INFORMATION PROCESS, SYSTEMS BEHAVIOR, AND THE STUDY OF RELIGION

by J. W. Bowker

One of the curiosities of the study of religion is that nobody seems to know what it is—or perhaps one could put it more accurately by saying that it has not yet proved possible to define what religion is in a way which has proved to be universally satisfactory. This is not for want of trying: Religion is the opiate of the people; religion is a disease, but it is a noble disease; religion is a curb and a bridle placed upon the passions of men, but it is the bridle of an elephant placed upon the body of an ape; the true meaning of religion is not simply morality but morality touched by emotion; religion and rum are of much the same consequence, but, in the long run, rum works out cheaper.

The present century has become far more verbose and jargonistic. As Congressman William Widnall observed when speaking in a congressional debate on agriculture: "The Lord's Prayer has 56 words, Lincoln's Gettysburg Address has 266, the Declaration of Independence 300; but the recent U.S. government order on cabbage prices has 26,911."[1]

Problems in Defining Religion

But this proliferation of words does not seem to have been particularly helpful in securing an agreed definition. At the present time there appear to be three definitions of religion which are quoted with particular frequency. There is Clifford Geertz's affective definition: "Without further ado, then, a *religion* is: (1) a system of symbols which acts to (2) establish powerful, pervasive and long-lasting moods and motivations in men by (3) formulating conceptions of a general order of existence and (4) clothing these conceptions with such an aura of

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factuality that (5) the moods and motivations seem uniquely realistic."[2]

There is Melford E. Spiro's structural definition: "Viewed systematically, religion can be differentiated from other culturally constituted institutions by virtue only of its reference to superhuman beings. All institutions consist of *belief systems,* i.e., an enduring organization of cognitions about one or more aspects of the universe; *action systems,* an enduring organization of behavior patterns designed to attain ends for the satisfaction of needs; and *value systems,* an enduring organization of principles by which behavior can be judged on some scale of merit. Religion differs from other institutions in that its three component systems have reference to superhuman beings."[3]

And, finally, there is Robert N. Bellah's functional definition: "A brief handy definition of religion is considerably more difficult than a definition of evolution. . . . So, for limited purposes only, let me define religion as a set of symbolic forms and acts which relate man to the ultimate conditions of his existence."[4]

Variations on these three themes recur frequently; and what is certainly obvious in the number of books about religion which flow steadily onto the shelves of the copyright libraries is the number of them which begin by saying that it is quite impossible to define religion and then immediately go on to do exactly that—to give what is usually called a working definition of religion. In a situation of such paradox it is tempting to conclude that the whole enterprise is mistaken and perhaps unnecessary anyway. Perhaps it would be better to accept "family resemblances" and eschew definition altogether—"La vérité est dans les nuances."[5] Yet, even if that is so, it is still of some importance for a greater clarity of understanding to know why it has proved so difficult to grasp and specify the unifying factors in those vast complexes of belief, behavior, ritual, institution, and personnel to which it seems appropriate to give some such word as "religion" or "religious."

A principal reason is that the study and analysis of what seems to demand the word "religion" or "religious" have been concerned almost exclusively with surface meaning, with the superficial appearances which are in fact almost infinitely varied in their detail. The point was illustrated in my own book, *The Sense of God,*[6] in the discussion of functional explanations of burial customs, with particular reference to the customs of the Hopi and Cocopa. Although the functional explanations offered did account for much of the ritual and ceremony, they could not be explanatory *of* the burial customs because there was much else in the detail which did not come within the net of those explanations. Consequently, it has become customary to

accept the underdetermination of theoretical explanations of complicated behavior and not to look for the impossible. Nevertheless, it is for this reason that the attempt to extract definition from surface phenomena has been doomed to failure—there is always something which escapes. Is Buddhism a religion?—a standard question which summarizes the aridity as well as the impossibility of these procedures. At the opposite extreme there have been attempts to define religion which accept the variety but claim that there is an inner core or essence of religion and that religions are simply variations (usually corrupted variations) on the theme. Yet here, too, attention is actually still being paid to surface phenomena, however much phrases like "inner essence" disguise or confuse the issue.

Religion as Information That Structures Life

In contrast to these endeavors, one of the immediately obvious merits of structuralism is that it serves as a reminder that where surface phenomena are almost infinite in their variety it is advisable to look more closely at the underlying structures and process if one wishes to gain a clearer or more general understanding of how those phenomena have come to be and the part they play in the construction of human life.

From that point of view, it is possible to understand that religions are bounded systems of information process, in which human beings are offered fundamental resources for the construction of their lives. Thus religions can be analyzed within the general theory and analysis of systems behavior. In the case of any particular religion, in its institutions, its ritual, its texts, its worship, its personnel and career structures, there can be identified a means of continuity and a consensus in certain items of information which are transmitted from life to life (not necessarily in verbally articulated forms alone—perhaps in the religious case, least of all in these); and it is this which enables us to distinguish a particular religion or to distinguish one religion from another.

