

# CO-OPERATIVE FUNCTIONS OF SCIENCE AND RELIGION

by *Henry Nelson Wieman*

## INTRODUCTION

We cannot take *religion* as it is and *science* as it is and put them together in co-operation to promote the good of human existence. We must distinguish that form of religion which can co-operate effectively with science; and we must distinguish that application of science which can co-operate with this form of religious commitment. Otherwise the two cannot work together.

Two other concepts are involved in this problem. We must have some understanding of *human existence* relative to these issues and some understanding of *the good* to be attained for human existence by this co-operation of science and religion. Hence the following discussion will examine these four—*religion, science, human existence, and greatest good*—so far as they are involved in this problem.

It is here proposed that the kind of religious commitment fit to work with science to attain the greatest good is a commitment to a creativity operating in a fourfold way as follows: (1) Individuals and peoples interact, creating in each party an awareness of the needs and interests of the other. (2) Each party integrates the needs and interests of the other into his own, after due modification. (3) This enables the interacting parties to work co-operatively for the needs and interests they share in common, developing the unique individuality of each person and each culture thus interacting. (4) Out of this develops an expanding system of mutually sustaining activities, institutionally maintained, endowing each participant with a growing good encompassing the lives of all.

Creativity operating in this fourfold way is most fully developed only in human existence. If it comes from the ground of all being, so be it. It certainly does not pervade all existence. But let us not be diverted from our problem by these controversies about ultimate reality. If we

Henry Nelson Wieman is professor emeritus of Christian theology, University of Chicago. An early version of this paper was given to the seminar of the Center for Advanced Study in Theology and the Sciences, November 13, 1967.

become involved with questions about a creator transcending all existence, controversies over metaphysics, cosmologies, and ontologies will divert us from the problem before us, which is to show the form of religious commitment that is fit to work effectively with science.

The fourfold creativity just described is always present in human existence at some level, because otherwise we could not communicate as we do. But other processes are also in human existence, and these counterprocesses often dominate, defeat, distort, and submerge this creativity. Hence the basic problem is to bring this creativity to a higher level of dominance over these counterprocesses. This is the central problem to be discussed throughout this writing.

With this understanding of the problem we can state in a brief introductory way the co-operative functions of science and religion.

The function of science is to search out the conditions which must be present for this creativity to rise to dominance over counterprocesses and to create the technology and other methods by which these conditions can be provided.

The function of religion is by rituals of worship, preaching, and private devotion to bring people to practice in daily living a ruling commitment to this creativity so that, in every time of major decision, they will use this knowledge and technology provided by science, along with all other resources, to choose that alternative best fitted to provide the conditions under which this creativity can operate most effectively in transforming human existence toward the greatest good.

This does not mean that religion depends on science for all the knowledge it can have. That would be as foolish as to say that getting wholesome food depends on science for all the knowledge needed to get wholesome food. Vital necessities, including food and religious commitment, had been provided in human culture long before modern science arose, and we have a store of knowledge from this long experience. But, for reasons to be explained later, all human activities in the modern world need, in addition to traditional knowledge, the service of science. This applies to guidance in religious commitment as well as to guidance in getting wholesome food.

This creativity is a distinct entity because it is a process having a distinct structure. Every existing entity is a process having a structure by which it is distinguished from what it is not. Creativity runs continuously through human existence, ignored and submerged as it often is. It can be called creative interchange or dialogue or sensitive negotiation or reciprocity or love or empathy or creative interaction. But none of these words with its ordinary meaning accurately designates it.

## ZYGON

It can be called Holy Spirit, or Christ with us, or even God with us. But here also the conventional meanings do not fully satisfy.

The reason for using these traditional words is that the transformation in human life, traditionally ascribed to Christ or the divine presence, is the creative transformation which we here call creativity or creative interaction. When we examine empirically what actually happens in human personality and society in cases that are called the work of the divine presence, we find this creative transformation occurring. We do not mean to suggest that this creativity occurs only in Christianity. But we do find it occurring very conspicuously in the fellowship of Jesus as portrayed in the New Testament.

