

A scientific method will use crafts, skills, techniques: crafts to fashion its tools and instruments, skills to make the best use of them, techniques to obtain intended results. But in an essential respect a scientific method differs from craft, from skill, from technique. Each of these heads for a goal that is known in advance, that can be specified clearly and precisely, that will be reached if only one uses the means and performs the operations proper to the craft, the skill, the technique. But the goal of scientific method is never known in advance, for that goal is discovery, discovery of what as yet is not known, discovery often enough of what was not expected.

There is, then, a paradox inherent in the very notion of a scientific method, and it is just a part of this paradox that normally scientific development is a jump ahead of scientific method. Performance comes first. Once performance occurs, especially when successful performance occurs, there follows reflection. Only as a series of diverse reflections are pieced together, do there begin to emerge and take shape the prescriptions of a scientific method.

What holds for the origins of method, also holds for learning method. One may attain, it is true, a book knowledge, a merely notional apprehension, of method by reading a handbook on the subject. But a real apprehension, an intimate familiarity of what method means, and supposes, and implies, comes to most of us only through the long apprenticeship of studies

at a university and work in a graduate school. Information is accumulated from books, understanding is advanced by lectures, the way to get things done comes to light in seminars. Slowly, gradually, for the most part inadvertently, there are formed the habits, without formulating the precepts, of working methodically.

Always there is very much to method that is too obvious to be said, too routine to be listed, too familiar to be formulated. But however essential this massive underpinning of information in one's personal memory-bank, of cards in one's files, of accumulated insights in one's outlook, of systematic investigation and subtle wrinkles in one's procedures, still the light and meaning of it all reside in a central and irreplaceable experience. That experience may be had in various ways. It may come in one's research when, as it were, the darkness of a long and tedious tunnel yields to daylight and sunshine. It may happen when one studies and reflects on a work in which great learning is, not a heap of odds and ends, but a relentless procession of ordered fact overturning settled views and offering an entrancing alternative. It may be just the denouement of a plot, conceived by the leader of a seminar, that week by week assembles the data that upset anticipation and gradually establish the existence and finally the breath-taking solution of a problem that had been ignored. But whether one does so on one's own or under the guidance of another, in either case one finds out for oneself what is meant by discovery. It is that discovery of discovery that brings to light the end of method, the goal to which all the tricks of the trade are directed, the achievement without which all the tricks are merely tricks.

But if it is in the break-through that is revealed the living force and lasting significance of method, it remains that the break-through is the fruit of the tree of method, and without the roots of the tree and the trunk and the branches and the blossoms there would be no fruit. As science itself, so scientific achievement is the work of a scientific community. It is within the scientific community that its members are formed, it is on the past achievements of the community that its current members build, it is through contemporary collaboration that problems are given clearer outlines and the data for solutions are assembled and, if in this or that generation some individual has the happy combination of acumen and industry and luck to achieve a break-through, who would know about it were the scientific community not there to witness the event and to testify to its startling quality.

The relevant scientific community not only witnesses and attests. It also is a judge. I once gave a talk to a group of psychiatrists on a topic on which I had written a book, Insight. At the end there was a question period and in the course of it one of the doctors rose and remarked: "Our patients have plenty of insights. The trouble is they are wrong!" With the doctor, naturally, I was in total agreement. Besides sound ideas, there are merely bright ideas. Insights and ideas are very common. They are at most a dime a dozen. What counts is not the single insight. It is not the accumulation of insights. It is only the accumulation that point by point, all along the line, fits the data. It is the necessity of that fit that entitles the scientific community to judge the validity of a would-be break-through, for it is in the

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scientific community that there reside (1) awareness of what had already been achieved, (2) awareness of the further data still awaiting a satisfactory explanation, (3) awareness of the contribution actually made by the new view, (4) the grounded presentiment, the intelligent surmise, of new avenues for further exploration which now have come within man's reach, and (5), when the decision is a hard one, the additional exploration of virgin territory and the established anticipation of still further advance. As Dr. Kuhn has taught us in his The Structure of Scientific Revolutions, in the scientific community, as elsewhere, nothing succeeds like success.

