselves, by the worlds they apprehend and in which they live.

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if we prescind from the genesis of conceptual categories, never brings to light the conceptual content, causality. But it does bring to light processes that might be subsumed under that category, and it does so with
and
a wealth, a profusion, a variety that makes the category appear thin and poor. On the empirical level one operation proceeds from another spontaneously, on the intellectual level intelligently, on the rational level reasonably, on the responsible level responsibly. Seeing the mastiff and fearing him are not isolated experiences; there is no need of inquiry, introspection, discovery for us to identify what we see with what we fear; prior to any intellectual operations we somewhat fear what we see and, when fears become detached from their objects, we recognize an abnormality and call upon psychiatrists for help. Upon the psychic flow inquiry arises spontaneously, but this spontaneity differs from the spontaneity of sense. It is the intelligent subject coming into his own and, once he has done so, the succession of his operations is not just spontaneous but intelligent. The spontaneities of the psyche are intelligible: they can be understood. The unfolding of inquiry is intelligent: it is not merely a possible object for understanding; intelligence itself is at work; and intelligence is so much more than the mere intelligibility or causality it discovers and categorizes. Inquiry comes to a term or an impasse, and then intelligence intelligently yields place to critical reflection. The subject as reasonable has emerged: he has become one to be moved, not by force, not by impulse, not by desire or fear, but by reasons. There is a relativism to intelligence that discovers laws and formulates rules only to discover more adequate laws and formulate better rules. But the subject as reasonable stands in a conscious relation to an absolute -- the absolute that makes us regard the positive content of the sciences ~~as only probable. An absolute is the dread of modern man; he sees it as the potential ground or pretext for an absolute power, and he thinks~~

method as some abstract and hypothetical ~~met~~ entity, such as what transcendental method would be if man existed in what traditionally is called a state of pure nature

First, then, a discussion of transcendental method recurrently involves four terms: the spontaneous ground, the appropriated ground, the spontaneous expression, the reflective formulation. The ground is the immanent and operative pattern or structure of our conscious and intentional operations. It is spontaneous in all our conscious operations. It is appropriated through introspection, an understanding of oneself, and an acknowledgement that, while such understanding can be developed in numerous ways, it does not admit any radical revision.