This creative interaction does not operate only by verbal communication of concepts; we also apprehend the needs and intentions of others by feeling awareness. Indeed, it seems in many cases that feeling awareness plays a larger part than abstract concepts in apprehending the values that distinguish the unique individuality of the other person. The same applies to apprehending the values of an alien culture when we live among the people who embody it. This creativity works at all levels of the human personality, conscious and unconscious.

### THE FUNCTION OF RELIGION IN AN AGE OF SCIENCE

When we speak of the co-operation of science and religion we do not mean to suggest that these alone must co-operate to save our civilization from destruction. Government, politics, industry, commerce, education, the arts, the family—all the major activities of human life—must have some order and direction and yield some essential values for our lives. But there is a special reason for considering science in relation to religion. Science as research to acquire knowledge, along with its applications in technology, has become the supreme instrument of power in our civilization. No governmental, industrial, commercial, or educational institution in the world today can exercise power relative to the others if it does not bring science into its service.

This applies also to religion. A form of religion unfit and unable to bring science into its service will be unfit to give order, direction, and meaning to human life as now lived. Science, both directly and through the other agencies that use it to attain their goals, is shaping our thoughts, feelings, purposes, and activities down to the bottom level of human personality. If this powerful and pervasive influence cannot be shaped and directed by our religious commitment, then our religion is futile and can avail nothing in directing our lives and the course of civilization. For this reason we must develop a form of religion that can

bring science into its service and also point the way to man's salvation and creative transformation.

We are not concerned with reconciling the findings of science with the affirmations of faith. We are not concerned with the kind of religion that would have this conflict with science. At the same time, we reject that form of religion which deals with problems entirely beyond the reach of scientific inquiry and with an area of experience entirely independent of the sciences.

Rather the form of religion here to be considered is a ruling commitment that can work in close co-operation with science. It is a ruling commitment which human life must assume if human existence is to be saved from self-destruction in the age that is now beginning.

Religion must assume different forms to deal with different problems as they arise in different periods of history and in different cultures. Religion is always the same in the sense of being a ruling commitment that should take first priority in every time of major decision. But the ruling commitment is differently interpreted and takes on different forms as human life undergoes the great transformations to which it is addicted. Religion betrays its truth, and becomes an evil, when it refuses to undergo the changes required to deal with the basic problems of human existence as these change from age to age.

One primary function of religion is to direct mankind to what transforms human existence toward the greatest good, whether this transforming power be called God or Christ or the law of karma or be given some other name. If people generally have no understanding, no conviction, no agreement on what has this transforming power, science cannot be used to promote it, precisely because there is no agreement on what it is. In such a case the pervasive and profoundly transforming power of science will be used for whatever ends may happen to possess the minds of men who are in positions of control. This will lead to conflicts which cannot be adjudicated because adjudication means to decide that some course of action and way of life is better than others. This requires some agreement between conflicting powers concerning what is the better way at some basic level of commitment. Conflicts that cannot be adjudicated, when equipped with the power of modern science, will drive inevitably to annihilation. Agreement at some basic level of ultimate commitment is religion.

In the past, the different divisions of human cultures were sufficiently under the control of native unifying traditions so that each could seek the greater good as this was interpreted by the tradition of that people. Whether or not their judgment of greater good was right, they did not

have the power of modern science to implement their error. Therefore, their errors of judgment were not made fatal by the powers of scientific theory. They could recover and learn something from the mistake they made. But today basic error concerning what transforms toward the greater good is implemented with such power that we cannot survive serious misuse of it. This power is modern scientific knowledge and technology.

In the past, traditions that were unfit to sustain human life would eliminate or alienate the people adhering to them. Thus those traditions survived that did meet human need more or less adequately under the conditions. But today all the different peoples and all the diverse traditions must live in one single community that is rapidly drawing ever tighter the bonds of interdependence. No one of these diverse traditions is fit to govern the life of this world community. Furthermore, none of these traditions, including the religious, has been developed in a way to guide the use of modern science and its technology, because modern science did not exist when these traditions were in process of formation. We cannot develop the needed kind of tradition by allowing the unfit to destroy themselves by misuse of science, because the unfit will be the entire human community.

