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EDITORIAL

In this Number of the Journal we are publishing the proceedings of the Meeting of the Institute held at Bedford College on the occasion of the Annual General Meeting on 24th May, 1969. The overall title under which four speakers addressed the Meeting was ‘The Nature of Explanation’, each one devoting himself to a specialized aspect of the main theme.

That the Victoria Institute should have taken up this question is very appropriate. Too often within various specialized disciplines we are given description rather than explanation even when it is presented as an apologia for Christian truth, and this may often be due to a failure to push the enquiry to its end. But the discovery of sufficient reason is one which must surely be pursued by the Christian enquirer if he is to satisfactorily work out a rationale of knowledge in defence of his Faith.

At the conclusion of each of the addresses included in this issue of the Journal several items were raised for discussion. We intend publishing these in our next Number when those who originally contributed will have had time to crystallize their comments and questions from a fresh reading of these proceedings.
We would draw attention again to the programme of Prize Essay Competitions which was published on behalf of the Council of the Institute early in 1969, and in particular to the Langhorne Orchard Prize which is due for award in 1970 for an essay on either 'Modern Education and the Christian View of Man' or 'Are there Ethical Absolutes?' Further copies of the descriptive leaflet and rules are obtainable from: The Assistant Secretary, 130 Wood Street, Cheapside, London, E.C.2.

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The Annual General Meeting for 1970 will take place in London on 23rd May. Plans for this are already advanced, and full details of speakers and their subjects will soon be made available to all Fellows and Members. We appeal to all who read Faith and Thought to make this Meeting as widely known as possible.
The Nature of Explanation in Biology

Biology

Biology has been variously defined; and probably no definition is completely satisfactory. But the popular, and short, description of this discipline as the Science of Life may be taken as the starting point of this discussion. The word 'science' itself means different things to different people, but biologists would insist that their science is a body of knowledge based upon, and limited by, an objective and empirical attitude to nature. It is conventional to give biology a status similar to that of the physical sciences, and to regard them all as natural sciences, as distinct from moral, social, or political sciences, in which non-objective (subjective and/or value) judgments have to be made.

If biology is an empirical study, it follows that biologists do not in fact study life, which is an abstraction: they study living and dead organisms and their constituents and products. Biology has the ultimate aim of explaining the structure and functioning of organisms in terms that permit of the widest possible generalization. This paper discusses the type of explanation which biologists employ.

Types of Descriptive Language

Any real explanation of an object or event is merely a description in terms of previous experience of other (often simpler) objects or events. The type of experience drawn upon determines the type of language employed in the explanation. Scientists generally have been very imaginative in drawing upon their past experience to develop their own descriptive languages. One can think, for example, of the use by physicists of such words as 'work', 'force', 'energy', and 'power', culled from everyday experience of society, and given a technical significance defined mathematically.
In the description of living things, several types of language have come into use, as experience in other fields has thrown light on biological problems. Among the more influential are:

(a) *Anthropomorphic language*. This is based upon obvious analogies between the behaviour of organisms and the behaviour of the human observer. It is a very ancient explanatory language; but it is still in popular use, e.g. in the statements ‘the dog wants his dinner’, ‘he is trying to open the door’, or ‘he knows he should not sit on his master’s chair’. In earlier periods such language was used of organisms which today would not be so described. It is well known that Wm. Paley¹ explained the cloud of jumping sand-hoppers on the sea shore as expressing feelings of joy, and saw in this behaviour a cause of thankfulness to the Creator for His beneficence to these lowly creatures. Erasmus Darwin (the grandfather of Charles) even wrote a lengthy poem on ‘The Loves of the Plants’.

Such popular use of anthropomorphic language usually has psychological implications, i.e. that the organism so described has subjective experiences analogous with those of the human observer. When the biologist, however, uses anthropomorphic language (e.g. when he speaks of ‘communication’, or ‘courtship’, or ‘intelligence’, of animals) he is using it in a technical sense which excludes subjective aspects. He is not denying that animals have subjective experience, but merely restricting his attention, in accordance with the objective character of his science, to the overt features of the animal’s behaviour which are analogous with the overt features of human behaviour.

(b) *Structure language*. This language arises from the resemblances that exist between the configuration of parts of organisms and the configuration of parts of man-made artefacts. Thus to speak of the cranium as a brain box or brain case conjures up the idea of a protective, rigid, hollow, object with a bottom, sides, and a top. Anatomical writing abounds in the use of such descriptions as ‘thoracic basket’, ‘gastric pits’, ‘limb girdles’, ‘sacs’, ‘pouches’, ‘tissues’ (tissue = something woven), ‘cells’, and ‘sieve tubes’.

¹ Wm. Paley, *Natural Theology*, 1801.
(c) **Machine language.** The use of this language depends upon the recognition of analogies between the functioning of organs or systems and the functioning of machines. The analogies are obvious in the description of the heart as a pump, or of a bone as a lever, or of a part of the kidney as a filter. This language differs from structure language in that it involves a time factor in addition to space factors. To describe a heart as a pump involves, not only a recognition of its structure as a muscular, chambered, bag, but also an appreciation of the changes in its structure and shape with time.

(d) **Social language.** Biology uses a number of descriptive terms which normally relate to human society. Examples are ‘queen’, ‘worker’, and ‘soldier’, used to designate individuals playing different roles in the organized ‘colonies’ of ‘social’ insects; animal ‘populations’ and plant ‘communities’, as used in ecology; ‘dominant groups’ of animals, as recognized by palaeontologists; ‘genus’ (= race), ‘phylum’ (= tribe), ‘cohort’, ‘family’, as used in taxonomy.

(e) **Information theory language.** This, the latest addition to the biologist’s set of tools, is derived from the remarkable similarities between control systems in organisms and biological communities on the one hand and engineering control systems and other man-made devices for collecting, transmitting, and utilizing information on the other. Thus the principles of both digital and analogue computers are finding application in neurophysiology; while the terms ‘genetic code’ and ‘feedback’ have become commonplace.

The different languages are, of course, manifestations of different ways of thinking about organisms, of different methods of investigating organisms, and of different types of problem presented by organisms. As these investigations are pursued, sooner or later there comes a stage at which previous experience in other fields fails to provide appropriate descriptive language, and then the biologist is forced to invent an *ad hoc* terminology (e.g. the reticulo-endothelial system; mitochondria; Golgi apparatus) which conveys little or nothing to the non-biologist. Again, sooner or later in different branches of biology, the investigator finds that he needs the techniques of the chemist, the
physicist, or the mathematician; and accordingly then employs the descriptive languages of chemistry, physics, or mathematics (e.g. molecules, ions, electrons, potentials, probabilities). In those circumstances, the only factor which, in principle, distinguishes the biologist from the physical scientist is the nature of the material which he is investigating.

Of the above approaches (and languages), some have proved to be much more fruitful than others: anthropomorphic and social languages have very limited uses, while structure, machine, and information theory languages have been, and promise to continue to be, of very great value. The fruitfulness of the latter group results from the facts that (a) they permit of much further analysis, and (b) they allow much broader generalizations, than the former group. It is therefore the latter group which provide the framework upon which almost the whole of modern biology is built. Thus questions of structure are the concern of classical morphology and anatomy, histology, cytology, and cytochemistry (which together may be included under the term ‘structural biology’); while the machine-approach is the basis of functional morphology and anatomy, ethology, physiology, biomechanics, biochemistry, and biophysics (which may be designated ‘functional biology’). It is in functional biology, also, that information theory concepts are finding application.

The structural and functional aspects of biology, which are closely related by the factor of time, may together be described as mechanistic biology.

The Validity and Applicability of Mechanistic Description

For centuries mechanistic description has been highly successful in biology. Ever since Aristotle, in the fourth century B.C., laid the foundation of the structural investigation of organisms, and Harvey, Borelli, Perrault, and others, in the seventeenth century A.D., began to investigate functional aspects of organisms, mechanistic explanation has proved its worth. It has led to innumerable broad generalizations, not only between organisms, but also between living things and non-living things. In addition it has permitted a very high degree of predictability of
biological phenomena. These consequences are an adequate pragmatic validation of the mechanistic approach in biology.

But, it must be asked, is this approach universally applicable? Are all types of animate activity, and all levels of organization and complexity, explicable in principle in mechanistic terms? To these questions some, the mechanists (from Democritus and Lucretius to the present day), would give the answer yes, and others, the vitalists (from Plato and Aristotle to the present century), would give the answer no. For two millennia this was a purely philosophical debate; but during the last four centuries, science has arbitrated and finally delivered its verdict in favour of the mechanists.

This has been no easy victory: and only slowly have the discoveries of science forced vitalism to retreat from one defensive position to another, until today it has little, if any, ground left to defend. Only some of the major advances of mechanistic thought can be mentioned here.

The first was the realization by the sixteenth and seventeenth century medical men (particularly, Paracelsus and van Helmont) who were also interested in alchemy, that the human body could be regarded as having chemicals and chemical reactions within it. This chemical activity was, however, controlled by mystical or spiritual influences called archaei. In the seventeenth century also we find Descartes arguing that the body of a man or animal is purely material and operates mechanistically, with only one point of interaction (the pineal body) with mind. Although he spoke of the control of muscles by animal spirits, the latter were purely material factors flowing along the nerves. Then in the nineteenth century, organic chemists (led by von Liebig, who was a physiologist as well as a chemist) demonstrated that the same chemical elements, and often compounds, were present in both living and inanimate matter, and that they underwent the same types of chemical reactions. Nevertheless, the vitalists argued, only living things had the power to synthesize organic compounds. Admittedly, in 1828 Wöhler had synthesized artificial urea and Hennell artificial ethyl alcohol, both characteristic physiological products, but neither synthesis started from purely inorganic substances independent of vital activities. As time went on, further organic
substances were synthesized, sometimes from naturally occurring inorganic substances; and towards the end of the century it was generally accepted that the synthesis of organic chemicals was not solely the prerogative of physiological processes. But again the vitalists had an answer. It may be possible, they said, to synthesize organic chemicals in the laboratory, but it cannot be done there as efficiently as living organisms do it: laboratory syntheses usually require high temperatures, and other special energy conditions, which organisms manage without: it seems likely therefore that vital processes are exempt from the operation of the laws of thermodynamics which govern inanimate matter. Once more, however, the vitalists' claims were refuted by scientific discoveries. At the end of last century the development of biological calorimetry by Atwater and others demonstrated that the first law of thermodynamics applied with the same rigour to physiological activity as to non-living systems. And lastly, the appreciation this century of the significance of homeostatic functions and of biochemical information storage (the genetic code) removed, in principle, those problems which were an embarrassment to the second law of thermodynamics.

Vitalism has taken many forms, represented by the concepts of élan vital, life force, anima sensitiva, archaēi, soul, spirit, entelechy (all falling into Gilbert Ryle's category of 'the ghost-in-the-machine'); but all have, within biology, yielded to the advance of mechanism. So today, whatever the philosophical or religious views of a biologist may be, he is a mechanist in the laboratory.

But why should vitalists feel it necessary to fight a defensive action for four centuries? There must be some important aspects of life which they have been concerned to safeguard. These aspects are, in fact, (a) subjective experience (i.e. awareness, and responsibility), and (b) the directiveness of organic activities. Now these are both facts which no one would want to deny. Were the vitalists right, therefore, in denying the universal applicability of mechanistic description in biology in order to leave room for the recognition of subjective and directive aspects of life? Or can we accept that a complete description in mechanistic terms of all biological phenomena (i.e. objective
aspects of life) would still permit such recognition?

Is it necessary to deny the Universal Applicability of Mechanistic Description?

In order to answer this question, it will be necessary to examine briefly the logical basis of our approach to other organisms, which ultimately depends upon the knowledge we have of ourselves. Each one of us is apparently a unity; we think and speak in terms which imply a unity. Whatever aspect of his person a man is talking about, he still speaks of 'I' or 'me' or 'my', etc. Thus the man may say 'I am standing' and 'I am thinking': he does not normally say, or think, 'this body is standing' or 'this mind is thinking'. He may, in order to specify a part of his body or a function of his mind, say 'my finger' or 'my imagination', and thus mentally divide himself; but nevertheless the unity is still implied in the word 'my'. The principle of Occam's razor, therefore, would have us each regard himself as a unity unless there is some fact which demands another view. I know of no such fact; and believe that it is unnecessary, and therefore unwarranted scientifically, to regard myself as a 'ghost-in-a-machine'.