I have been setting forth a broad sketch, but to a broad sketch there must be added some details. Among them I would note the contrast of method with its elder sister, logic. Method is progressive and cumulative. It is progressive: week after week The New Method Laundry turns out perfectly laundered shirts, but scientific method does not keep repeating the same result; it keeps turning out ever new and fresh results. Again, method is cumulative; the new results are not just juxtaposed to the old; they grow out of it; they correct and qualify and complement what went before to yield a fuller and yet a single view.

In contrast, logic is static. Its conclusions, even before they are drawn, already are implicit in their premisses and, were they not, then the concluding would be fallacious. Still if logic is static, it is not useless. Its goal is an ever to be repeated ideal of clarity, coherence, rigor. At each step in its advance scientific thinking has to clarify its obscurities, iron out its inconsistencies, weed out its non sequitur's. Again, as clarity, coherence, rigor are attained, there

also is brought to light the need to move on. The greater the clarity, the coherence, the rigor, all the more evident becomes the contrast between the accepted view and the awkward outstanding data. So logic passes the torch over to method, and it is method's task to desert an established and logically ordered resting-place, to bring to birth a new viewpoint, to gain the adherence of at least a few followers, and by dint of clearing up the anomalies, which have blocked general acceptance, to win gradually the allegiance of an ever larger proportion of the scientific community.

I have been contrasting the static character of logic with the dynamism proper to method. In its most elementary form this contrast is that, what for logic are just propositions, for method are answers to questions. Just as propositions have their logical retinue of presuppositions and implications, so answers have ^{not only} their limited adequacy ^{but also a} larger inadequacy, by which they / give rise to further questions. For a time answers to the further questions give rise to still further questions but, if they are restricted to a single topic, the flow of further questions will ^{eventually} / dry up. There results a nest of interwoven questions and answers, and it is that nest that gives the context of any of the questions or answers on the topic. ^{Next,} / ^{lesser} topics are allied, and so / contexts merge to form larger ones bearing on a common theme. In turn, themes are related, to link larger contexts into still greater unities, and this process continues until there is reached what has come to be ~~named variously, by Husserl one's horizon, by Heidegger one's world, by the analysts one's blik.~~
 named variously, by Husserl one's horizon, by Heidegger one's world, by the analysts one's blik.

Now one's horizon, world, blik has interesting properties. There are objects that already have their place within it. There are others that can be fitted into it with a little effort or ingenuity. There are still others that do not belong to it, that can be accommodated within it only ^{by} altering or extending existing structures. The first class of objects are familiar; to advert to them is otiose; to discuss them is boring. But questions about the second class are relevant; to discuss them is interesting; to assimilate answers to them is to enlarge and enrich one's mental store. Finally, objects in the third class are just alien. About them one knows little and cares less. Talk about them is met with incomprehension. Books about them get no more than a passing glance. To have to study them only confirms the proverb that knowledge makes a bloody entrance.

These distinctions are relevant not only to describing a state of affairs but also to sketching the course of a development. As trees grow in the direction in which they catch the most sunlight, so generally there is a law of effect. Development goes forward where it succeeds. So one's horizon, world, blik tends to extend and expand where extension and expansion are already under way; and it tends to remain contracted and stunted where the beginnings of growth and organization have been haphazard, and repeated efforts have met with diminishing returns.

The key point here is context. To learn is not just the sensation of seeing or hearing or touching or the like. To learn is to perceive, and to perceive is to complete that hypothetical entity, the raw datum, with memories, associations, a structure, and one's emotive and expressive reactions.

It is this difference between sensation and perception that underlies the range of strange phenomena called ocular illusions. The same difference enabled R. G. Collingwood in The Principles of Art to urge convincingly that the artist paints a scene so as to be able to see it properly. It has Paul Achtemeier in An Introduction to the New Hermeneutic (Philadelphia: Westminster, 1969) correlating one's world with one's command of language: not only can one describe what one really sees, but also one really sees what one can describe. It led a chairman of a department of chemistry to remark to me a dozen years ago that theoretical developments in chemistry during the previous five years had enlarged enormously the field, not ^{of} knowledge, but of data. I would not upset the adage, Seeing is believing. ^{But} there is also some truth in the inverse statement, Believing helps you to see it.