The basic problem here to be considered cannot be solved by religion alone but only by religion in close co-operation with science. It cannot even be solved by religion in co-operation with science unless religion assumes the form fitted to deal with this problem and fitted to work with science. Traditional forms of religion are not fitted to do this unless they undergo revision.

What is said of religion applies also to science. Science cannot work with religion on this problem unless scientific research, scientific knowledge, and scientific technology are applied to the problem of religious commitment as being of even greater concern than equipping war with more deadly weapons or exploring the far regions of space or controlling the masses to serve industrial production. That is to say, science cannot work with religion on the religious problem unless it gives first priority to this problem rather than to others that work against it.

The basic problem of our time, requiring the union of science and religion to solve, can now be stated: *What form of religious commitment and application of science can enable the diverse peoples of the world to live together in community of mutual support when equipped with ever increasing technological power and brought into ever tighter bonds of interdependence?*

In other words: How can world community be created without eliminating diversity and conflict but by so modifying the diversities and so controlling the conflicts that they serve to widen and deepen community while at the same time expanding the range of what men can know, control, and value?

This is the problem to be solved by the union of science and religion. Other agencies, such as politics, economics, art, and education, are included when we speak of science and religion uniting to solve the problem, because science gives to each of the other agencies its power to act and religion gives them the ruling purpose of their existence, which guides their use of this power.

To state the problem most simply: How attain a world community in which goal-seeking activities support one another across conflicts and diversity?

I am convinced that such a community cannot be created by any direct action. It cannot be created, for example, by an arbitrary social organization imposed on the peoples of the earth, suppressing the diversities and the conflicts arising out of these diversities. Any attempt to do that would bring on a tyranny so oppressive that men would not endure it.

How, then, can this problem of world community be solved if not by direct action and social organization? Our title suggests an answer: The Co-operative Functions of Science and Religion. A world community must, of course, have a social organization, but the organization must develop in terms of the realities of the community. It cannot first be imposed on the world and thereby produce a world community. The futility of this procedure is exposed in what we are attempting to do in Vietnam today.

Wherever a community of mutually sustaining activities has been created—whether between parent and child and husband and wife or in any association in village, town, nation, international relations, or empire—it has always been created and sustained primarily by a kind of interchange between the participants whereby the needs and interests of the various parties were communicated back and forth and to some degree were recognized and met by the interchange. Community created in this way has always needed the support of social organization. But to avoid the social organization being oppressive to the point of intolerable enslavement and self-destruction, we need interchange of the sort mentioned, which is religious in character.

What makes our age different from the past and generates the basic

problem here under consideration is that this minimum of creative interchange sufficient to sustain human society in the past will no longer be adequate. If the newly interdependent worldwide population of humanity is to survive in the midst of rapidly evolving knowledge, technology, and ways of life, it must attain a new level of commitment to the creativity that creates community and at the same time maintains respect for diversity.

In summary, we have reached a period in the historic development of civilization when we are confronted with a problem so basic that the continued existence of the human species depends on solving it; and this problem cannot be solved unless religion assumes a form fitted to deal with it and unless science also is applied in a way to search out the needed knowledge and develop the needed religious art or technology.

Generally this creativity that creates a community of mutually sustaining activities has operated without any understanding of it by the people involved in it. It has sometimes been called love, but the word "love" gives no adequate knowledge of it and has many other meanings besides. This creativity has sometimes been called God, but the word "God" gives no adequate understanding of it and has carried meanings even more diverse and remote from what is here under consideration. "God" often refers to what is beyond the reach of scientific inquiry.

We must now have a far better understanding than was ever before required of this creativity that creates the human mind and personality in freedom and in mutual support of others. The ruling commitment of our lives, called religion, must be given more directly and with more understanding to this creativity than was ever before necessary for our salvation and creative transformation.