It is clear that, looked at from this point of view, religions are open systems (which does not mean, incidentally, "open-ended"; it simply refers to a system which interacts with its environment). At the same time they are bounded systems—but religions often exemplify concern about the control and definition of those boundaries, not least in their relations with one another, where the words "assimilation" and "syncretism" summarize two different attitudes to information flow across the boundaries.[7] Similarly, religious systems often are concerned with orthodoxy and dissent, dogma and heresy, allegiance and schism.

So, where individual lives are concerned, there may be much that is informationally resourceful in the construction of those lives in addition to inputs from a religious context of information. But, so far as the religious system is concerned, the information flow is primarily from its own designated resources, which thus establish constraints over the possible outcomes in human and social behavior. The individual can be analyzed as a continuity of information processing —which is, in fact, the title of a recent textbook of psychology, *Human Information Processing: An Introduction to Psychology.*[8] The system also can be analyzed in terms of self-maintenance, entropy, subsystems, purpose, feedback, prolepsis, conceptual space, actual space, and all the other characterizing features of systems behavior.

Put these two together, the individual appropriating information through and within the environment of a particular system, and the result is that when human beings are born in these bounded contexts (or when, as some religious traditions would put it, they are converted and born again) there is made available to them the means with which to identify who and what they are, what they are for, where they are going, what sort of place the universe is, what sort of goal is worth aspiring to, and what counts as appropriate behavior. As a result they are given the means through which to construct a route from birth to death—and, in the case of most religious contexts, a way through death as well.

Origin and Evolution of Religion

But what, then, makes them specifically religious contexts of information process? It is not possible to evade the question of content by insisting first on the process of information since that may be theoretically indifferent to the content of what is being transmitted. In *Sense of God* I argued that there is no reason in principle which makes it necessary to suppose that there must have been some separable, definable reality, "religion," *ab initio,* that from the moment, so to speak, when emerging man swung down from the trees into the savannah (or, as C. F. Hockett and R. Ascher put it, were thrown out of the trees)[9] "religion" always must have been a separable, definable "thing." On the contrary, the emergence of what comes later to be referred to as "religion" is much better understood as part of human evolutionary development. Obviously, as language and the consequent beginnings of culture develop, the sophistication and the variety of the ways in which men seek to maintain and continue their lifeway become very diverse. And it is not necessarily their own lifeway; it may be equally the lifeway of a group or of their family. However, either men, as they scan the compounds of limitation which

circumscribe a projected lifeway (whether in detail or in general), find a way through or they do not; if they fail in the face of major limitations, they go to extinction.

It is in this context that the emergence of what is later able to be described as religion can be set. And although we cannot seriously hope to recover any certain knowledge about the origins of religion—not least because, as J. Z. Young put it, "rituals and dances, like fears of devils or aspirations towards gods, leave few or no remains"[10]—and although, therefore, we finally cannot falsify the current speculation that spacemen arrived in flying saucers and were misidentified in a way which led to religious beliefs about superhuman realities, the emergence of religion is wholly intelligible in the same evolutionary context in which other human enterprises and achievements also emerged. There is no reason to suppose that what is now referred to as "religious" was not in origin an undifferentiated part of this exploration of environment and of the limitations which circumscribe projected action.

A brief example of this was given in *Sense of God*—the attempt to get a mammoth up a hillside into a cave. One can use prayer and sacrifice, one can use pulleys and levers, and the route of pulleys and levers leads eventually to Archimedes saying that if only he had somewhere to stand he could move the earth.[11] But the mistake which E. B. Tylor and J. G. Frazer (and many others after them) made was to deduce from this a before-and-after relationship between religion and science, regarding magic as technology in its primitive form and religion as primitive science. This was an understanding of the relationship between them which inevitably relegated religion to the infancy and immaturity of the human race—involving the equal mistake of taking evolution in a naively chronological sense and not in its invariably necessary sense of the continuity and defense of life.

Those deductions in the first enthusiasm of evolution were mistaken because what is obvious is that religion and technology, despite all that has been said in the last two hundred fifty years about the warfare between science and religion, have not come apart in any clear or easily correlated way. Indeed, they may be divided in practice in the way, for example, that the main road to Agra divided the spiritual from the material in the Suddar Bazaar in the period before World War I: "It was possible on a Sunday evening to stand in the road outside the Church and hear, on one side, the parson with his monotonous clerical voice preaching about the spiritual joys of life, and on the other side the shrill and equally monotonous cries of the girls in the brothel advertising its material joys."[12] Or, as William Blake put it, "Prayers plough not, praises reap not."[13] But it is still the

case—particularly, I find, in Italy and in the north of England—that one can be driven in cars with a Saint Christopher on the dashboard. The driver undoubtedly is committed to technology in maintaining the continuity of his lifeway in a situation where the limitations circumscribing it are considerable: brick walls, errant buses, other drivers, and volatile fuel not far from his feet. But he combines with it something which is derived from a religious context of interpretation.