But, although I am a unity, I have two ways of learning about myself, one through my sensory system, and the other through introspection. The first informs me of the material or objective aspects of my being (aspects which other observers can detect as well as, or maybe better than, I can), while the second provides me with knowledge of my psyche, or subjective aspects of my person (aspects which other observers can judge, often extremely unreliably, only by inference from their observations of my overt behaviour). These two ways of learning about myself lead to descriptions in two different types of language: (a) the language of structure and function, and (b) the language of mind. Each language deals with an abstraction: neither is capable of giving a complete description of my activities, but the two together can give as complete a description as it is possible for me to achieve. Nevertheless, the two languages must not be confused: they are logically independent; that is, a
statement in one language cannot be deduced from a statement in the other. In other words, the descriptions are complementary.

If now I turn my attention to another human being or to a member of another animal species, I have two languages available for describing the behaviour of that organism, (a) the language of structure and function, which I have earlier called mechanistic language, and (b) the language of mind, or psychological language. Both of these languages are valid as descriptive languages, but they are again complementary. This implies, therefore, that even if it were possible to give an exhaustive description in mechanistic language of another individual's behaviour, that description would not preclude another description in terms of subjective experience; and vice versa. So the vitalists need not have worried on this score.

Now although both of these languages are valid means of description, the biologist qua biologist uses only the mechanistic one – for very good reasons. He cannot observe the organism's subjective experience, and any psychological inference he may draw from its behaviour is bound to be highly speculative. It is often difficult to appreciate the subjective experience of other human beings, where there is a firm basis of analogy for psychological inferences; but the further an organism is removed in structure from man the more uncertain are any inferences concerning its psyche. Furthermore, such inferences cannot be tested by observation or experiment; they are therefore not part of empirical science.

If, then, it be accepted that the biologist is allowed only mechanistic description, is there any danger that his explanation of behaviour would negate responsibility? If, for example, it ever became possible to offer an exhaustive explanation of human behaviour in terms of sensory input, stored information, synaptic switching, and motor impulses, so that a man's behaviour could be completely predicted by an observer, would this imply that choice of action played no part in that man's behaviour? The answer is no: responsible action is action chosen in the light of one's knowledge and of one's appreciation of existing circumstances; we should therefore expect it to be, in principle, predictable. Thus we find two parallel and com-
plementary descriptive languages available to explain human behaviour: 'sensory input' in one is complementary to 'appreciation of existing circumstances' in the other; 'stored information' in one to 'knowledge' in the other; 'synaptic switching' in the first to 'choice' in the second. The mechanistic language of the biologist does not therefore thwart the psychological language of the ethicist. In fact, MacKay has argued that a fully-mechanistic view of man, although permitting prediction by an observer, at the same time implies freedom of choice on the part of the actor observed.

As for the directiveness of organic activities, the progress in mechanistic explanation during this century has now made vitalistic theories superfluous. The discovery of the genes and their work, recent insights into the nature of the genetic code, the concept of the cerebral engram, and the discovery of various neural and chemical feed-back mechanisms, together go far towards explaining the goal-seeking activity that vitalism was invoked to explain.

There appears then to be no good reason for denying the universal applicability of mechanistic description.

The Validity of Teleological Description in Biology

The operation of a machine may be explained in two ways, causally and teleologically. The first describes the mechanisms involved; the second the purpose of the operation. We have already seen that mechanistic description is equally valid for organic activity; but to what extent is the biologist justified in using teleological description?

In the case of a man-made machine, there may be a book of instructions issued by the manufacturer and indicating the machine's purpose; but even when no manufacturer's instructions are available we assume that an orderly-working human artefact has some purpose, although we may not know what it is. But when the biologist examines a living organism or a working part of it, whatever his personal philosophy may be,

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he does not, as an empirical scientist, invoke the concept of a Designer or Maker. Thus the main justification of a teleological description of a man-made machine does not apply in the biologist’s description of a living organism.

But another possible reason for using teleological language stems from my own self-awareness. I know that, in my own behaviour, purposes or goals are very important controlling factors. May it not be that other organisms similarly have goals? It would be possible for an observer, by watching me carefully, to recognize at least some of the goals of my behaviour. It is conceivable that a biologist similarly could recognize, quite objectively, such goals in other organisms, without attempting to infer anything about their psychological state. To use Braithwaite’s terminology, the biologist may recognize goal-directed behaviour, but not goal-intended behaviour.\(^3\)

Now goal-directed activity is universally discernible in living systems; it is, in fact, probably the most characteristic feature of life. It can be recognized by (a) its persistence until the end-state is reached, (b) the adaptability of the routes by which the end-state is reached, and (c) the presence of negative feed-back devices stimulated by departures from the end-state. Such goal-directed activity is found, not only in the behaviour of individuals, but also at all physiological levels, and at the level of the community. Goal-directed activity, then, is a biological fact.

But what exactly does this statement mean? It could mean either that a particular activity \(A\) always leads to end-state \(B\), or that activity \(A\) occurs in order to lead to end-state \(B\). The difference can be illustrated by simple analogies. A cork, fallen into a tank of water, will bob up and down until it comes to rest at a mean position. If it is disturbed it will again oscillate until it comes to rest at the same flotation level. Similarly, a thermostatically-controlled immersion heater will switch its heating current on and off, thus tending to maintain a constant temperature of the water in the tank. Both of these mechanisms are goal-directed, but in the case of the cork we should say merely that the activity always leads to the end-state, while in the case

of the thermostat we could say that its activity is in order to produce the end-state. The difference in principle between the two systems is that one, the thermostat, has been 'programmed', while the other has not.

Now could it be said of living systems that they have been programmed in any way? If it can, then the biologist is justified in using the teleological 'in-order-to' type of description. I suggest that the theory of natural selection does offer some justification. On this theory, behavioural and physiological mechanisms have been selected in the past, and are therefore present now, because they adapt their possessors to their environments. Thus muscle cells are present in many animals, not just because these cells can contract, but because, and only because, their contraction is useful (i.e. of adaptive significance) to the animal. Now it seems to me that to say that muscle cells are present only because their contraction is useful comes very close to saying that they are present in order to contract. It appears to be logically equivalent to saying that the thermostat is present in the tank in order to control the temperature of the water. In this way, it may be said that natural selection 'programmes' living systems. Hence a teleological 'in-order-to' description could validly be employed by the biologist, provided it is in terms of goal-direction and not goal-intention. But, whether or not a biologist actually uses teleological descriptions in his research publications, there is little doubt that he uses teleological thinking in the planning of his research work. And it is certainly intellectually satisfying to be able to supplement a description of a piece of biological mechanism with an account of its biological significance.

Having used the word 'teleological' in the foregoing discussion, I ought to point out that this use is a departure from the traditional concept of teleology. The latter arises from the recognition of mind and purpose (either of the Creator or of man): it is concerned with goal-intention, and is independent of the notion of causality. The teleology here described is concerned solely with goal-direction, is independent of mind or purpose, and arises out of the concept of causality. For this teleology is merely a short cut obviating the use of an involved causal description. For if I say 'This muscle is here in order to
impart a lateral movement to the jaw', what I am really imply­
ing is something like ‘Among the ancestors of this species there occurred a mutation which changed the position of this muscle in such a way that they were better able, by lateral movements of the jaw, to masticate the available food, and therefore had a better chance of survival or a higher reproduction rate, with the result that they eventually ousted the non-mutant form, and continued until the present day to reproduce forms with the muscle arranged like this’. This is a purely causal explanation.

So, although both forms of teleology enable us to make state­ments about organisms in terms of a goal, they rest upon entirely different logical bases. Traditional teleology depends upon the recognition of mind, and is therefore not a part of empirical science: the teleology discussed in this paper is mechanistic, and therefore, in principle, open to experimental test. To avoid confusion, this type of teleology, which I believe has its place in biology, might be designated ‘pseudoteleology’.

Conclusions

The conclusions of this paper may be summarized as follows:
(1) The most successful type of explanation in biology is that which employs mechanistic description of living systems. This type of description depends upon the recognition of the fact that the same causal laws that describe non-living matter apply equally to living matter. In those areas (e.g. physiology of the mammalian cerebral cortex) where mechanistic description has not been so successful, the difficulty apparently lies, not in the invalidity of the method of approach, but in the complexity of the explicanda.
(2) There is therefore no reason to doubt that, in principle, it may be capable of giving an exhaustive account of living things, i.e. that the structure and function of all living things may be reduced to chemical and physical principles.
(3) Such an exhaustive account, however, does not invalidate or exclude other descriptions (e.g. psychological, theological, ethical, aesthetic) of the same phenomena. But such descrip­tions, being non-objective, are not part of biology as an empirical natural science.
(4) Teleological descriptions may be valid: but it is important to distinguish between those (of the classical type of teleology) which are in terms of goal-intention, and which are not part of empirical science, and those (pseudoteleological) which are in terms of goal-direction and can be regarded as scientific.
I shall begin this paper by quoting and annotating a few explanations in psychology. Although they form an historical sequence I have culled them from random reading in the past and not from a special study. After hearing them it would be easy to pillory either the ideas or the authors. But before you do you might like to ask the questions 'Are we so far even now from what is said in these statements?' 'Do we not in trying to understand human nature and human mental function make just as many logical blunders?'

Let us start with a quotation from Plato. It is from the *Timaeus* and he is speaking of the Gods.

'And since they shrank from polluting the divine element with these mortal feelings more than was absolutely necessary, they located the mortal element in a separate part of the body, and constructed the neck as a kind of isthmus and boundary between head and breast to keep them apart. The mortal element they secured in the breast and trunk (as we call it); and since it has a better and a worse part, they divided the hollow of the trunk by inserting the midriff as a partition, rather as a house is divided into men and women's quarters.
The part of the soul which is the seat of courage, passion, and ambition they located nearer the head between midriff and neck; there it would be well-placed to listen to the commands of reason and combine with it in forcibly restraining the appetites when they refused to obey the word of command from the citadel. They stationed the heart, which links the veins and is the source of the blood which circulates through the body's members, in the guardroom, in order that when passion was roused to boiling point by news of wrong being done, whether by external action or internally by the appetites, commands and threats should circulate quickly through
the body’s narrow ways, and any sentient part of it listen obediently and submit to the control of the best. And because they knew that the swelling of the heart which makes it throb with suspense or anger was due to fire, they devised relief for it in the structure of the lung, which they made soft and bloodless, full of cavities like a sponge, and so able, by absorbing breath and drink, to provide relief and ease from the heat. For this reason they cut the channels of the windpipe to the lung and set it round the heart like a cushion, so that when passion was at its height, the heart would beat against something yielding, be refreshed, and so because less distressed, better able to assist courage in the service of reason.’

That is an explanation all right. It is an attempt to link together quite a large number of facts, a lot of information about human behaviour into quite an unsuitable pattern. It sounds ludicrous to us now to hear two entirely different things fused together; crude anatomical divisions of the body not yet functionally understood and parts of the soul anatomically understood. Crude mental functions like hot passion being regarded as the equivalent of hot blood which therefore needs cooling by air. A neck of land may be an isthmus, but only when anatomy was objectively studied did the analogy stand revealed as false when applied to the animal neck.

You might also object strongly to the teleological argument which pervades the whole. I do think, however, that it is there, not on the same level of error as the things that have just been mentioned, but there because it is extremely difficult to avoid when talking of man.

Now here is a longer quotation from Aristotle. Though this is so old, the ideas expressed in it remained current in Europe for almost 2,000 years afterwards. I wonder even now if we are all that far from the humoral views of man’s emotional behaviour. Note in the passage, the same danger of equating uncritically apparent similarities.

‘For as one man is momentarily, while drunk, another is by nature: one man is loquacious, another emotional, another

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easily moved to tears; for this effect, too, wine has on some people. Hence Homer said in the poem:
‘He says that I swim in tears like a man that is heavy with drinking.’