If the ruling commitment of our lives is not given to this creativity, we will not apply scientific research to find out how it operates in human existence and what conditions must be present for its most effective operation. If the ruling commitment of our lives is not given to this creativity, we will not use the technology and knowledge given to us by science to provide the conditions—physical, biological, psychological, and social—which must be present for this creativity of interaction to prevail over counterprocesses. Without this ruling commitment of our lives called religion, we will not seek to organize society in a way to promote creative communication between conflicting parties whereby the opposing interests are brought under the control of mutual understanding and mutual concern. Without religion we will not conduct our daily lives in such a way that, in times of major decisions, we shall seek that alternative best fitted to promote this way of dealing with con-

flict. For these reasons, science must be joined with religion if this problem is to be solved.

In the new age now coming upon us, co-operation of human beings with one another can be as deadly as conflict, if it is managed by people or computers so that each individual does his part without any concern for the common good or the interests of his associates. In such case, some individuals will seek sensuous enjoyments to make life livable by use of drugs and by stimulating the brain to create blissful experience without responsibility for the conduct of human life. Some will seek the centers of power to control the masses with the machines available. Some, driven by the quest for power but unable to reach the centers of control, will seek power for their own ends by the destructive use of violence. Still others will turn to hobbies and specialized occupations without concern or responsibility for the major problems of human existence.

If the rebels could be kept under control, such a deadly system might be the outcome of the new age of scientific control that is now beginning. But considering the restive spirit and drive for power with which many are endowed, it seems that such a worldwide condition of mechanized existence could not long endure without rebellion, anarchy, and the self-destruction of humanity.

In sum, if humanity is to survive in the new age, science and religion must unite to seek a better understanding of and a more profound commitment to what does actually operate in human existence to create community with freedom and responsibility.

To carry further our understanding, we must explain the meaning we attach to such key words as *religion*, *science*, *human existence*, and the *greater good*. Without clarity on what meaning we attach to these words, there can be no understanding of the problem we are considering.

#### RELIGION

The word *religion* has so many meanings that some have sought to escape the confusion by speaking of Christianity as something different from religion. But Christianity has been interpreted with great diversity. Some try to narrow the field by speaking of biblical faith. But here again we have all the different interpretations of the Bible. We believe our definition covers the most important features of all the great world religions, including, of course, Christianity. This definition exposes the great evils and errors of religion, including those of Christianity. This



## ZYGON

exposure of evil and error in religion by any useful definition of it is necessary, because the purpose of getting religion before us is to distinguish what is true and right in it from what is false and wrong. Christianity is just as much in need of this kind of critical examination as any other form of religion.

It is not necessarily arrogant or presumptuous for a man critically to examine the form of faith given to him in his inheritance. Not only is this examination every man's right, it is his duty; otherwise he is evading his responsibility in accepting what is evil and false in the faith by which he lives.

*Religion, then, as the word is here used, will mean a ruling commitment practiced by a community of individuals to what they believe creates, sustains, saves, and transforms human existence toward the greatest good.*

Religion thus defined includes a vitally important *belief*. Every such religious belief can be in error. There is no way to make the human mind infallible. Even when a man takes his belief from what he thinks is an infallible authority, still it is his *belief* that the authority is infallible, and that particular belief may be in error. Furthermore, his interpretation of the authority is his own interpretation.

But a man's religion is not merely a belief; primarily it is a *commitment*, that is, a decision to live for a reality which, he believes, creates human existence and transforms it toward the best that human existence can ever become. The important thing about the belief is what it guides a man to do. It is not the belief that creates and transforms; it is the reality that does that. To have a ruling commitment to such a reality means that, in every time of major decision, the individual and his community of faith will seek to choose that alternative which, so far as they can discover, provides the conditions under which the reality can operate most effectively in transforming human existence, including oneself, toward the best that is possible.

Yet a man's faith is not determined merely by his private belief. It is determined by the community in which he lives, by the tradition which that community inherits, by all the great thinkers and leaders, together with all the great perverters and deceivers, who have shaped that tradition through the centuries. In this sense a man's faith is given to him. It is revealed to him. I do not mean merely that the Christian faith is revealed. Every man's faith is revealed insofar as it is given to him and insofar as it informs him and shapes his life after having been communicated to him by the community of faith from which he gets it.