It remains that believing can be too helpful. It can help one to see what is not there. What the investigator needs, what the methodologist recommends, is a mind well stocked with questions. The more precise and detailed the questions are, the better. So Collingwood could urge the archeologist never to dig a trench without first formulating just what questions he hoped to be able to settle or at least advance by the digging. If this advice ^{of Collingwood's} was not a little inspired by the aimless digging of amateurs, who not only discovered nothing but also destroyed the evidence that might ground future discovery, none the less it does contain the essential truth. The investigator needs a well-stocked mind, else he will see but not perceive; but the mind needs to be well-stocked more with questions than with answers, else it will be closed

and unable to learn.

I have been speaking of one's horizon, world, blik, of the basis it provides for further learning and discovery, and no less of its limitations and the way they hem one in, so that one sees without perceiving, or again one perceives but lacks the background needed to understand. But it is not only one's horizon, world, blik that is broad or narrow, deep or shallow, ready to develop here and hemmed in there. Object and subject are correlative. The broadening, deepening, developing of the horizon, world, blik is also the broadening, deepening, developing of the subject, the self, the ego. The development that is the constitution of one's world is also the constitution of one's self. So for Heidegger man's being-in-the-world is an existential; his concern with this being of the self is concern with an ontology; and the psychiatrists back him up with their studies and speculations on the selves that fail to become. There is the frequently repeated remark of Freud's: Where the id was, the ego is to be. Wo es war, soll ich werden. There is Erich Neumann's use of Jung's archetypes to trace the origins and history of consciousness (Bollingen Series, XLII). There is Gerhard Adler's The Living Symbol, A Case Study in the Process of Individuation, depicting the transition from what Jung names the ego to what he names the self (Bollingen Series, LXIII). There are the multiple personalities of unintegrated ego's, and the schizoid personalities that are the concern of R. D. Laing in The Divided Self (Penguin 1969 ff.).

I have been indicating elements in a dynamic and dialectical account of subject and horizon, self and world, ego and blik. The account is dynamic: it regards not just diverse states of affairs but the processes that bring them about. The account is dialectical for it speaks both of development and of limitation, of enrichment but also of failure or distortion or stunted growth. Such a dynamic and dialectical account is relevant to a method of religious studies in two ways. For, first, it is relevant to anticipations about the object. Just as we live in worlds as we know them, so too other people, distant from us in place or time, in class or culture, live in worlds as they know them. We must not expect them to live in our world. Again, as we are correlative to the world as we know it, so too are they. We must not expect them to be like us. Indeed, as it does not demean our own humanity that we are correlative to the world as we know it, so we must not think them to be less human than ourselves because they are correlative to their world as they know it. Nor is this respect for others, no matter how different from ourselves, a minor point in method. It is simply a matter of elementary intelligence. It is a matter of intelligence making us open to others, having enough in common with them really to inquire into their differences, to find the grounds of such difference, and so to come to understand them as they were.

But the dynamic and dialectical account is relevant not only to correct anticipations about the object of religious studies but also to confronting the student of religion with what a natural scientist would call his personal equation. Not only the people under investigation but also the inves-

tigators are human beings. They too live in a world as they know it. They too are correlative to their respective worlds. They too have begun their development from a heritage that rarely, if ever, is free from all distortion and aberration. But it is only as they become aware of all bias in themselves, only as they sedulously guard against all its manifestations, only then can they be genuinely open to others and really effective in coming to know them in truth and justice.

It remains the high privilege of method to raise the stature of individuals by making them members of a scientific community and so compensating for the weakness of any by the presence, the aid, the challenge of others. So the gifts of each become the leaven of the whole mass and, while this leavening process works its effects insensibly at any time, still over time it is not difficult to document its cumulative impact.

In illustration it will be most convenient to refer to Talcott Parsons' account of "The Theoretical Development of the Sociology of Religion" (Essays in Sociological Theory, New York: The Free Press, 1964; originally 1949; revised 1954). The initial stage of the development was rationalist, evolutionary, positivist. Religion was regarded as superstition. It was explained either by biological or psychological factors beyond rational control, or else as a primitive pseudo-science resulting from a lack of accumulated knowledge, from limitations of technique, from an absence of sustained observation.