Sometimes they also become compassionate or savage or taciturn – for some relapse into complete silence, especially those melancholics who are out of their minds. Wine also makes men amorous; this is shown by the fact that a man in his cups may even be induced to kiss persons whom, because of their appearance or age, nobody at all would kiss when sober. Wine makes a man abnormal not for long, but for a short time only, but a man’s natural constitution does it permanently, for his whole lifetime; for some are bold, others taciturn, others compassionate and others cowardly by nature. It is therefore clear that it is the same agent that produces character both in the case of wine and of the individual nature, for all processes are governed by heat. Now melancholy, both the humour and the temperament, produce air; wherefore the physicians say that flatulence and abdominal disorders are due to black bile. Now wine too has the quality of generating air, so wine and the melancholy temperament are of a similar nature. The froth which forms on wine shows that it generates air; for oil does not produce froth, even when it is hot, but wine produces it in large quantities, and dark wine more than white because it is warmer and has more body.

It is for this reason that wine excites sexual desire, and Dionysus and Aphrodite are rightly said to belong together, and most melancholy persons are lustful. For the sexual act is connected with the generation of air, as is shown by the fact that the virile organ quickly increases from a small size by inflation. Even before they are capable of emitting semen, boys approaching puberty already find a certain pleasure in rubbing their sexual organs from wantonness, the manifest reason being that the air escapes through the passage through which the fluid flows later on. Also the effusion and impetus of the semen in sexual intercourse is clearly due to propulsion by air. Accordingly those foods and liquids which fill the region of the sexual organs with air have an aphrodisiac
effect. Thus dark wine more than anything else makes men such as the melancholics are. That they contain air is obvious in some cases; for most melancholy persons have firm flesh and their veins stand out, the reason being the abundance not of blood but of air. However, the reason why not all melancholics have hard flesh and why not all of them are dark but only those who contain particularly unhealthy humours, is another question.\textsuperscript{2}

Do note that delightfully frank ending which undercuts the whole of the preceding argument.

Black bile was a concept, a figment of the imagination (even we cannot improve much on melancholia) but the occurrence of black urine is not. It is an observable phenomenon, the nature of which has only recently been understood. But that does not prevent some questionable conclusions being drawn from it. In a recent paper on the illness of George the Third MacAlpine and Hunter infer that he suffered from Porphyria of which one sign is urine which darkens. They cannot prove this but it is a reasonable and interesting hypothesis. However, here is part of their conclusion:

‘While historians and biographers will have to take a fresh look at George III, we as doctors may ponder on the state of psychiatry today in the light of his illness. Should we not ask ourselves to what extent there exists a separate group of disorders of the mind and whether we are not dealing with physical diseases which show early, marked mental symptoms? One may suspect that if psychiatric patients were submitted to modern methods of investigation like other patients, labels like manic depressive psychosis and schizophrenia would soon dwindle if not disappear like the old and, in its time, equally hallowed diagnosis of fever, they would then be seen as symptoms of a disease process instead of being taken for the disease itself.’\textsuperscript{3}


That is a remarkably sweeping statement based upon interesting but still hypothetical information. It is marred by the fact that they seem to want to sweep explanation into physical, that is mechanistic, paths. The psychological and psychiatric interpretation of history is a popular and seductive exercise. It is important and valid but its product has been continuously marred by reductionism which is shown only too clearly in this quotation. I doubt if the authors would urge that the whole of the aetiology of mental disease be reassessed in the light of the processes at work in this one case, but as it stands it would appear that they do. Historically human actions can be recorded, so may patterns of action and similarities with those of other persons and other categories of behaviour. Predictions about intention and motivation made before the events occur can be no more fully explanatory of them than the answers usually given by an artist when asked to explain why he created a particular object and what its meaning is to him. Inferences made post hoc must possess even greater uncertainty.

A man's behaviour is not wholly accounted for by so-called psychological interpretations, however ingenious. Many are lamentably crude. St. Paul is neither explained, or dismissed by calling him an epileptic or a schizophrenic. Bishop Berkeley's philosophy is not accounted for by the fact that he had a markedly anal character, though this suggestion is more surely based than the other one. Epilepsy may affect the personality of the sufferer though by no means always nor anything like it, does it do so. It is legitimate to describe an 'anal erotic' character (and I suppose an addiction to tar water supports this) but both of these things are only facets of a man. However in saying this I am anticipating my later argument.

A further example of an explanation in psychology is a very early one of Freud's. It is the résumé of an encyclopaedia article on hysteria published in 1888 which I am deliberately isolating from its context. I use it as another example of how an explanation couched in terms of pre-existing ideas and experience may lead to falsification and confusion.

'By way of summary we may say that hysteria is an anomaly of the nervous system which is based on a different distribu-
tion of excitations probably accompanied by a surplus of stimuli in the organ of the mind. Its symptomatology shows that this surplus is distributed by means of conscious and unconscious ideas. Anything which alters the distribution of excitations in the nervous system may cure hysterical disorders: such effects are in part of a physical and in part of a directly psychical nature.¹⁴

Freud who was a front rank neuro-physiologist of his time was attempting to understand a form of human behaviour which was either ignored or totally misconceived by most of his contemporaries. Here it seems to me that he shows very strikingly the confusion that is created by trying to express ideas about human behaviour, not in behavioural, operational or psychological terms but in neurophysiological energy ones; describing things in terms of the machine and not the operator. Whereas hysteria is the one condition par excellence when you cannot legitimately do this. In fairness to Freud I must say that he abandoned a much more systematic attempt at this type of explanation less than ten years after this one was written, because he realized that it was impossible.

My last but most recent example is the responsibility of a newspaper, and not that of the author being discussed in it. In a recent Times Science Report there appeared a note headed 'Why men become criminals'.⁵

It begins:

'Within the past few years it has become clear that some men may be predisposed to violent crime by virtue of possessing an extra chromosome. This, at least, is one of the inferences that can be drawn from surveys which have been carried out among mentally subnormal men at a variety of criminal institutions in Britain and the United States.

A chromosome abnormality thought to be exceptionally rare in the general population turns up much more frequently among men like these, and has led to the suggestion that it

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may be possible to detect such men early in life, before they turn to violence.'

Now can this argument be supported? Why for example violent crime and not just crime or violence without crime. To what can the possession of an extra chromosome predispose us. Possibly to a greater incidence of structural abnormalities which would make the task of normal adaptation harder and possibly to a greater instability from diminished controlling mechanisms.

The heading of the article is then totally unwarranted but it is a splendid example of a type of psychological explanation so called in which an indisputable observation is blown up to become a chief causal factor in human behaviour. In fact it is not really expanded at all. It is only a relative phenomenon for at the same time the other relevant causal factors are diminished even to the point of insignificance and invisibility in this type of fallacious argument.

Although these examples have been presented to show erroneous explanations and false reasoning, I shall argue that in studying human behaviour no complete answer to the problems we discover can ever be expected to be found. Opposing opinions expressed broadly as those looking outwards from within the human mechanism and those looking into the individual as part of a phylum — creation and design opposed to chance events, teleological versus mechanistic explanations — are likely to be met with no matter how much fresh information is uncovered about our behaviour in years to come. Nevertheless the examples show that a great deal of advance and improvement is possible with our explanations if we use the utmost logical rigour in formulating them from the facts we have. Let me anticipate one of my conclusions that psychological explanation may be presented and accepted as a means of staving off the uncertainties with which we have to live and work in this field. The easy explanation and the apparently definitive one will be wrong just for this reason if for no other.

Let us look then at some of the problem areas that arise when explanations in psychology are attempted. Problems which must be reckoned with but which may not be overcome. First, in the early examples that I quoted fact was entirely subordi-
nated to speculation, to fantasy which was presented as though it was fact. The emerging and the use of scientific method enabled enormous advances to be made. But now this method is all too often reified and so has ceased to be a method. Rather it seems to have replaced the original speculation. There is need for a wider perspective. A scheme to which observations can be referred is needed more than ever because human behaviour and mental function is both the most complex and most extensive subject that we can choose to study. I suggest that there are more variables to be considered at work in human behaviour than in any other field of study. Such a scheme or framework is also needed to set differing methods and observations in their true relations to each other. In other words psychology which was at one time the slave of scholastic philosophy, now seems often to be in need of far more logic and rigour in its conceptual frameworks.

This is, therefore, a relatively straightforward problem to deal with. Perhaps it is complex but with sufficient scruples it should be possible – and obligatory – to check the soundness of the argument that is used in any psychological presentation.

A second area of confusion comes from the rapid expansion in our knowledge of the processes and mechanisms at work in the Cosmos. Because psychological explanation has been cast in the language by which these are currently understood it must change as this knowledge changes. Unfortunately psychological explanation is in fact cast in language which is no longer up to date in other fields. To give an example I still find it perplexing that people will speak of Freud as though he is the last word, whereas the ideas of his so often canvassed are pre-First World War ones. This is not to criticize the ideas but to point out that they must now be reinterpreted or re-examined in the light of modern understanding. His metaphors to describe psychic function were at first hydraulic ones concerning flow and primitive electrical ones about charge and cathexis. But hydraulics does not fit brain function nor even animal movement.

It begins to look as though we understand processes that really are closer to those happening in our brains than could ever have been known before. In an era of the most amazing miniaturization of electrical circuits we are closer to the living
model. Computers have been seized upon as mechanical brains. Without question they do provide analogues which approximate more closely than anything before to some aspects of mental mechanism. But they also show up the chief objection to that psychological approach which is almost entirely mechanistic. They can neither be understood fully nor exist functionally in the absence of the programmes with which they are fed, and the network in which they function. So it is with man. His brain, however much its integrity is necessary, cannot be considered to represent him, a person, in the absence of its external, i.e. personal linkages.

This points to a third area of difficulty in the study of mental function. It is not simply a division of physiology or biology. Its study involves boundary issues that neither of these subjects do. Though our psychic experience is exhibited by bodily function; though it depends on an intact brain, this function is only apparent when so to speak the amplifier or the apparatus is switched on. The function is evoked by, patterned by and directed towards relationships with other human objects. Whatever it may have been like in the earliest human evolutionary states, learning is now the product of human influences and signals. Influences like the experience of being mothered must have remained relatively unchanged down the ages, and most emotional signals likewise. Those that impinge from culture, civilization and technology must steadily change as they change.

Psychology as a subject cannot therefore avoid fluid frontiers with other disciplines. However mechanistic its practitioners may wish to be, it must relate to the study of communication, of systems, of behaviour, of games theory, of anthropology and social organization because these all deal with the human environment which is the context of any individual mental function.

If it were a matter of studying signals only the problems would be easy. Computers work as they do because they are stupid. They get on with the task that they are bidden to do. We cannot because our memory stores are not factual ones only. They consist of experience stores loaded with all the emotional components of those experiences as well as memories of the
events themselves. Indeed they are described with justice as internal objects – internal representations of people. We are sometimes distracted by them and by such things as fear, boredom and conflicting interests from achieving a goal. As I’ve just said our experience is inseparable from relationships in which emotional bonds and repulsions develop and operate from the first. These in turn modulate all the ensuing communications and transactions. This increases one problem in psychology. The observer is usually a ‘participant observer’. In observing a transaction he is or becomes involved in it. When he can observe unknown and unseen it is not so, but whenever he participates in a human encounter it is not just influenced by his presence but his own contributions to it are also likely to be influenced by it. The emotional significances projected upon him by the observed easily influence his own responses unless he particularly works to minimize them. Our personal responses to situations, to any research or investigation carried out on us, add a complexity that makes psychology more than a refined biology.

The difficulties that I have mentioned so far might almost be described as technical ones which can be minimized by greater sophistication. Those that follow are in a sense metaphysical ones.

A fourth area of difficulty comes from the fact that there are at least two approaches to the subject. I will call them those of the researcher and the treater. My natural one is from or in the direction of treatment. It is of more than passing interest. This division is inevitable, in the nature of things, and not always the result of sloppy thinking on the part of either party in misunderstandings. It is hard to keep distinct or to tolerate the interaction of the roles appropriate to a scientific approach to things and to a therapeutic one of responding to personal needs. Human communication is used to convey factual statements about events. It is used to elicit aid or gratification but it is also used to control or to discomfit. Also there is a jump, a discontinuity between an objective attempt to understand or study a human problem and the personal experiencing of that problem by the sufferer.