Every man's faith, and not only the Christian faith, is revealed to the individual insofar as it takes hold of him and shapes his life.

Nevertheless, my point is that the faith as we find it in our lives, given to us by our community, whether we call it Christian or something else, calls for searching criticism, as much as anything else involving all the values by which and for which we live.

Especially is this required in a time of revolutionary transformation. This does not mean, when human life undergoes great change, that the *reality* that calls for the ruling commitment of our lives itself changes. That may not change. But *we* change: the concepts by which we think of it become different. The way we approach it becomes different. The old concepts, the old forms of thought, can no longer guide us as once they did, even if they were free of error for their own time and place. But, giving the traditional system of belief every benefit of doubt, still we cannot think of the same reality with the same structure of thought embodied in that tradition, because our minds no longer can think with the same structure of thought.

But here we are chiefly concerned with the relation of religion to science. Science has changed, and is changing, the structure of thought by which we apprehend all kinds of reality. Therefore, if the traditional forms of religious thought do not change to fit into this new structure created by science, they will lead us astray regardless of how right may have been their guidance in the past.

*Three forms of religion that are unfit to co-operate with science should be noted.*

*First, religion that merely merges with science and makes a religion out of science cannot co-operate with science to solve the basic problems of our existence. A form of religion that merely adds an emotional glow to the scientific vision or provides religious motivation to scientific research is unfit. Religion must have work of its own to do before it can co-operate with science. In this respect it can be compared to other institutional interests. Industry, for example, co-operates with science by giving to scientific research some industrial problem to be solved. Industry does not merely follow along after science and sing praises and express wonder over the vision of the universe that science is exposing. Industry unites with science to do its own job, which is to increase the quantity and quality of economic goods. Government, too, has its own distinctive work to do and assigns to science problems in government for resolution. The same is true of education and the military.*

## ZYGON

The only form of religion that can thus co-operate with science is a religion that directs its faith to a reality accessible to scientific inquiry, where scientific knowledge can help religious inquiry get a better understanding of what is required in religious commitment and what must be done to provide conditions most favorable for the effective operation of that to which men are religiously committed.

*A second form of religion unfit to co-operate with science directs religious commitment to what is beyond the reach of all scientific inquiry, a form increasingly popular today in sophisticated circles. Obviously, such a commitment cannot co-operate with science in getting a better understanding of what it seeks to know, nor can it assign to science special problems. The outstanding theologians of our time, from Karl Barth to Paul Tillich, from Bultmann to the followers of Whitehead, represent this kind of religion. Whitehead comes closer to science than the others, but the primordial and consequent natures of God set forth by Whitehead are at best speculative rather than necessary assumptions of science. In any case, they are not directly accessible to scientific inquiry.*

*The third form of religion that is unfit is the religion which holds beliefs that are contrary to, if not contradicted by, scientific findings. This we need only mention, since few people interested in the problem here under consideration would adhere to it.*

*This brings us to a fourth kind of religion that can co-operate with science and thereby meet the need of our time. Discussion of this form of religion will continue as we examine "science," because we must understand the possible religious significance of science in discussing the kind of religion fitted to co-operate with it. At this point we can only say that, not only must the form of religion we seek direct the ruling commitment of our lives to a creativity operating in human existence to transform the minds of men together with the social order so that freedom and love can prevail over counterdevelopments, but also it must involve beliefs that are relatable to those of science. This creativity is such that it cannot operate effectively unless required conditions are present. In such a case, the various sciences, each in its own field, must be able to search out these conditions and also help create the techniques and technology by which these conditions can be provided.*

This does not mean that this knowledge from science and these techniques and technology can themselves transform the minds of men and

the social order so as to bring freedom, love, and justice to a higher level of dominance. This can only be done by the creativity in question. One can call this creativity "Christ" or "Holy Spirit," provided he does not interpret it so as to put it beyond reach of scientific inquiry. Science with its knowledge and technology, when these are applied to the problem, can help show how some of these conditions can be provided, thus enabling the creativity to create the better life.