This at once raises the question of superstition; but the general point to be made is that the religious and the scientific, prayer and technology, still very frequently are combined in the construction of human lives or in the construction of particular actions or words. And the reason for this is not, as Tylor supposed, that religious practices are a survival from the infancy of the human race (or, as it has been put more recently, looking at it from the other end, that man has come of age but some individual men have not); that is to make the mistake of supposing that religion and science are linked only chronologically, with religion preceding science and yielding reluctantly to it. Certainly, it is possible to exemplify that relationship between them. But they are linked also by their both being means through which human beings scan their environment, interpret it, and seek to find a way through the limitations which circumscribe their projected lifeway. Then the issues between them, if issues there are, become pragmatic—whether, to put it crudely, one is willing to incorporate the resources available in a religious context of interpretation in the construction of one's own lifeway. And that, in turn, depends eventually on plausibility.

The world might be a more rational (and duller) place if one could say that it depended on truth. Ultimately, questions of truth are very much at issue, as much in the religious as in the scientific area. And, certainly, nothing is gained by reassigning religious utterances to the category of poetry if that reassignment involves ignoring the fact that a very large number of religious utterances are propositional in appearance and are apparently, even though expressed poetically, about putative matters of fact—a point, incidentally, very well made by C. C. J. Webb when commenting on earlier forms of pragmatism at the Oxford congress in 1908: "The association of pragmatism with a fruitful line of theological thought is not sufficient to enable it to give a satisfactory form to religious conviction. The reason why religious dogma naturally assumes a form of expression more like that appropriate to a scientific assertion than that which we use in our moral and aesthetic judgments still demands an answer. The strength of scholasticism . . . always lay and still lies in its stress upon the independent nature of the object of knowledge."[14] But, in fact, the majority of us live on a less exalted level, where we depend on the plausibility and

general attractiveness of what is offered—both internally in our brain behavior and externally from our environment—for the construction of our lives.

The proposal, then, is that religions belong to the general human enterprise of evolutionary continuity and survival, particularly in the sense that they become sociologically recognizable as they develop the means of the informational transmission of the resources from which human lives appropriately (appropriate in terms of the system itself) can be constructed in relation to the compounds of limitation which threaten the continuity of that construction. Why then religious? How and why do we arrive at those particular complexes of belief, behavior, ritual, institution, and worship to which we want to give some such word as "religious"?

To answer this, attention has to be paid to the kinds of limitation in relation to which religious systems of information process offer a resolution or way through and to the kinds of resources which they offer. Where the latter are concerned, religious systems offer resources external to the individual which may help—or hinder—the construction of his lifeway; these are resources which have been described traditionally as gods, devils, angels, spirits, jinns, devas, and the like. Putting the point a little more austerely, religions are characterized by a belief that there are other than immediately observable resources which are—or can be—of effect in the construction of life, history, and the universe. Such practices as prayer and sacrifice are linked to these as being both resourceful in their own right and a means of relation to those other resources.

Where limitation is concerned, although religions offer resources for a life construction day by day, in quite undramatic circumstances—saints at the kitchen sink—they are characterized also by the fact that they offer ways through (or resolutions of) particularly intransigent limitations which circumscribe human lifeways. This was the point seized by Marx and Freud, but seized in too limited and too distorting a way, when they concentrated on death, compensation, and projection in their analyses of religion. Nevertheless, one can accept that those complexes of belief and behavior which we feel and need to identify by some such word as "religious" have come apart and become identifiable because they have remained attentive to even the most intransigent of the limitations which circumscribe our projected actions. The cessation of conscious life in this body is certainly one:

> "Let the wild bee sing,
> And the blue bird hum!
> For the end of your lives has certainly come!"

> And Mrs. Discobbolos said,
> "Oh! W! X! Y! Z!
> We shall presently all be dead,
> On this ancient runcible wall
> Terrible Mr. Discobbolos."[15]

Perhaps Mrs. Discobbolos might evade that particular circumstance of death by getting off the runcible wall but not *a* circumstance of death at some point.

But there are many other examples of comparable intransigence. One is the gap established by constraints in the universe or in the immediate environment between what we can dream and desire and what we can realize: "Here we are all by day; by night w'are hurled / By dreams, each one into a sev'rall world." We can dream, like the contemporaries of Bacon, of what life on the moon might be like, but there are constraints in the universe which prevent the realization of the dream until the constraints themselves are understood sufficiently for appropriate action to be taken in relation to them. But dreaming, as Charles Fisher put it, "permits each and every one of us to be quietly and safely insane every night of our lives."[16] And religions undoubtedly have exploited that gap—some would say they have exploited that lunacy.