This happens to form a particular part of psycho-analytic
practice and theory which it may be useful to develop for a minute. The effect of a drug depends on two factors. There is its specific effect on enzyme or other physiological systems. But whenever a drug is ingested something else is likely to be ingested also, a dose of expectation, something magical or the reverse, a dose of an enthusiastic doctor or a trusted one, a quack, whoever it may be. When you ask patients in my field to describe their reactions to taking a drug you will often hear that its beneficial effect is felt long before it could be absorbed or else that they take one seeking an immediate relief or lift when so far as you know it is not supposed to have any such effect. In either case the effect of the drug is on the internal processes of the patient, physical, mental or both.

There is a psychotherapeutic parallel with this dual function of a drug in using the relationship between patient and doctor, not simply in its formal aspects but also in what we call the transference relationship. This implies bringing out into the open what may be the hitherto unexpressed and often quite unconscious hopes and fears, ways in which infantile attitudes, irrational attitudes crop up within the present relationship to distort it. Past events and fears are seen to be still operating in the present. Using this means brings into the centre of the field not only the professional process going on but the use the patient is able to make of it, his here and now experience of it. His history and past experiences can be reinterpreted in terms of his immediate encounter with the therapist. All his affective responses however seemingly irrational are then seen as immediate, living and appropriate ones to another context so that learning and change can take place from this insight.

Possibly you have difficulty in discerning a difference between these two things, a passive response to a process and an active internal process which uses help. But it is inescapable as I see it in working with persons. Let me put it (by means of a quotation) in another form.

'... Talking about infants is not the same thing as talking about primitive stages in the emotional development of persons as seen in the study of patients... For me, there is no description of an infant that leaves out the behaviour of the
person caring for the infant: or in an object relationship, the behaviour of the object . . . At the beginning, as I see it, the infant's relationship to an object is so intimately bound up with the presentation of the object to the infant that the two cannot be separated. In terms of object relationships the infant is entirely dependent on the way each bit of the world is brought to the infant, so that one can say that the world is presented to the infant either in such a way that the object seems to be created by the instinctual drive in the infant or else in such a way that there is no link between the creative element in the infant and the existence of the external object . . . the mother adapts . . . so that the creative element in the infant is met and the infant begins to perceive that there is something good external to the self . . . .

I have changed the order and omitted bits in that quotation from Winnicott. The psychotherapeutic process that I was outlining parallels his suggestion that the world is presented to the infant in such a way that it seems to be created by it. I know that this is speculation and anathema to one kind of thinking but I suggest that it touches on perhaps the most basic of all issues in human perception and learning.

I cannot touch on, even if I were able to, an issue of prime importance which escapes psychological study, the processes at work in human creativity. But the degree to which this matter is either dismissed or enhanced is a valuable yardstick in assessing the value of a psychological theory.

To recapitulate my argument in this section I am suggesting that in most fields of psychological enquiry the thing which we believe we study and the experiencing which we do study are always, and always will be, different. This alone will lead to conflicting statements from those who look at this arena from opposite ends. Though there is a difference in purpose and hence in attitude, emphasis and interpretation between the researcher and the treater even that which the treater believes he is doing still remains external to the subject until it is admitted.

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*D. W. Winnicott, On Envy, (Case Conference), 1959, 5, 178.*
A fifth area of problem really continues the last but in another guise. There must always be a mind body problem. In terms of cerebral organization consciousness is not understood, neither in damage, nor in intoxication nor even in sleep. It appears in the experience of 'I' ness, which is in the very etymology of conscious and conscience. This seems to be the first human experience and the basic one. In this connexion perhaps I should say healthy experience because I believe it can be invaded very early on and changed leading to what we call disease. In psychoanalysis, and elsewhere since, the word ego has a wide currency. It has become such a technical and everyday term that one almost imagines that an ego can be seen, described, even dissected out. But ego still means 'I' and 'I'ness experienced is individual and cannot be observed but only inadequately described.

The initial experience seems to be the disclosure, self-disclosure, at the impingement of a stimulus or signal, that 'I' am experiencing it.

'My suggestion is that each of us becomes aware of what is distinctively himself when surveying a set of 'distinct perceptions' there breaks in on him a self-awareness, a self-affirmation of such a kind that he recognizes the distinct perception to be 'his'; becomes aware at the same time of what it is to be himself, the same self; becomes aware of his personal identity. It is in such a disclosure, as and when it occurs around 'objects', that we have the empirical basis for all distinctive first-person utterances.'

Here presumably is one of the frontiers that psychology has with philosophy and religion because questions seem to be raised about our relative position in the Cosmos of the same order as when we speak of Infinity or of God. There is a mystery in being an individual, a person, an I.

But this self-disclosure has another importance as I understand it. If it has validity, it passes from being a philosophical concept to belong to the microstructure of mental function. It

is of the same order as an amino acid molecule is in the formation of a much more complex protein chain. It is the continuous but infinitesimally brief knitting together of micro units of this sort that go to make up an emotional response. It seems not unreasonable to expect that something more than experimental method is necessary to investigate this. Just as in the physics of atomic particles the mathematical or logical prediction of particles precedes their discovery so it seems to me that at some future date similar predictions will be appropriate in our subject.

The mind body problem can be illustrated further by using the computer simile again. They are machines which respond to instructions, which are encoded into and the responses decoded from an impulse language which they can use. They are designed to have certain capacities like speed of operation, volume and storage. This may be the brain but the mind is surely the network of which the computer is part. Put in another way, the result of the task or programme fed into the machine has an existence as a transient pattern, but in a sense it only survives if it leads to some further action or is translated into some permanent form. Mind must include the input and output aspects of what I have called the network. It cannot only involve the mechanism. I get the impression that much psychological research is rather like putting extremely delicate probes into the machine and discovering evidences of electrical activity. At other times it seems like disconnecting certain parts to try to trace how the assembly is linked up. It is not that this is illegitimate, it is only that such manoeuvres do little towards identifying the task on which the mechanism is working at the time. That can only be sought from the wider context. A jumble of electrical impulse sound can only be discovered to be a coded series of messages when some concept of message carrying is applied to the noise.

Although I would be wrong to label all psychological research in this way, it does remain true that a great deal of psychiatric research is of this order of crudeness and so far contains little approaching the sophistication of research into say the chemistry of intracellular processes. Just as these processes are programmed with remarkable precision to produce what is
required so human behaviour at its roots is I believe likely to show a comparable type of organization. In the case of the cell it is called upon via its nucleus to respond to demands to meet environmental change or dangers. In the case of the personality its messengers, catalysts, enzymes, and the like are metaphorically speaking in the human relationships and bonds, especially their internal representations, which are inseparable from human life.

So the last area that I shall discuss centres on problems of individuality. I refer to the nature and relevance of the individual experience.

It is customary in a scientific psychology to measure functions, to use rating scales, to test the significance of factors and variants, to try to build up a picture of a particular personality type or of a particular disease syndrome. In therapy many patients wish to talk in the third person about what a person ought to do; to think of themselves as a diagnostic category; to require from the therapist a what-the-book-says answer, to receive from him a particular technique. For that matter many doctors are only too willing to work in this third person way. But in therapy the essence of it lies in the individual’s personal experience and use of the therapeutic encounter. There is always a conflict between but not of necessity total disagreement with the objective, scientific approach and that.

Another practice in psychiatry is to take a history of the patient’s illness. It is so obviously important to allow a patient to express his own account of his need that it is almost unbelievable that it is so ignored in other branches of medicine even when one thinks how much time it takes. It is no less important to relate events in time to see which ones may have had causal links with ensuing ones. Much psychodynamic speculation goes on based on supposed facts which can easily be shown to be chronologically false. But even when these things have been cleared aside it is still necessary to ask the question ‘How do causal events so-called act as causes?’ I can look at only one aspect now. An event which is only historical does not have causal significance emotionally. Take for example this historical statement ‘I moved from London to Leeds in 1956’. Clearly my life thereafter was lived in Leeds and not in London. My im-
mediate environment, contacts, experience, etc., were different, a discontinuity was created with the old. But that event was of my own relatively conflict-free choosing. In other words it was sufficient unto itself at the time. Hence it carried with it the minimum unresolved into the future. Now if I had been compelled to move against my will or if I had left a lover or any other compelling sort of attachment behind, hankerings after London would have been carried on into the future as a continuous contrary if not actually subversive influence on my subsequent feelings and conduct. By contrast sometimes the future hazards of an event, as in this one, are openly foretold. A young man who was persuaded by his family after a lot of difficulty to add his consent to theirs for the performance of a post mortem on his father, said to them 'Alright I give my consent but if you allow it to be done I will never forgive you'. That of course was neither consent nor yet a workable contract for the family to act on as it stood. The consequences were clear for them if they had tried to proceed.

The clinically significant facts, the causal facts then are not the real historical events themselves. Their personal meaning and experience is, and this will vary for each participant in an event according to his own internal state at the time. Nevertheless the event, be it chance or not, occasions an experience which would not otherwise have occurred.

There is always then a complication to the simplest of human enquiries. Chance events have more than their specific effect, they are associated with one influenced by the state of the person to whom they happen at the time they happen. To add to the confusion not all events which look like chance ones are, but are sometimes quite subtly determined. These statements—only other ones about personal uniqueness—make for such complexity that most psychological and psychiatric study has to create artificial conditions or so to limit the observed factors that what is being observed and described bears little relation to normal human experience. One hazard of this is that any deductions drawn from such work are already dangerously skewed in the direction of reductionistic arguments. I believe that healthy human life results from the exclusion of an infinite number of distinct perceptions and associations of thought
leaving a relatively narrow zone but one rich enough for all the things required for focused attention and action. A need therefore in effective psychological research is to attempt to produce some conformity in direction between the necessary exclusions of the research and the exclusions of the focusing processes at work to produce the behaviour studied.

There is a paradox here. A statistical view has no validity for personal experience and such experience cannot be generalized. It is important to know that a particular operative procedure has a one per cent success rate because it must encourage the search for either another form of treatment or for a better operation.* But if you happen to need the procedure yourself because death is inevitable if you don’t, then a one in a 100 chance may discourage but probably will not deter you. You may be the one or one of the ninety-nine. You can never know in advance which.

In the reverse direction one case anecdotes can do no more than provide hunches about the personal significance of events in future cases.

Only some forms of experimental procedure are truly observable. The effect of a drug on some of my functions may be observed without my knowledge if I am linked up to a monitoring system, though even then one cannot ignore the emotional significance of being so linked. My cortical electrical activity can be monitored as is done in so much interesting research on sleep and dreaming. Hence research into those objective things gets undue preponderance. My personal experience cannot by definition be observed. I can attempt to describe it. (Trying to describe ‘red’ is an example of what I mean.) It may be possible to infer some of it from my emotional expressions but communication of the experience depends so much on the identification of the observer’s experience with that of the observed’s.

Even though all of us are continually responding to signals from persons around us, my experience is that it is harder to get agreement and any kind of validation of the meaning of such

* I have just said ‘it must encourage’. It must do nothing of the sort. Quite unwittingly but quite appropriately I have used a statement that only a person could make.
signals, be they facial expression, inflexion of voice, mood, significance of the language used or what have you. Complexity is only one of the reasons for this. Because signals are used to stir up affective responses in us, to influence our mood or our probable behaviour, and if in us then also in any observer, it needs a major reorientation to focus on one’s own responses as a sensitive receptor. What is thought to be objective is felt to have greater scientific respectability. But the subjective perception is objective enough.

Processes may be observed. Experience can only be experienced and reported but both may be facets of the same thing and are included in the realm of psychology. Hence it is useless for each side in a psychological argument either to accuse the other of wrongheadedness or in the reverse direction to expect complete understanding, total identity of views. It is in the nature of the case that as research in psychology is concerned with the personal it is confronted with a mystery. This may take a number of forms or be approached in a number of ways. Examples might be (and these are my choice alone); a body-mind one; one concerning consciousness; one concerned with in-born factors and the nature of instinct, and one concerning the nature and significance of male and female elements at work in us. As human psychology, studied from the angle of development, is pursued backwards towards origins; if the earliest levels of human experience are speculated upon and studied, it seems to be inevitable that a special order or category of things will come up.