Working independently as it would seem, Vilfredo Pareto disassociated religion from pseudo-science to connect it with sentiments; Bronislaw Malinowski associated rational knowledge and technique with the areas where they worked to acknowledge an englobing sphere of uncertainty and ignorance where magical practices took care at least of emotional needs; Emile Durkheim found objects to be sacred, not because of their inherent properties, but because of their symbolic function, a function he interpreted as expressing and reinforcing the sentiments most essential to the institutional integration of society; Max Weber finally on the basis of vast comparative studies was led to distinguish between problems of empirical causation (How did Caesar die? He was assassinated!) and, on the other hand, problems of meaning (Why do people die? What sense is there to it?); in the light of this distinction he maintained that the differences between Calvinist, Hebraic, Indian, and Chinese religion arise, not from differences in their social structures and social needs, but from different ways of handling problems of meaning.

As Parsons concludes, when we look back from the position of Weber to the nineteenth century views of men like Tylor and Spencer, we find the latter hopelessly naive. Yet the shift was brought about, not by an appeal to any dogmatic religion or doctrinal theology, but by an ever closer and fuller examination of the appropriate data. Moreover, to this development one must add Parsons' own contribution, with the collaboration of Robert Bellah, which in the cybernetics of the social action system derives motion from energy and direction from information, places maximum energy at the bottom level and

highest directional control at the top, has energy work upwards to move the whole system, and information to work downwards to direct the whole system, and finally finds religion ^{itself} / the source of a principal directional control.

Robert Bellah, Beyond Belief, New York: Harper and Row, 1970, pp. 9 - 12.

The development in the sociology of religion, sketched by Parsons, is not some isolated freak, some accident or chance but, I should say, the normal product of method in an ongoing scientific community. For a time, often for a long time, fanciful guesses, wrong-headed opinions, mistaken philosophies can blend with science and deceive the academic world. But sooner or later they are exposed and, once exposed, forgotten. Forgotten, like the Euclidean structure of space exorcised by Einstein and Minkowski, like the necessity that ruled physical process up to quantum theory, like the iron laws of economics trumpeted on political platforms up to the depression of the early thirties.

It was suggested that I speak on Method: Trend and Variations. I spoke mostly of the trend, not indeed of some outward, historical trend than engulfs us and carries us along in its course, but of the inner trend by which our grasp of method begins, develops, takes command. Method begins with an apprenticeship, with doing what others have done, or advise, or demand. Method becomes meaningful in its own good time: when we discover for ourselves what a discovery is; and when we realize that the individual's achievement is a breakthrough because it occurs in a scientific community that

needs it, witnesses it, attests it, judges it, embraces it, and sooner or later goes way beyond it. Method takes command when one assigns logic its subsidiary role, when one grasps how questions combine with answers, how they are woven together into contexts, how contexts merge into the horizons of subjects, how horizons can be open to and subjects can be eager for further development along certain lines yet, along others, subjects can be strangely inattentive, complacently obtuse, pompously irrational.

So much for the basic trend. It includes the variations for they, I think, stem from the resistance. One is told that the scientist is content to describe. But does that mean that he does not perceive? Or is perception identified with sensation? One is told that science is value-free. Does that mean that the scientist is impartial, that he has no axe to grind? Or does it mean that the psychologist reaches a scientific explanation when he can reproduce the process in a robot or at least in a rat? Can one be religious and none the less do scientific work in the field of religious studies? Can one be objective about one's own religion, about another's?

Such questions are basic. They admit practical solutions up to a point. But the full solution is to be had only on the level of a philosophic methodology, and not even there is a consensus to be expected. For ultimate issues rest on ultimate options, and ultimate options are existential. By them men and women deliberately decide -- when they do not inadvertently drift into -- the kind of men and women they are to be. Being a scientist is just an aspect of being human, nor has any method been found that makes one authentically scientific without heading one into being authentically human.