Or, again, to take another example, religions have been and remain attentive to the limitation implicit in the apparent irreversibility of time. No one knows what is going to happen in the future, and it is not difficult to find a great variety of examples in religions of the means through which some kind of insight into the future can be gained. It may be of a limited nature: "Shall I go up to attack Ramoth-gilead or not?" Or it may be of a distant, even of an eschatological, future, so that apocalyptic becomes, as Austin Farrer once put it, a kind of cook's tour of heaven. Equally to the point, no one can recover the time which has gone by. It is not possible to undo what has been done: "We have left undone those things which we ought to have done, and we have done those things which we ought not to have done, and there is no health in us."[17] Religions exemplify, again in prolific variety, the means through which people can be healed in relation to the irreversibility of time—through procedures of penitence, confession, expiation, forgiveness, and absolution.

It is not difficult to think of other examples. They can be seen in the intransigence of moral evil, not least in one's own case—"The good that I would I do not, and the evil that I would not, that I do";[18] or in the indifference and independence of the environment—the fact, for example, that natural disasters cannot always be predicted or con-

trolled. In origin there is no need to suppose that these intransigent limitations, implicit in death or imagination or the irreversibility of time, were differentiated from other limitations which eventually proved to be more amenable to technology. This is simply another way of stating the same argument—that there is no reason why religion must have been a separable entity *ab initio.* What comes to be referred to as religion appears as a part and as a consequence of the general attempts of men to scan their environment, to discern the limitations which circumscribe a projected action or the continuity of their lifeway as such, and to engage whatever resources they accept (whether consciously or not) as appropriate to the penetration of any particular compound of limitation.

For this reason, reductionist critics were wrong to suppose that religions can be characterized essentially by their attention to only isolated limitations, like suffering or death and the way through death. Religions offer resources for the total construction of a lifeway, which indeed may be attentive to the limitation of death but which is attentive to all other limitations as well. Furthermore, those resources have yielded inspiration, creativity, and culture of profound worth and value in their own right. Nevertheless, it is possible that one reason why the religious has come apart from the scientific, to the extent that it has, lies in the fact that religions have remained attentive to those intransigent limitations and have projected ways through them which are sufficiently plausible to their adherents for them to continue to adhere; otherwise, presumably, there would be no religions left. Plausibility undoubtedly may collapse and alienation may occur, but this has not happened universally yet. But if a scientist is attentive to the realities of aging and dying, he is very unlikely to be attentive to it in his professional work in a religious way.

This summarizes the distinction between the religious and the scientific contexts of information—or, to put it another way, it summarizes an important reason why religion and science have come apart, so far as they have. It is because the route of the levers and pulleys has yielded its own rewards and therefore has established its own constraints for the achievement of appropriate (or, some might say, successful) utterance; it is not possible to split the atom by sacrificing a goat. In addition, the route of levers and pulleys, at various points, has falsified particular religious propositions, and it has established distinct informational resources (though they are not yet entirely separate since natural theology is not yet an extinct animal). So it is not the case that the relation between "science" and "religion" suddenly becomes easier as a result of this analysis. But what does become easier is to see that both belong to the same

evolutionary exploration by men of their ecological niche and that what they are trying to explicate is what counts as legitimately resourceful in the construction of human lifeways and as legitimate in the goals which are described as attainable.

Religions thus emerge as bounded systems of information process and transmission, built up through a long accumulation of tradition in which plausibility very frequently may have been threatened or even destroyed but in which the general description of man in his environment and of the possibilities which are available to him and of what counts as appropriate action, if he is to live with an ultimately successful outcome, remains sufficiently plausible for individuals to incorporate it or, in other words, to allow it to become informative in the construction of their lives. If not, then those gods and those religions go, without further ceremony, as H. L. Mencken put it, straight down the chute.

Religions, therefore, as bounded systems of information process and transmission, establish constraints over the possible outcomes in human thought and behavior. The word "constraints" sounds very negative, but in fact it can have an extremely positive consequence —in W. R. Ashby's cybernetic sense that where a constraint exists advantage can usually be taken of it.[19] If a person knows where he is, where he has come from, and where he is going (these bits of information acting, therefore, as constraints), he no longer has to waste time reading a map and trying to use a compass. If, of course, his information is factually incorrect, he may well find himself up some remote river without a paddle, and that remains the empirical challenge to religion, but that does not affect the observation of what is actually happening, in informational terms, in human brain behavior.