I am going to present this in theological language:

‘... how often the heretics run some model or other – sometimes a highly sophisticated model – to death, in a passionate desire to understand. Opponents then come forward with other models which show the inadequacy of the first, but they too develop them beyond necessity, and court fresh heresies at the next move. But let us not be made sceptical by such shuttlecock theology. ... The shuttlecock character of the early history of Christian Doctrine only arises because the ball could never be left to rest in any one empirical court. The struggle to understand God can never come to a satisfactory
end; the language game can never be completed ... So theology spends every philosophical model and more ... like many other people's banking accounts at the present time, it will only show an active healthy condition when its store of empirical models is overdrawn. For it has invisible assets - mystery - of which the models take no account.

The point above any other I would like to emphasize is, then, the logical complexity of doctrinal assertions. So, how barren and verbal are those doctrinal controversies where each side supposes they are using straightforward homogenous language, and talking in the material mode; whereas in point of fact they are only each sponsoring different models in order to understand, as best they can, a mystery which is bound to exceed both their attempts. So we sympathize with Augustine's view that doctrine only "fences a mystery"; and we express ourselves doctrinally only because we cannot live and keep silent.\(^8\)

I hope you will see from my earlier argument that to use theological language is relevant in this psychological context because there is an area in which both are speaking about much the same thing. One can legitimately transpose current psychological models for the ones of which Ramsey speaks. Currently the behaviouristic-psycho-analytic controversy brings out the worst in those foolish enough or unthinking enough to contend.

Unlike the quotations at the beginning of this paper which I criticized in various ways I cannot resist giving one which ought never to have been written. But it is most recent and reveals an attitude which still crops up where prejudice rather than judicious enquiry swamps reason.

'... In short, psychologists have "tried" psychoanalysis and found it wanting. In a book, *The Crisis in Psychiatry and Religion* which was published in 1961, I adjudged classical Freudian Psychoanalysis therapeutically impotent and conceptually bankrupt. A similar verdict has more recently been reached by Carl Rogers. During the academic year 1962–63 he was at

the Stanford Centre for Advanced Study in the Behavioural Sciences and had a good deal of contact there with several psychiatrists "foreign as well as American". From them I learned what I had strongly suspected — that psychoanalysis as a school of thought is dead — but that out of loyalty and other motives, none but the very brave analysts mention this fact as they go on to develop theories and ways of working very remote from, or entirely opposed to, the Freudian views.

It can of course be objected that Rogers and I are not impartial observers, as each of us has his own "fish to fry"...  

That expresses an attitude which is totally inappropriate in our work. No way of looking at the problem of 'persons' if it is serious in intent and has integrity can be either dead or totally bankrupt any more than it could provide a complete picture, let alone an explanation of it. Of course the seriousness and integrity will belong to its proponents. An area of study grows and moves towards others only as some of its workers are aware that their terminology and concepts have become reified and used to 'fence a mystery', and are prepared to tolerate uncertainty generated by questioning the meanings of their labels.

In conclusion I have touched on six areas of problem met with in psychological explanation. The first two, scientific research that is logically unsoundly based and the difficulty of keeping abreast of advances in neighbouring fields are both ones for which considerable success in their solution is possible. The other areas which concern mental function, what we call Mind as opposed to Brain, and issues of being a person and having individual experience, are ones for which I believe no solution in the sense of a last complete word of explanation can ever be found. What is revealed is the continuing need for dialogue and opportunity to re-examine, re-define and re-interpret old issues in the light of current thought. So much so-called explanation has been designed to diminish anxiety by closing a gap and denying the existence of mystery. Much still is. We can at least try to diminish it.

J. H. Y. BRIGGS, M.A.

The Nature of Explanation in History

I. The Area of Historical Concern

(a) An Autonomous Past: History is essentially a study of the ‘otherness’ of the past, which needs to be allowed a certain autonomy if it is to speak to us authentically. It needs therefore to be studied whole rather than to be subjected to an agenda imposed by contemporary man. It is salutary, here, to heed Brian Harrison’s judgment that the attempts of some universities to make the study of history more relevant may involve the imposition of a ‘scheme of historical study in which it is perhaps more difficult to acquire that particular virtue of the historian – the capacity to see how people could once think differently, the realization that problems of contemporary concern will not always be so, because they were not always so.’\(^1\) Here also Acton’s dictum that history must be our deliverer not only from the undue influence of other times but from the undue influence of our own, is relevant.

There are perennial difficulties here. It is almost as if the current demand for relevance in the teaching of history is the pathological converse to the old whig optimism: as against the whig view of past times, past men, and past institutions as a preface to the dawning of the liberal state, the contemporary cry is for an imposition of our problems, even our neuroses upon the past, so that, most unhistorically, medieval heresy is seen in terms of modern protest movements, even student protest movements; the Pilgrimage of Grace is written in the language of class, and Erasmus is cast as an ecumenical statesman out of time. In both ways of thinking the past loses its autonomy and the study becomes unhistorical. In like fashion, the passing of judgments on the past in terms of some ongoing ideology will obscure rather than illuminate the historical process: perhaps the best example here is the liberal condemnation of Calvin for his consent to the burning of the anti-

\(^1\) B. Harrison, ‘History at the Universities’ in History, October 1968, p. 366.
Trinitarian, Michael Servetus, in 1553. But as far as the sixteenth century is concerned these are wasted words: it is much more important to realize that he was already on the run from the Catholic Authorities at Vienne, and to see how this shows the two-sided combat in which the Reformers were engaged – on the one hand a reform of Catholic abuses, but on the other hand a defence of orthodoxy against the radicals: Calvin's Geneva, above all, could not be seen to be soft on heresy. So, Butterfield's judgment: 'Real historical understanding is not achieved by the subordination of the past to the present, but rather by making the past our present and attempting to see life with the eyes of another century than our own.'

But that said we must play the game fairly – and be as generous to the predecessors of those who stand opposed to us, as those whom we see as our fathers in the Faith; indeed on them we may need to be more severe – for at least, as fellow-believers, we may pose the question whether Calvin, with an open Bible in his hand, ought not to have broken with the common practice of his times and acted otherwise to the defiant heretic; but this then becomes a theological and not an historical judgment.

(b) A Personal Past: Here it seems to me the historian must properly take his stand against the inroads of positivism for in our own century there has come into being a pretentious pseudo-scientific kind of history that covets the general laws and abstractions of the laboratory and steam-rollers the complexities of the human personality. Take for example the fashionable explanation of that historical miscreant, the Industrial Revolution. Here are theories which explain the beginnings of industrialization in terms of demography, improved communications, financial reorganization and reform, and in so doing minimize the importance of the personal factor – the curiosity, the daring, the endeavour of a Watt and a Boulton, a Kay and an Arkwright, a Telford and a Macadam. The point may be thought a common-place, but it is a common-place which has come under attack recently, especially in the context of more sophisticated techniques of quantification and

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more significantly, it is a common-place of great theological significance. Of a student essay concerned with nineteenth century imperialism, in all 6,000 words of which no person was mentioned, one of my colleagues reflects: 'I willingly concede that it was not possible to suspect, much less to visualize, the hand of God dealing with the Bessemer processes and over-production, the jingoism, nationalism and other tendencies with which the student peppered the historical landscape, because she never related them to free human action. And it was for the sake of individual men, not for the sake of abstractions, that the Word of God was made flesh.'³

For the historian an event can never be confined merely to action but must always be concerned with action and agent and this necessarily involves a discussion of motivation – for an account of the action without the agent and a description of the agent without the complexities of mind and emotion would not reflect any past reality – its only existence would be as an analytical abstraction of the present. History without persons is nothing.

(c) The Chronology of the Past: The caricature of history as solely concerned with battles, kings and queens and treaties, and their chronology has perhaps led to a reverse distortion of its nature in such rash generalizations as 'history has nothing to do with dates': in our universities, for example, the penchant for comparative studies calls forth from Geoffrey Elton the reaffirmation that 'history should study that which is long in time rather than broad in space.'⁴ In some measure this was part of the antagonism that existed between Namier and Professor Butterfield. Namier's *Structure of Politics at the Accession of George III*⁵ is a brilliant analysis of the intricacy of factional politics in 1760. But the word 'structure' is crucial for it is suggested that in his enthusiasm for socio-parliamentary analysis Namier discounts the dynamic element in history:

Butterfield says of the approach of his school that it tends ‘to block any real understanding of what we ordinarily call politics, the kind of politics that can only be told in the form of narrative . . . to block any desire to study the thing we call development’.  

The historian ignores the importance of chronology at his peril – whilst sociologists, scientists and economic theorists may treat it cavalierly, the historian may not. A new concern for the chronology of European expansion into Africa has, for example, recently revolutionized the explanation of the ‘Scramble for Africa’, and deposed a whole array of psychological, economic and political theories of Empire which simply did not fit the dates. History must finally be seen as a story and not an analysis.

II. The Nature of Historical Method

(a) The collection of evidence: The historians’ starting place must always be his evidence, though, of course, there will necessarily be personal, ideological, and circumstantial reasons which determine where he begins his search for the evidence. In this search he needs to exercise a catholic spirit, collecting a rich diversity of material. Sometimes his difficulty will be the scantiness of that which remains, at other times its superabundance in the former situation he must always be ready to admit that the evidence is too incomplete to allow of any confident conclusions – and indeed the latter situation may also drive him to a similar silence. In my own field of nineteenth-century nonconformity, for example, the raw material consists of biographies, sermons, treatises, hymn-books and service


7 R. Robinson and J. Gallagher, Africa and the Victorians, London, 1965, p. 472. ‘The partition did not accompany, it preceded the invasion of tropical Africa by the trader, the planter and the official. It was the prelude to European occupation; it was not that occupation itself. The sequence illuminates the true nature of the British movement into tropical Africa. So far from commercial expansion requiring the extension of territorial claims, it was the extension of territorial claims which in time required commercial expansion. The arguments of the so-called new imperialism were ex post facto justifications of advances, they were not the original reasons for making them.’
books, minute books and tracts, public and denominational records, newspapers and novels, account books and baptismal records, not to overlook the non-documentary evidence of bricks and mortar, paintings and portraits and other of man's artefacts.

(b) Testing, Contexting and Evaluating the Evidence: The eliciting of evidence is not in itself sufficient: there follows the important task of evaluation. Who is the writer? What do we know of his attitude to life? What qualifies him to speak authentically upon the subject on which he has written? Is it corroborated by other evidence on the subject? And a host of similar questions. In particular, the historian will examine the consistency of the document from within – if it does not agree with itself then it may be suspect.

Or it may be as in the case of the Religious Census of 1851 that the methodology espoused within the document provokes doubt: few critical scholars now would commit themselves to the arithmetical precision of the estimates of Horace Mann, the Registrar-General's agent, in his calculation that of a population of approximately 18 million on 20th March, 1851, only 58 per cent were 'available' to attend church at any one time or in the calculation that 50 per cent of afternoon attenders on Census Sunday had not been present in the morning and that $33\frac{1}{3}$ per cent of evening attenders had attended neither previous service.\(^8\)

The source under investigation has also to be tested by external evidence. An interesting example from seventeenth-century history concerns the so-called Ancient Chapel Book of the Crowle General Baptist Church, first published in the General Baptist Magazine for 1879. It all looked very pious, and showed in particular that the English Baptists had an origin in the last year of the sixteenth century and that John Smyth did not baptise himself, both conclusions of importance to nineteenth-century Baptists. Dr. H. M. Dexter, the Congregational historian, was, however, easily enabled to demonstrate that the record was a clumsy forgery not least because its creator had forgotten that in the seventeenth century the old calendar was

\(^8\) Parliamentary Papers, House of Commons, 1852–3, (1690) LXXXIX.
in operation and hence his sequences were wrong. If he wants to use a source, along with other like material, to suggest a general attitude the historian has then to decide how far the work is typical or eccentric. Many, for example, have used Edmund Gosse’s description of Christmas Day, 1857, in his Plymouth Brethren home at Oddicombe, as typical of the home life of Evangelicalism. But you may wish to lay alongside that the judgment of a critical historian, widely read in Victorian history. Canon Charles Smyth writes:

‘But the real strength of Evangelicalism lay not in the pulpit or in the platform, but in the home. To those who believe that the typical Evangelical sermon was about hell-fire, that the typical Evangelical layman is fairly represented by the father of Sir Edmund Gosse and that the typical Victorian parent was Mr. Barrett of Wimpole Street, this may sound surprising but to judge from memoirs and biographies, the Evangelical families of England were conspicuously happy families, and it was in hearts of the Victorian mothers that the Evangelical piety won the most signal and the most gracious of its triumphs.’

And above all the document’s own viewpoint must be assessed. All too often, for example, one finds that the descriptions of dissenting life and worship in The Autobiography of Mark Rutherford are taken to be verbatim descriptions of actual situations, rather than imaginative recreations thirty years after, by a man who in his own confession had gone through many psychological disturbances in the intervening years. This document then seems to me to be a source for the reflections of the ex-orthodox of the 1880s rather than a description of the practice of dissent in the mid century.

In this process of evaluating the evidence disharmonies are bound to appear – they do not necessarily mean that the evidence is thereby rendered useless. In as far as this reflects a

10 E. Gosse, Father and Son, London, 1907, p. 71.
divergence of viewpoint of an event it may indeed help to establish the historicity of the event. Trevor Roper's introduction to his *Last Days of Hitler* reveals an interesting example of this in the discrepancy that became apparent between the evidence of Hitler's guard and chauffeur as to the details of the burning of the bodies of Hitler and Eva Braun, though Trevor Roper makes this shrewd judgment: 'the truth of the incident is attested by the rational discrepancy of the evidence'\(^{13}\) — a passage which might usefully be studied by more biblical critics.

(c) *Selection and Pattern:* Having examined all the evidence, the historian necessarily has to be selective, not in the sense of rejecting that which will not fit his theory, but of excluding the irrelevant and extraneous, perhaps putting them on one side for a future enquiry. At the same time he will need to bring to bear the impact of negative evidence — what could reasonably have been expected and which has not materialized, for this, alongside other kind of evidence, may well add a crucial dimension to the picture. By this stage a pattern — not in any meta-historical sense, but in the sense of a story to tell — should have emerged, which the historian may now begin to relate.

(d) *Interpretation:* Once this is undertaken, the whole becomes taken up in the question of interpretation, for nearly always the historian will not be content with a description of what occurred but will want to reflect the past in terms of an explanation of what happened, together with some assessment of the significance of different parts of his story. The explanation may be worked out in terms of causal connections ("A rise in population in the sixteenth century led to an increase in prices which presented acute financial problems to those who were dependent on fixed incomes, which group in England included James I and Charles I who were thereby driven to unconstitutional expedients in fund raising"). It might alternatively be developmental — the account being given in terms of the development of an institution, or a group or an industry, etc. (The development of the civil service, of the working class, of the mining industry). Or again the account may be written in terms of other significant intellectual patterns; the relationship

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between life and thought (the impact of environmental studies on social legislation); the definition of attitudes (the reaction of different religions, social and political groups to the Atomic Bomb); comparative studies of one kind and another (the different characteristics of the Chartist movement in different parts of England and Wales); and many others.

The point is that only at this fourth stage of interpretation does a description emerge which bears relationship to what happened in the past. In as far as the past itself is something more than a collection of documents -- and this notwithstanding the current popularity of collections of documents as a means of describing the past -- then the interpretation is crucial to the description of the fact, and is not a dispensable layer of theorizing with which to decorate the superstructure. That is, history moves not from the facts to a theory or law, but from the evidence by way of the processes I have described to the facts. The reconstruction which emerges represents a marriage between a variety of different elements: a diversity of evidence of different kinds, weighed in the critical hands of the researcher, who selects from it such material as enables him to construe a particular pattern of relationships, which he explains in terms of an interpretation which arises both out of the evidence and his experience and imagination.

III. The Techniques of Historical Inquiry

Anyone who dares to talk about the nature of historical explanation cannot overlook the revolution which took place in historical studies in the nineteenth century with the advent of that scientific historiography which is associated with the name of Leopold von Ranke. It was as if historians, faced with the advances of the natural sciences, came to exhibit a kind of guilt complex about the imprecise nature of their discipline, coming to covet the precision of the laboratory scientist. Doubtless there was a need for a professional reaction against the romantic whiggery of Macaulay's generation. But we may wonder whether the pendulum swing has not been too great, and whether in fact there are not other ways of knowing which supplement the positivist's delight in criticism, detach-
ment, analysis and objectivity. I am in this respect interested to notice that Cardiff's first Professor of Modern History devotes himself to just this theme in an Inaugural Lecture given at the end of last year entitled 'Ideological Commitment and Historical Interpretation', in which he discusses the debate between E. H. Carr and G. R. Elton concerning subjective and positivist ways of comprehending history. In all this it seems to me there is a razor-edge divide between integrity and prejudice — and on the whole I am inclined to think that the historian must embrace both the precision of the positivist and the humanity of the subjectivist. If so, then I would suggest that commitment is as much a way of knowing as detachment — especially since none of us can escape commitment even if we do not choose to spell out the nature of that to which we are committed. Alan Richardson tellingly illustrates this point by quoting Mr. Trevor Roper's conclusion on the historiography of Archbishop Laud: 'only Gardiner, who treated him not as a churchman, but as a protagonist in English history, was able to look upon Land in that secular spirit from which alone an impartial view can come.' Richardson rightly comments: 'We cannot see our own ideological spectacles, and because our eyes are protected by them, we do not notice that as we throw our sand against the wind, the wind blows it back again.'

Similarly the historian will need to exercise sympathy as well as objectivity. Gordon Rupp, for example, shows the folly of attempting to analyse the reformation without a sympathetic understanding of what the words and concepts used meant to the Reformers who penned them: 'One would have thought that whatever the twentieth century thinks about the irrelevance of the Christian religion the men of the sixteenth century could not be made intelligible without it', and that on this basis the great nineteenth-century historians, notwithstanding their own loose orthodoxy, are better guides than more recent secular commentators, because 'they had the sense

to see that religion mattered and they took pains to understand theological issues', as against some contemporary 'funking of the chore involved in mastering the intricate code form of an alien ideology.'

Over against the crucial role of criticism needs to be set the creative part played by imagination. Where this quality is lacking the history fails to come alive. I speak with feeling here having come post-haste from marking some 60 final scripts this past week in which all too often imagination is sacrificed to critical analysis. But compare these two comments:

‘Hallam’s Middle Ages (1818) and his subsequent works are based upon honest, painstaking and disinterested research upon original authorities, and they set a high standard of accuracy but he is lacking in that quality of historical imagination which can bring the past to life.’

‘Having entered imaginatively into the experiences of the nomad, the agriculturalist and the city-dweller, having been marked by the sorrows of the persecuted and uplifted by the steadfastness of just men, having striven with Lenin and known the serenity of St. Benedict, the historian is constantly recapitulating in his own person the history of man’.

In like manner analysis must be balanced by intuition. Indeed it would be dishonest not to admit the large part that intuition plays at the crucial juncture at which the evidence is collected: where should the archaeologist dig his trial trench, where should the historian begin his search, where amongst an unwieldy body of evidence should he begin his dipping audit? Of course, the hunch has to be backed up by solid evidence, but in the psychology of the historian intuition often has the priority. Nor is it confined to where one starts: sometimes the

16 E. G. Rupp, Protestant Catholicity, London, 1960, p. 8f. A second example here which contrasts perhaps with the previous point concerning commitment is to be found in Mr. E. P. Thompson's discussion of Methodist hymnology. ‘Christ, the personification of “love” to whom the great bulk of Wesleyan hymns are addressed, is by turns maternal, Oedipal, sexual and sado-masochistic.’ The Making of the English Working Class, London, 1963, p. 370f.

17 Alan Richardson, op. cit., p. 105.

18 D. Nicholl, op. cit., p. 279.
conclusion comes in the first place by intuition and is only subsequently substantiated.

I am conscious that in this discussion of the techniques required of the historian I may have given the impression that I think detachment, objectivity, criticism and analysis as wholly unimportant. This is not my intention— but simply to suggest that these are not the only virtues, that they need to be supplemented by more personal and humane qualities if we are to use all the resources at our disposal for a complete and realistic understanding of history, a history that is involved with a real past inhabited by real man, flesh of our flesh, mind of our mind, with emotions that are ours; indeed one might say that history must be written from person to person.

IV. The Nature of Historical Conclusions

(a) General and Particular: 'The eliciting of general truths or of propositions claiming universal validity is the one kind of consummation which it is beyond the competence of history to achieve'.¹⁹ This needs constantly to be emphasized: my colleague Donald Nicholl resists the temptation to think otherwise by questioning: 'What could be more unhistorical than those veils of pseudo-science in which we try to cloak our subject for the sake of decency? We are lost from the beginning unless we candidly recognize that the process of historical knowledge runs completely counter to that of knowledge achieved in the natural sciences. In the latter one proceeds from numerous instances to the establishment of general laws by using deduction, induction, analogy and inspired guess-work; but whatever the means the work attains perfection in the formulation of a general law, the more general the better. The historian, on the contrary, using similar methods, as well as the yet more bizarre instrument of his own personality, brings his work to perfection in understanding a particular event, person or institution; but whatever the means, his work is achieved when he has a profound and comprehensive understanding of these

particulars, the more intimate and all-embracing the better’.  

In science then an experiment only achieves notoriety outside the laboratory if, supported by many other experiments, it can be made to project a general law. But the historian, since he is concerned with individual events, persons and institutions, is interested in just those particulars which might well spell failure for his scientific colleague, failure that is in the pursuit of a given general law. The chance experiment may indeed lead to new discoveries but on its own, unsupported by other experiments it can mean nothing to the physical scientist.

(b) Exactitude and Ignorance: The historian here finds himself poised between two stools. On the one hand, there are many things that he can affirm with confidence: thus Professor Heider wrote last year: ‘that Queen Anne is not only dead, but that she died two hundred and fifty-four years ago, is not only a fact which it would be unreasonable to doubt: it is a statistical statement of a much more reliable kind than most statistical statements issuing from boards of directors or government offices. The legal phrase, that a case can be proved “beyond reasonable doubt” seems to me particularly useful for the historian. The surface facts which we establish from our evidence can usually be proved “beyond reasonable doubt”. It is only when casual factors, or more general explanations are considered, that more than one interpretation becomes possible. What caused the French Revolution, or whether the French Revolution succeeded are matters of interpretation, that Napoleon lost the battle of Waterloo is a matter of fact, and of a fact that has been proved beyond reasonable doubt.’

But over against that we must never forget that much of the past has been lost beyond recovery. If, for example, we were to think of our meeting here today – certain records will be produced, the Secretary’s letters, the advertisement, the Minutes of the Annual General Meeting, and, eventually in the Journal, the Symposium Papers, even lists of those who attended – but what will not be recorded is the clothes you wear, the lunch-time conversations, the fact that in my mind there

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was a recollection of a paper that Dr. Markillie gave to us at Keele on ‘Sin and Psychology’ or my apprehensions at appearing on so august a platform. Apart from my now falsifying this prophecy, these would be realities lost for ever beyond the power of recall of even the most expert historian. And with this fact of necessary ignorance the historian must remain content though clearly not all do so – only on Saturday at the Anglo-American Historians Conference Mr. Denis Watt of the LSE made a spirited attack upon the seduction of historians by the use of mathematical techniques into a bogus search for certainty.

(c) History and Eschatology: The continuing necessity for ignorance is a phenomenon which many secular historians find it hard to live with for it seems to suggest a certain incompetence upon their part, and so the need for them to exercise a certain sovereignty in their historiography until they become like gods manipulating the past with their rival theories and hypotheses. But for a Christian to behave in this manner would be a denial of his faith, because he both knows more, and also knows less.