Religion as Systems Behavior

On this basis, religions can be analyzed in terms of systems behavior in a completely straightforward manner, particularly in terms of the procedures and mechanisms they exhibit through which input, storage, scan, retrieval, and output occur in the construction of religious life. It is in this way that religions are able to offer resources—usually fundamental and pervasive resources—for the human enterprise of life construction; and, in the religious case, although there may be much that is legitimately resourceful, there are frequently basic constitutive resources, such as scripture, the words of the Buddha, the utterance of an oracle, and so on. Even within a particular religious continuity there may be very great disagreement about what counts as resourceful in that sense: Is it scripture alone or scripture plus the pope ex cathedra? Is it Quran and *hadith* or Quran and *hadith* plus the

inspired imam? Does God speak to us directly, or must it be mediated through some institution or person? There is unending scope for variation. But what makes a Christian recognizable as somewhere within the Christian universe as opposed to the Muslim (or what makes a Muslim recognizable as somewhere within the Muslim universe even though, as with the Woking mosque, other Muslims regard him as heretical) is that in each case there is an intended relation of assent to whatever is fundamentally designated or accepted as resourceful—and as necessarily so, as a matter of obligation. This means that William Blake was perfectly correct to draw attention to discrepancy within the Christian universe of meaning:

> The vision of Christ that thou dost see
> Is my vision's greatest enemy.
> Both read the Bible day and night,
> But thou readst black where I read white.[20]

But there is sufficient consensus in what is to count as resourceful for disagreement to take place and, indeed, for those in dispute to know what they are disagreeing about.

It follows that within a particular religious universe there may be divergent, even polemically inimical, appropriations of the resources; and it is certainly the case that individuals or groups may well draw on resources for life construction from well outside the boundaries which up to that point have constituted the discernible outline of that particular religion. The result may well take on the appearance of a new sect or a new religion. When, for example, the Manichaeans assimilated information from Christian resources, were they identifiably Christians or not?[21] They sang hymns to Jesus, and perhaps some of them regarded themselves as the only authentic Christians. Were they Christians or not? There are only two ways in which an answer can be obtained. One is to turn up on the Day of Judgment, supposing there is going to be one, and get an answer beyond which, presumably, there is no further appeal. The other is to go, not forward but backward, and test what is proposed or projected in the Manichaean case against what is, or has been up to that point, accepted as resourceful in the construction of appropriate Christian utterance. Such judgments are necessarily relative. They are relative to what is regarded as resourceful and to the way in which those resources function exegetically at any moment in time. This means that even when religions do arrive at, for example, a canon of scripture—itself a significant word in this context, the Greek *kanōn* meaning "rod" or "rule"—the way in which the canon is applied to the

formation of judgment may change enormously. But the basic procedure remains uniform: testing the degree of match or mismatch between a projected utterance and what is at any particular point regarded as indispensably resourceful for the construction of appropriate utterance.

Religions, then, are contexts of information process from which individuals acquire material for life construction and from which they derive procedures and goals, all of which act as constraints over the otherwise near-infinite possibilities of outcome in any human life. It is important to emphasize that the process of information in any particular human life may not be consciously intellectual or deliberated in any way at all. Input, storage, retrieval, or output may simply occur as a consequence of the particular religious context in which an individual happens to be born or to live. Although the colloquial sense of "information" suggests an intellectual or perhaps verbal activity, the more basic sense employed here is concerned with the much wider range of experiences through which the human being becomes an informed subject. It perhaps also needs to be added (since it is not uncommon for religions to have moments when they rely on theologies not of hope but of fear and indeed of terrorization) that religions are by no means simply abstract, neutral contexts in which materials are made available. Personnel, rituals, and institutions can occur within religions by means of which materials for life construction are imposed on others. It is not for nothing that when W. Winwood Reade published in 1872 his famous universal history (the Secularist Bible, as it came to be known), which included, of course, the melancholy history of religion, he published it under the title *The Martyrdom of Man:*

> The gospel or good tidings which the Christians announced was this. There was one God, the Creator of the World. He had long been angry with men because they were what he had made them. But he sent his only-begotten son into a corner of Syria, and because his son had been murdered his wrath had been partly appeased. He would not torture to eternity all the souls that he had made; he would spare at least one in every million that were born. Peace unto earth and goodwill unto men if they would act in a certain manner; if not, fire and brimstone and the noisome pit. . . . Those who joined the army of the cross might entertain some hopes of being saved; those who followed the faith of their fathers would follow their fathers to hell-fire. This creed with the early Christians was not a matter of half-belief and metaphysical debate, as it is at the present day, when Catholics and Protestants discuss hell-fire with courtesy and comfort over filberts and port wine. To those credulous and imaginative minds God was a live king, hell a place in which real bodies were burnt with real flames, which was filled with the sickening stench of roasted flesh, which resounded with agonising shrieks. They saw their fathers and mothers, their sisters and their dearest friends, hurrying

onward to that fearful pit unconscious of danger, laughing and singing, lured on by the fiends whom they called the gods. . . . The Christians of that period felt more and did more than those of the present day, not because they were better men but because they believed more; and they believed more because they knew less. Doubt is the offspring of knowledge: the savage never doubts at all.[22]