He knows more in the sense that his theological awareness provides him with an understanding of the true ‘thickness’ of events, what, I believe, theologians have called their ‘ontological density’, that is, their richer meaningfulness when seen in terms of other related happenings. In this respect the historian’s distant vision may be compared with the lean and thin perception of the journalist, no more than twenty-four hours deep: the importance, once again, of chronology. But history set in a context of a theology of beginnings and ends means that the Christian historian can see the true ‘thickness’ of events – to see them not only in their contemporary setting, not only in the context of human history, but in relation to ‘In the beginning God’ and ‘I will come again’.

But the Christian historian also knows less, for one theological way of describing history would be to say that it is the time of God’s secret work. Honesty demands that when we look at the history text-book, we say that it is often difficult to discern there the finger of God: some events patently reveal the divine, but for the most part the story reads in soiled and earthy terms. It is easy to see the divine influence at work in the life of
St. Augustine or St. Francis, or in the revival of religion in the eighteenth century: it is much more difficult to see it in the Black Death, the dropping of the H-bomb on Hiroshima or the advent of apartheid in South Africa. But there is a sense in which it is irreverent to want to know, for this is the time of God's secret work. Only at the *parousia* will Christ disclose what His secret work has been in that moment when He redeems not only the Church but history itself. Thus although the Christian believes that God is the Lord of history in all its totality, he does not now pretend to know the plan of God, and therefore he cannot construct a pattern of history upon that basis. Such patterns must remain eschatological for only then will the sacred be fully seen in the profane.
PAUL HELM, B.A.

Faith, Scepticism and Experiencing-As

This paper is an attempt to explore some of the problems involved in giving an analysis of religious faith. No attempt is made here to say whether such faith is justifiable or not; this is another problem. Our concern is with the question of what it is to believe in God, to have fellowship with God and so on.

There is, first of all, a brief statement of the view defended in the paper. Then follows an account of an alternative view recently put forward by Professor John Hick. His paper is extremely rewarding but with so many philosophical and theological implications and presuppositions that there can be no hope of covering anything like the same ground here. The main part of what follows is taken up with arguing against Hick’s central claim and diagnosing what I believe to be the trouble. This is simply because since the view I take is by no means new, the best way of expounding it is to pinpoint what I take to be some of the deficiencies in a rival account.

The view I defend is not the view that religious belief is simply belief that such and such is the case, nor, as Hick puts it, that religious belief is ‘primarily an assent to theological truths’ (p. 21). Rather my view is that religious belief involves both assent to propositions and the esteeming or trusting of the one believed. (There is no dichotomy between believing a proposition and believing a person if one takes the proposition to be something the person says). Assent alone is too weak; it does not do justice to the evaluative and affective elements in ‘belief in’. When a believer believes in God this means that he trusts God; to be able to say in what respect he trusts God, what he trusts God for, he must be able to offer propositions. It is this view that I wish to defend and elaborate in this paper.

In his paper Professor Hick maintains that the phenomenon of knowing God by faith which the religious believer claims, is more like perceiving something than it is like believing a statement about some absent object. His aim is to give a descriptive analysis of this faith that could be acceptable to believers and non-believers alike. He does not deny that 'propositions may be validly founded upon the awareness of God, and that they then play an indispensable and immensely valuable part in the religious life'. (p. 22). But knowing God does not principally consist in believing propositions about him. Or, as Hick would put it, the analogy of religious belief as belief that such and such propositions are true is less helpful than religious belief as experiencing an object or event as an object or event of a certain kind. The stress of the Bible and the devotional life of Christians is on being acquainted with God, hence perception is a better model than belief for understanding this phenomenon.

In his discussion of the word 'see' in the Philosophical Investigations Wittgenstein takes the case of two people, each seeing a face as clearly as the other; one person notices that it is like another face, the other not. 'I contemplate a face, and then suddenly notice its likeness to another. I see that it has not changed; and yet I see it differently. I call this experience "noticing an aspect".' The same shape in print may be an illustration of very different things in different textbooks; it may be seen as one thing or as another, according to how the text interprets it. Thus one can distinguish between 'seeing' and 'seeing as'; each of two people see the same shape, one sees it as the head of a rabbit, the other as the head of a duck, and so on.

Professor Hick takes his cue from this discussion and argues that being acquainted with God, or knowing God by faith is to be understood as, say, experiencing the events of one's life 'as a continual interaction with the transcendent God' (p. 23). He guards himself against subjectivism with the claim that all experiencing is experiencing-as. All perception necessarily involves identification and recognition. Recognition must be

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recognition under a certain description. 'Indeed to say that he does not have this concept and that he cannot perform this act of recognition are two ways of saying the same thing' (pp. 24–5). So why cannot religious faith be a higher-order recognition? He finds support for this in biblical data. Referring to Old Testament prophets he writes, 'Humanly explicable events were experienced as also acts of God, embodying his wrath or his mercy or his calling of the Jewish nation into covenant with him' (p. 31). 'The biblical cognition of God is typically mediated through the whole experience of the prophet or apostle after his call or conversion' (p. 27).

II

This paper is not concerned with this latter claim of Hick's, only to question the appropriateness of the analogy between faith and experiencing-as. The first thing I want to argue is that the dichotomy between knowledge by acquaintance (what Hick also calls 'cognition in presence') and knowledge by description ('cognition in absence') which Hick uses is not a particularly useful one for helping us to understand religious belief. He uses this distinction because he wants to argue that religious faith is a case of cognition in presence. Faith must be assimilated to perception.

But though this distinction is an important one in epistemology it seems to me to be unilluminating in discussing faith as it operates in a historically-grounded religion such as Christianity. (By 'historically grounded religion' is simply meant a religion whose distinctive character depends on certain historical claims being true). People do, as Hick says, claim to see the presence of God mediated by the world around them. Being acquainted with the world they are acquainted with God, though this is not to be taken as implying pantheism. But what about the particular historical claims of a religion such as Christianity?

Hick speaks in one place of faith as a religious response to God's redemptive action in Christ (p. 21). Now the claim of Christians is that this action took place in history; as Hick says, 'in the life of Jesus of Nazareth'. But a person cannot know the events of the life of Jesus of Nazareth as he can know the ex-
ternal world today. He knows these historical events by
description, not by acquaintance.

Clearly Hick wants to recognize the revelatory character of
Jesus but how is he going to be able to do this? How is it
possible to hold (a) that faith is like perception in that it is a
case of cognition in presence, (b) faith is a religious response to
a person who lived two thousand years ago? In this latter case
what is the cognition in presence cognition of? In the case of
seeing the events of one's life as an encounter with God one is in
the presence of material objects, one witnesses events which
happen, etc. But in the other case one is in the presence of pro-
positions only, propositions about Jesus.

The same point can be put as a question about Rick's use of
the word 'revelatory'. In the closing section of his paper he
distinguishes between primary and secondary senses of the
word. The Bible is revelatory in a primary sense because it con-
tains events of unique significance 'which became revelatory
through the faith of the biblical writers'. The Bible is revelatory
in the secondary sense because it mediates the same revelation
to subsequent generations 'calling in its own turn for a response
of faith' (p. 34). What is the relation between these two senses
of 'revelatory'? The one requires knowledge by acquaintance,
the other knowledge by description.

Part of the trouble is that Hick on the one hand wants to
stress the immediacy of religious faith, hence his assimilation of
it to perception. On the other hand he is working with a par-
ticular epistemological model, adapted from Wittgenstein, of
perception as recognition or identification (p. 24). Now it may
be the case that the notion of perception entails the notion of
recognition, and Hick may be claiming this by claiming that all
perception is perception-as, though he does not say whether
this is a necessary or contingent fact about perception. However
this may be it is certain that there is no reverse implication.
Recognizing x as such and such does not imply that x is known
by acquaintance, 'cognized in presence' as Hick says. Instances
of cognition in presence are not the same as instances of identi-
fication as such and such, or recognition as such and such. A
narrative can be interpreted in a particular way, as pointing
to a moral, say; or the characters in it can be recognized to be
avaricious or timid without knowing by acquaintance any of
the characters in the story. Indeed acquaintance with them may
be logically impossible if the story is a piece of fiction.

The conclusion to be drawn from this discussion is that
acquaintance and description are not helpful on the grounds
that though it is perfectly proper to speak of recognizing stories
or historical accounts as exemplifying morals, or of recognizing
stories as incidents in the life of individuals about whom one
knows this cannot imply direct acquaintance. At this stage it is
much wiser to use broader expressions such as ‘recognizing as’,
‘interpreting as’, ‘seeing the significance of’, expressions which
do not in the least imply cognition in presence. To see Jesus as
the Christ would then be to interpret the life of Jesus in a
certain way. At this stage in the discussion I am quite prepared
to allow that the other cases Hick cites, like seeing one’s life as a
continual encounter with God involve both cognition in pre­
sence and experiencing as in the way that he suggests.

The next questions must be: given the above argument how
strong is the analogy between Wittgenstein’s thesis about ‘seeing
as’ or ‘noticing an aspect’ and faith as a response to God’s re­
demptive action in Jesus of Nazareth, examples which are
clearly crucial for any analysis of Christian faith?

Professor Hick stresses that his argument is to the conclusion
that faith, being a form of cognition in presence is more like
knowledge by acquaintance than it is like propositional belief.
(p. 22). I now want to suggest that in the course of his argument
he neglects certain features of religious belief which greatly
weaken this analogy. One implausible corollary of his account
is that he neglects what can for the moment be called evidential
beliefs, i.e. beliefs that certain unique events took place. (This
will be made clearer as the argument proceeds).

Let us begin with Wittgenstein’s duck-rabbit. The point of
this and the other illustrations in the Investigations is to make
the distinction between seeing and what Wittgenstein called
‘noticing an aspect’ (p. 193e). What a person sees does not
change yet he may notice first one aspect then another. The
characteristics of a drawing can remain the same while the
significance of it can change according as one directs one’s
attention. Now as Hick shows (and I accept this, though I want
to give a different account of it later) a religious belief can supervene on ordinary beliefs in this way: the believer and unbeliever are agreed on 'the facts', but disagree on the significance of them. One sees a particular act as providential, the other not, etc. The Pharisees and Romans may not see Jesus as the Christ, but his disciples did. Each is exposed to the same selection of data, but each recognizes it differently. I accept that this happens, but it is not all that can happen.

Take the following case. Seeing the resurrection of Christ as an act of God. What is involved in this? A necessary condition of seeing the resurrection of Christ as an act of God, or as revelatory of God is that one believes that the resurrection of Christ took place. In connection with miracles Hick says 'we may say that a miracle is any event that is experienced as a miracle'. (p. 35). This is not circular because Hick defines a miracle as an event that is religiously significant. But now, what is this event that is religiously significant? How this differs from the duck-rabbit case, and why the analogy fails to hold, is that there are cases where there is no neutral description of the event acceptable to both believer and unbeliever. The difference involves a difference over evidence. The point may be put as follows. There can be at least three sorts of scepticism in a religion like Christianity which has an historical base; ontological scepticism, i.e. about the existence of God, evidence for this, meaningfulness of assertions about him; scepticism about evidence e.g. the virgin birth of Christ, his miracles, his resurrection, based on either a priori or a posteriori grounds; and thirdly scepticism about the significance of the evidence. If the claim is made by religious believers that God is revealed through a suspension of a law of nature it is possible either to deny that this suspension has taken place, for some reason; or allow that in this case a law of nature has been suspended but deny a miraculous character to it, explaining it as a statistical freak or whatever. That is, refuse, for some reason, to see the event as revelatory of God either because a person does not believe in God or because he fails to see what possible religious significance such an event could have.

While what Hick says will do where there are those who are prepared to allow that a miracle has taken place if they can be
made to see its significance, it will not do for those cases where there is a dispute between believer and unbeliever over the evidence, as so often happens. This is a more basic disagreement; the shape on the paper must be agreed upon before the question of whether it is the shape of a duck or of a rabbit can be argued over. Hick says ‘there is a sense in which the religious man and the atheist both live in the same world and another sense in which they live consciously in different worlds’. This may be true in the case of events taking place in 1969, but is not true of events that took place years ago in Palestine. The difference between believer and unbeliever is not merely at the level of perceiving a certain event as an act of God but of affirming and denying that such an event took place. Thus their difference cannot be expressed as a difference in the significance to be attached to events. For the atheist there is no event for significance to be attached to, only, say, a set of hallucinations.