The style is typical of the Tylor/Frazer mode of argument, which at least means that the style and epigram make it enduringly readable. Yet, within the epigrams, Reade has obviously caught a highly important point about religion, not simply that religions (in this case Christianity, but it would be equally true of Buddhism or any other religious system) do so often rely on theologies of fear but the reason why they do so. In terms of surface meaning, it is because the subject matter of religion might be ultimately important in the sense that its anthropology (its account of human nature) is teleological; it has to do with man's final end and goal. Religions, in other words, project ways through even the limitation of death. Many of these projections have broken down; they have become implausible and have gone to extinction. Perhaps in the end they all will, as Reade supposed. The final sentences of his book make exactly that point: "A season of mental anguish is at hand. . . . The soul must be sacrificed; the hope in immortality must die. A sweet and charming illusion must be taken from the human race, as youth and beauty vanish never to return."[23]

But if plausibility remains (not truth, which in this case could be verified only eschatologically) and if projected ways in particular religions remain plausible for some people, as clearly they do, then those religions confer ultimate dignity on anthropology. But religions cannot do that or indeed do anything without being what they are —without being what has just been summarized: social and systematic contexts of information in which particular resources for life construction are made available and kept in being from one generation to another. This at once explains why religions are inevitably conservative; it is incumbent on them to be so, depressing though it is when one sees the consequences in synodical government or in the pronouncements of the Vatican. The reason is both obvious and necessary: It is that religious universes are structurally derivative from precisely those resources which are in turn offered as materials for life construction; they could not offer those resources unless they defended them and ensured their continuity into an undetermined future.

If that jargonistic phrase is then unpacked and expressed in terms derived from one particular religious tradition, then it can be said that religions are defending whatever in the past has been established

(in their own estimate) as "necessary for salvation." It is this which gives not only the appearance but the reality of conservative reaction in religious continuity. A religion is unlikely to have survived to any moment in time, *X*, unless up to that moment it has been plausibly and in fact life enabling to some, probably to the majority, of its adherents; and, if that is so, then it is surely irresponsible at $X + 1$ to disintegrate, or change radically, whatever has been life enabling. It is irresponsible until, of course, crises of plausibility begin to become extensive or until sufficient individuals in the particular information net in question develop, perhaps for entirely positive reasons (out of the inspiration of the system in question), new forms of life-giving, life-enabling, life-enhancing symbolism.

The resources on which religions draw can attain a high degree of formality; indeed, in some instances, they come very close to establishing isomorphic maps of behavior. This can be seen, for example, in the development of the Pali Canon, in which the utterances of the Buddha are related with increasing formality to the life construction of the *bhikkus,* or again in the emergence of Judaism, where Torah increasingly becomes formalized as the resource from which one can distinguish appropriate from inappropriate utterance. It can be seen equally in a monastic rule, or in Quran and *hadith,* or in the Vedas and priestly ritual. Perhaps the word "isomorphic" is too strong because no religious resources map every detail of behavior to such an extent that correspondent actions at a later time are nothing but a formal reproduction, though some devotional exercises come close to proposing this. But, in fact, to go back to the example just given, it was because Torah could not function isomorphically in any exact sense that there was set up among Jews a pressure toward exegesis, until eventually the traditional interpretations of rabbinic Judaism acquired a status comparable to that of Torah. But they became *Torah shebe'al peh*—Torah transmitted by word of mouth. So, undoubtedly, isomorphic is too strong a word; but it is a useful word because it draws attention to the informational significance of what is happening. For what is certainly the case is that, when individuals, who are attempting to construct a lifeway within a particular religious universe, seek to inform their behavior from those resources in the past, potentially they are using those resources as an isomorphic map of what their behavior should be, imprecise though that map actually is.

> He has shown you, O man, what is required of you
> to act justly,
> to love mercy,
> and to walk humbly with your God.[24]

Torah maximizes information about what counts as justice, what counts as mercy, what counts as walking *en akribeia* ("precisely," "exactly"), as the Greek Ecclesiasticus translates the phrase, with God.

This then is an outline of a general theory of religion which sets religion in the general context of human evolutionary development and history and which takes as fundamental the importance in individual lives and in societies of the processing of information and its transmission. There are undoubtedly immense dangers in using information language in attempting to analyze or better understand human behavior. This is partly because some of the jargon has come to be used so loosely that it has almost become meaningless. Information theory is a notorious example. Information theory as such is of virtually no applicability whatsoever; it would be a great help if the phrase was never used except in its technical reference within the theory of semantic information, where, mathematically, it is a somewhat sophisticated aspect of the theory of inductive probability. In any case, the actual transmission of information, fundamental though it may be in the nervous system, leaves us a very long way from understanding complex animal behavior.

But information process, in the cybernetic sense of establishing a control system, is very different indeed. The limitations here are of a different sort. They are not so much theoretical, in the sense that the theory itself has a limited scope, as practical. Therefore, it is common to find statements of what is in principle possible in the cybernetic simulation of behavior but is in practice not yet feasible. An example would be the relation of computers to biology, as in this passage: "There are, of course, technical difficulties. We do not as yet know sufficient of colloidal chemistry to construct systems of the same colloidal materials of which humans are built; but though we cannot at present construct the analog of human behavior in hardware, these purely technical difficulties are irrelevant to matters *in principle.*"[25]

So to talk of systems of information process is to talk necessarily in crude, premature language. Yet I would still insist that no matter how crude our understanding is at this moment in time, no matter how little we may ever be able, for the sake of argument, to understand the detailed mechanism of brain behavior, this is the correct and central question to ask: How does the human organism become an informed subject? To recognize this as the central question at once brings into alignment, not into competition, the poetic as much as the behavioral endeavor to understand how and what we are. For the first time almost since the eclipse of Latin we have a common language of concepts. No matter who we are, priest or poet, psychiatrist, social welfare worker, or behavioral engineer, all can equally contribute to

this single central question: How does the human organism, moving from conception to birth to maturity, become an informed subject? And it is salutary to bear in mind that we who reflect on that question became what we are through that very process. In this context it is then possible to ask these more particular questions: How does the human organism become a religiously informed subject, and how does it become a theistically informed subject? How does a sense of God originate in human consciousness?

If what has been argued so far as a general theory of religion is correct, then it is not difficult to derive from it a special theory of theistic belief. It probably would be fairly easy to establish a correlation between the ways through a particular limitation projected in a religious universe and the conceptual supports required for the plausibility of that projection. If a way through death is projected as a literal reconstruction of the bones of the dead, it may be that one will require for the reinforcement of plausibility a figure on the other side of the grave who is capable of that work of reconstruction. However, this brings us face to face with the issue which Freud (constrained, or indeed paralyzed, by his own experience) failed, and probably refused, to face. Let it be granted, for the moment, that projective and compensatory views of theistic belief are entirely correct and that theistic belief is constructed initially from within the needs of the psyche—the need to deny the oblivion of death, the need to have a father or a mother figure, the need to defend one's own status by justifying the alienation of labor. Let it be granted, in other words, that our reasons or motives for theistic belief are always, in Freud's sense, abject. How can we be sure that the projection in fact does not identify, or coincide with, something which is as a matter of fact both real and correct? And how can we be sure that there is never any response from the object (supposing there is one) of belief (no matter how "projectively" constructed from the human end) which might challenge our abject motives and characterizations and remove us, so to speak, from those points of departure?

Freud made exactly that move in the case of sex.[26] We are drawn, he argued, to another person through appetite and libido; but in relation to the other, because of the nature of the other in response, it is possible to experience feelings which transcend our point of departure and which we label appropriately as love. How can we be so sure that this cannot happen in worship and prayer—that in relation to the other, because of the nature of the other in response, we can experience feelings which we label appropriately as theistically derived, as god-relatedness? Because, comes the obvious reply, even if it were possible to specify what counts as "a response of the other" in the

theistic case, is one saying anything more than that characterizations of "the other" theistically conceived—God, Zeus, Theos, Allah, Vishnu—are culturally transmitted and inherited? We are not entailed in any ontological commitment.

That argument is certainly correct, so far as it goes. Characterizations of God are culturally transmitted and acquired. But what are of interest are the people who have inherited cultural characterizations of God but for whom the worth of those characterizations of God has broken down—not because of a skepticism or a doubt but because of their sense of that which has been characterized inadequately as God insisting on its own nature and presence in their experience. Up to this very point, the theoretical account which has been offered in this paper is entirely and unequivocally anthropocentric. It accepts that religion is generated from within the mental processes of the human organism; God can be discounted in the theory as having any independent reality.

But now the question has to be faced whether this account is adequate to the evidence or at least testimony of human beings that the externality which they characterize theistically contributes to the construction of their beliefs and behavior. It is important to note that, even if the testimony is correct in its description of that experience, the process of religious continuity will remain the same, unless one wants to locate God in the gaps of the process. However God becomes apparent to human consciousness (supposing he does), presumably he will not dispense entirely with the process of that consciousness. But, equally, the analysis of the process, of itself, cannot eliminate the possibility that God is an informational resource, however mediated, and that he can consequently be genuinely resourceful in the construction of life.