Before one can begin to apply a hierarchy of concepts to a thing, before I can teach you to regard the thing not only as a speck in the sky but as a bird, not only as a bird but as a hawk, it must be possible to identify what is being denoted independently of these higher-level ways of denoting it. But this is just what is not possible in the case of some disputes between believers and atheists. Recognizing or identifying something as such and such may require one to go beyond what is presented to the senses but one cannot be released from what is presented to the senses. Though it may in practice be difficult to establish just what the limits of imagination are, it is perfectly obvious that a plain spherical shape cannot be ‘seen as’ a battleship.

So far I have tried to argue that the dichotomy between knowledge by acquaintance and knowledge by description is an unhelpful one; it is not possible by it to give an account both of faith as a response to certain historical events and as a way of regarding one’s life at present. Secondly it has been argued that the analogy between faith as perception and unbelief as misperception is considerably weakened by introducing what have been called evidential beliefs. Because of this Hick’s programme of giving a descriptive analysis of faith that could be acceptable to believer and non-believer alike (p. 20) founders. The difference between the two is not just that the one sees events as
x the other as non-x, though this may well be a difference between them on some occasions.

III

What Hick is trying to do is to offer an analogical account of religious belief. But what is religious belief? Hick himself uses a wide variety of expressions to characterize it. Here are a few: ‘Knowing that God is real by faith’, ‘encounter with God’, ‘men’s personal dealings with the divine Thou’, ‘religious response to God’s redemptive action in the life of Jesus of Nazareth’, ‘the ordinary believer’s awareness of God in our present earthly life’, the experience of life ‘as continual interaction with the transcendent God’, ‘to experience some event as an act of God’, ‘living with the sense of the presence of God’, ‘conscious of God’, ‘contemplative and mystical awareness of God’, ‘encounter with God in nature and through solitary prayer’.

What I want to say about these expressions is that their range precludes giving any one account of them. It is possible to discern at least three varieties; I call them evidential beliefs, mystical experiences and complementary beliefs. When Hick writes of faith as a person’s ‘religious response to God’s redemptive action in the life of Jesus of Nazareth’, this faith clearly has to have an evidential base. It is necessary for the person who has this faith to believe such propositions as ‘Jesus of Nazareth existed’ and a lot more besides. The belief is dependent on such propositions in the sense that if the propositions are taken to be false the religious belief becomes an irrational belief, a belief without adequate evidence.

When, on the other hand, he writes of experiencing an event as an act of God (e.g. p. 26), no separate evidential foundation is introduced, and questions such as, ‘Why do you experience this event as an act of God, and not this other event?’ become relevant, and perhaps awkward, questions to answer. But I suspect he means more than this. When he speaks of faith as an

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3 ‘Mystical’ can mean almost anything. I use it to refer to those experiences in which people take themselves to be in direct communion with God. Perhaps ‘experimental’ would be better.
encounter with God, as being conscious of God, aware of God and so on he seems to be including mystical experiences. Hick does it is true differentiate on pp. 30–1 between a contemplative and mystical awareness of God and ‘the prophetic type of religious experience’, but not on the grounds that these are two different kinds of experience of God, only on the grounds that the former may have a looser link with ethics than the latter. He says, ‘Thus the dispositional response which is part of the awareness of God is a response in terms of our involvement with our neighbours within our common environment. Even the awareness of God through nature and mystical contemplation leads eventually back to the service of God in the world’. (p. 31).

My point is that this bracketing together of on the one hand a religious response to Jesus and on the other, an awareness of God that includes mystical experiences is misleading. It is misleading because for one thing someone who claims to be aware of God or to have an experience of God would use the language of knowledge than of belief. For another while the first is mediated by events, the second is not. Hick says of the latter ‘the sense of the presence of God may occur without any specific environmental context, when the mind is wrapt in prayer or meditation’ (pp. 30–1). But now in this latter case what is it that is perceived-as or experienced-as on Hick’s view? This is an experience that is personal, interior, not dependent on events which in themselves are ambiguous but which may be taken as divine acts (pp. 26–7).

But there is a more fundamental reason why it is misleading to conflate these cases. ‘Having a sense of the presence of God’, ‘being aware of God’, ‘having an encounter with God’ – these are all expressions that can only be used to characterize episodes. This is true of mystical experiences in general – they are conscious experiences, they last so long, it makes sense to ask when they began and when they ended, and so on.

But this is not true of another class of expressions that Hick uses. ‘Experiencing life as a continual interaction with the transcendent God’, ‘life as a sphere in which we have continually to do with God and he with us’ (pp. 23, 26), ‘religious response’ (p. 21). To regard the whole of one’s life as involving dealings with God, to live out one’s life as a religious response to
God, these are dispositional expressions. A man's whole life can be a religious response to God. A man can be said to regard his life as a religious response to Christ when his mind is occupied with all sorts of things, but a man cannot have a mystical encounter with God when his mind is so occupied.

Whatever difficulties there may be in analysing these expressions by analogy with perception, it is certainly true that sometimes a perceptual model has been used to try and elucidate what a person has experienced who has 'encountered God'. I quote two cases to illustrate this, as well as to illustrate the episodic character of these experiences and the certainty that characterized them. The examples are from the religious experiences of Jonathan Edwards and his wife.

'The first instance, that I remember, of that sort of inward, sweet delight in God and divine things, that I have lived much in since, was on reading those words, I Tim. i. 17 Now unto the King eternal, immortal, invisible, the only wise God, be honour and glory for ever and ever. Amen. As I read the words, there came into my soul, and was as it were diffused through it, a sense of the glory of the Divine Being; a new sense, quite different from any thing I ever experienced before. Never any words of Scripture seemed to me as these words did. I thought with myself, how excellent a Being that was, and how happy I should be, if I might enjoy that God, and be rapt up in him for ever!'

Speaking of her experience of God, Jonathan Edwards' wife records:

'I cannot find language to express, how certain this appeared – the everlasting mountains and hills were but shadows to it. My safety, and happiness, and eternal enjoyment of God's immutable love, seemed as durable and unchangeable as God himself. Melted and overcome by the sweetness of this assurance, I fell into a great flow of tears, and could not forbear weeping aloud. It appeared certain to me that God was my Father, and Christ my Lord and Saviour, that he was mine and I his. Under a delightful sense of the immediate presence and love of God, these words seemed to come over and

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over in my mind, "My God, my all; my God, my all". The presence of God was so near, and so real, that I seemed scarcely conscious of anything else.\textsuperscript{5}

The point to be made about these and other similar experiences is that they are not strictly cases of religious belief but of religious knowledge. The individuals here claim to know God, or to have communion with him, in a direct way, and in such a way that they are certain that it is God they are in communion with. These experiences formed longer or shorter episodes in the lives of those concerned, and those who have them are driven to use perceptual analogies to try to elucidate what it is they have experienced. (Thus Jonathan Edwards talks of a 'new sense'; he was to work out this more fully in his classic \textit{Religious Affections}).

In my view Hick fails to distinguish things that differ when he considers experiences such as those of Jonathan Edwards and his wife - what might fairly be called 'encounters with God' - along with 'the religious experience of life as a sphere in which we have continually to do with God and he with us . . . awareness in our experience as a whole of a significance which transcends the scope of the senses' (p. 26).

A brief word about the third variety of what Hick calls faith; in my view he rightly stresses that one aspect of religious faith is seeing a naturally explicable event as an act of God. In this case there is no special evidential base for the belief as there is for the belief that Jesus rose from the dead; instead it is a characterization of an event at another level than that of physics or psychology. This point has usually been made in terms of the notion of complementarity. Hick uses the word 'supplementary' (p. 28) for each successive stage in the hierarchy but this perhaps suggests that an explanation in terms of natural laws is somehow inadequate and needs supplementing, when of course this is not the case. The point about the notion of complementarity is that it expresses the truth that each explanation in the hierarchy is adequate at that level. No more will be said

\textsuperscript{5} \textit{op. cit.} p. cv.
about it here as it has been the subject of plenty of discussion lately.\footnote{e.g. by D. M. Mackay in ‘Complementary Descriptions’ Mind 66, pp. 390–394, 1957, and ‘Complementary II’, Aristotelian Society Supplementary, Volume 32, pp. 105–22, 1958.}

The point we have reached is this. It has been argued that Hick’s analogy between belief and perceiving-as, is deficient on a number of counts and the suggestion that he brackets together phenomena which should be kept separate, has been offered as a diagnosis. There are three different cases (at least) – religious experiences of God, expressions of faith in and devotion to God-in-Christ, religious beliefs about one’s own life. While I am maintaining that no one account can account for all three of these what I want now to suggest is that it is much less troublesome to analyse expressions of faith in God and religious attitudes to one’s own life and God’s activity in it, in terms of the notion of belief. This I now go on to do.

Let us take again Hick’s characterization of faith as ‘a religious response to God’s redemptive action in the life of Jesus of Nazareth’ (p. 21). This is for him an instance of cognition in presence and to stress this he uses the perceptual model of belief as experiencing-as. Any such response is, as we have seen, in any case (if it is to be intelligible) going to involve ‘beliefs-that’. If not how is a religious response to Jesus going to be distinguishable from a religious response to someone else? For something to be a response to God’s action in Christ, it must involve propositional attitudes towards Jesus. But what more? Why cannot the ‘something more’ that Hick rightly stresses simply be trust in what is believed to be true, where this is regarded not as a theological proposition but as something that God has stated or promised? Having faith in God is then not just assent to truths about him (Hick is right here) but involves trusting what the believer takes God to have said. This it should be stressed is not to interpret religious faith on analogy with belief but as an instance of confident belief, ‘belief in’. One of the basic drawbacks with Hick’s view is that on it, religious faith is ‘something I know not what’. One can never say what it is, only what it is like.
The ‘something more’ over and above the beliefs the Christian has about God-in-Christ is reliance or trust in God. And one trusts God because one believes that such and such things are true of him. This is a case of what Professor H. H. Price has called ‘evaluative belief-in’, where one has a ‘pro-attitude’ towards whom or what one believes in. Price seems to me to be perfectly correct when he writes, ‘When we trust someone or something, these beliefs-that are the ones we must mention in order to answer the question “in respect of what do you trust him (or it)?” And this question is a perfectly proper one, and does require an answer. But when it has been answered, we still have not explained what trusting is, or what it is like to trust or “put one’s faith in” someone or something. Perhaps we can only know what it is like by actually being in the mental attitude which the word “trusting” denotes.’

Turning now to complementary beliefs, the belief, for example, that one’s life is a sphere in which one has continually to do with God and he with us. On the view I am putting forward regarding one’s life as a gift from God, for example, is simply believing that one’s life is a gift from God. There is not a further quasi-cognitive relation over and above such a belief; what there is instead is a series of dispositional responses of appropriate kinds – thanksgiving, care, etc. My experiencing life as a gift from God just is my belief that life is God’s gift. This is not merely assent to a theological truth, but involves appropriate affective responses. In just the same way, if I regard the tie in the wardrobe as a gift from my children this involves believing that it is a gift, and responding appropriately. To see the tie as a gift is not like having some further quasi-perceptual experience but it is possessing the ability to respond appropriately in a given variety of circumstances. It is not stretching things too much to say that the gift of the tie mediates the kindness of my children, that their kindness is shown through the gift and so on. But seeing the tie as a gift is not like seeing the duck as a rabbit.

IV

The problem that has been discussed in this paper should not be confused with that of giving an account of why it is that so many people do not find religious language meaningful at all, of why they find the religious propositions they are asked to consider nonsensical. It may be that in considering this question it will be helpful to think in terms of perceptual analysis. What Wittgenstein says about seeing-as, and 'aspect-blindness' may provide a useful model. [Using perceptual analogies is of course nothing new: the Bible itself speaks of those who see but do not perceive (Mark iv. 11 ff.) and of those who have ears but do not hear (John ix. 39).] This is large and difficult territory; thankfully, all that needs to be done here is to point out that the questions 'What is it to have faith in God?', 'What is involved in a failure to understand a religious assertion?' are not to be confused.
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