The issue here can be seen very clearly in the way in which Ernest Jones (with his enthusiasm for Freud and the psychoanalytic revolution) excised God from Christianity: "As to the beliefs of Christianity, psycho-analytic investigation of the unconscious mental life reveals that they correspond closely with the phantasies of infantile life, mainly unconscious ones, concerning the sexual life of one's parents and the conflicts this gives rise to. The Christian story, an elaborate attempt to deal on a cosmic plane with these universal conflicts, can be fully accounted for on human grounds alone without the necessity of invoking supernatural intervention." But Jones then went on, "Whether, nevertheless, such intervention took place as well must remain a matter of opinion, but the story itself is no proof of it."[27] But that is far too naive. "Supernatural intervention," if one wants to call it that, does not have to be in addition to experienced consciousness but

apprehended through it. If there *is* an informational resource external to ourselves which human beings have characterized theistically (i.e., as god), then that externality, in order to be informatively resourceful in the construction of human life, would have no need to dispense with whatever is psychoanalytically true in any particular case because that would be to dispense with consciousness. No one, in order to be a theist, needs to deny the process of information flow; what he needs to know is the ground or the resource of what is flowing informatively through the process.

The development of this theory, therefore, in no way eliminates or makes unnecessary ontological question and comment. Indeed, when one surveys the constantly recurring death of gods and yet surveys also the continuity of the sense of God beyond the ruin of particular characterizations, such comment seems to be demanded—at least in the phenomenological sense of asking what the case would have to be for such appearances in consciousness to occur as do occur. How such comment might be made I have attempted to show in the second part of *Sense of God,* which is in preparation for publication. But, although the argument cannot be developed in a paper of this length, the possibility of the argument can be seen in the conditions which must obtain for information flow to occur. The issue remains whether human beings have correctly or incorrectly identified a resource of informational input external to themselves and whether they have appropriately or inappropriately characterized it theistically.

NOTES

1. Quoted from the *Daily Herald* (1961).
2. Clifford Geertz, "Religion as a Cultural System," in *Anthropological Approaches to the Study of Religion,* ed. M. Banton (London: Tavistock Publications, 1966), p. 4.
3. Melford E. Spiro, "Religion: Problems of Definition and Explanation," in ibid., p. 98.
4. Robert N. Bellah, "Religious Evolution," in *Sociology of Religion,* ed. R. Robertson (London: Penguin Books, 1969), p. 263.
5. Hence, presumably, the attempt to make the study of "religion" more manageable by proposing six-dimensional (N. Smart, *Secular Education and the Logic of Religion* [London: Faber & Faber, 1968]) or four-dimensional (K. Ward, *The Concept of God* [Oxford: Blackwell, 1974]) analyses.
6. J. W. Bowker, *The Sense of God: Sociological, Anthropological and Psychological Approaches to the Origin of the Sense of God* (Oxford: Oxford University Press, 1973). This book contains more detailed discussion of some of the points raised in this paper.
7. See, e.g., W. B. Brown, "Systems, Boundaries and Information Flow," *Academy of Management Journal* 9 (1966): 317 ff.; H. Aldrich, "Organizational Boundaries and Interorganizational Conflict," *Human Relations* 24 (1971): 279 ff.
8. P. H. Lindsay and D. A. Norman, *Human Information Processing: An Introduction to Psychology* (New York: Academic Press, 1972).
9. Bowker, pp. 53–54.

10. J. Z. Young, *An Introduction to the Study of Man* (Oxford: Oxford University Press, 1971), p. 524.
11. Bowker, p. 65.
12. F. Richards, *Old Soldier Sahib* (London: Faber & Faber, 1965), p. 200.
13. William Blake, "Couplets and Fragments XXIII," in *The Poetical Works of William Blake,* ed. W. M. Rossetti (London: S. Bell, 1914), p. 198.
14. C. C. J. Webb, "On Some Recent Movements in Philosophy," in *Transactions of the Third International Congress for the History of Religions,* 2 vols. (Oxford: Clarendon Press, 1908), 2:422.
15. E. Lear, "Mr. and Mrs. Discobbolos," as quoted in *The Golden Staircase,* ed. L. Chisholm (London: T. C. & E. C. Jack, 1928), p. 77.
16. Quoted from W. H. Auden, *A Certain World* (London: Faber & Faber, 1970), p. 126.
17. The General Confession from the *Book of Common Prayer* (1662).
18. Rom. 7:15.
19. Bowker, p. 88.
20. William Blake, "The Everlasting Gospel," in Rossetti (n. 13 above), p. 144.
21. On this issue see Bowker, p. 108.
22. W. Winwood Reade, *The Martyrdom of Man* (London: Pemberton Publishing Co., 1968), pp. 188 ff.
23. Ibid., p. 437.
24. Micah 6:8.
25. F. H. George, *The Brain as a Computer* (Oxford: Oxford University Press, 1973), p. 75.
26. For a fuller discussion of this see Bowker, pp. 131–33.
27. A. E. Jones, "Psycho-Analysis and Christian Religion," in *Essays in Applied Psycho-Analysis* (London: International Psychoanalytic Library, 1951), 2: 211.