This can be compared to the problem of good health. Medical science cannot itself provide good health, but it can show how to provide some of the conditions that must be present so that the life- and health-creating biological process can create good health.

Perhaps it should be added at this point that those who fear we are driving out mystery from religion need not be disturbed. Scientific inquiry can never eliminate mystery. All that scientific inquiry or any kind of intellectual inquiry can do is to give us abstract concepts about actual existence. Actual existence itself, in all its concrete fullness, can never be comprehended by these abstractions.

#### SCIENCE

We now turn to an examination of science. We want to get some understanding of scientific knowledge and the way it is attained to show how it is related to the creativity which we say commands the ruling commitment of a religion fit to deal with the major problems of our age.

To get this view of scientific knowledge before us, I shall quote from Ian Barbour, who is himself a physicist but also interested in the problems of religion. I accept his interpretation of scientific knowledge, although I do not altogether agree with his understanding of religion. The view of scientific knowledge presented by Barbour is not peculiar to him. I believe many today who study the nature of scientific knowledge would agree with Barbour:

. . . there is no simple separation between observer and the observed because one deals always with relationships and interactions rather than objects in themselves. Objectivity thus cannot mean "the study of an independent object" for a strictly independent object can never be known. . . . there are no completely uninterpreted data in science. . . . All data are to some extent "theory-laden." The processes of measurement and the language in which results are reported are influenced by the assumptions and concepts of the investigator. The totally neutral observation language which the positivist sought seems unattainable. For "data" are always a selection from personal experience in terms of one's purposes and expectations. What the scientist looks for, and to some extent what he finds, is influenced by the traditions and paradigms of

the scientific community. Attitudes change as to what problems are worth investigating, what kinds of questions are fruitful, and what types of concepts are likely to be promising. By the objectivity of the data, then, we can only mean its reproducibility within a scientific community sharing a common set of assumptions and concepts. This provides a basis for communication and agreement; but it does not imply that the data are independent of either the observer's experimental operations or his interpretive categories.<sup>1</sup>

The point to note here is that scientific knowledge, like all knowledge, is created by interaction between the sensitive organism and what is to be known. In the case of science it is interaction between what is to be known and the sensitive organism equipped with all the instruments, traditions, symbols, and accumulated theoretical structures of science. This makes knowledge not subjective but exactly the contrary. To simplify, take perception by the eye. What is to be perceived interacts with the eye of the organism to create the form and color that is perceived. What is perceived is truly there when related to the eye of that organism. To be sure, what is there would be different if a different kind of organism with a different eye were interacting with it. The organism with its sensitivity makes its own contribution to what is perceived. If that were not the case, if the perceiving consciousness were like a mirror, giving us a subjective reproduction of what was there independently of the perceiving organism, this would indeed be a subjective creation, and there would be no way of comparing this subjective image with what is being perceived. But if, on the contrary, what is perceived is created by interaction with the organism, then what is perceived is the reality as it truly is when related to that organism.

When a different organism is introduced, a different form of reality is known. Or, if the organism is equipped with all the equipment of modern science, the interaction creates a form of reality different from that created when the organism is not so equipped. Therefore, what is known in a given situation by ordinary common sense is very different from what is known by science. This does not mean that one is true and the other false. It only means that the reality known is different when the organism and its equipment are different, because the reality known is known, not by reflecting it without analysis or meaning for the organism as a mirror does, but by interacting with it to create meaning. Of course error occurs. We have error when we do not predict the future correctly or do not correctly infer, from what is present, what is remote in space and remote in the past. But this prediction and inference must be based on what is created by interaction between the organism and what is known.

If we do not adopt this view, then we would have to say that when

science uses more powerful instruments and rejects the less powerful, knowledge based on the latter was not true knowledge. But this leads to total skepticism, because science is constantly inventing new equipment and new theories so that what is known at one time is always being transformed. Such being the case, there would be no time when we could say that what science knows is true, because there would always be in time some new equipment, new theories, new focus of interest, and new individual genius.

In sum, the reality we know is not something independent of the knowing mind but something interacting with it. The knowing mind, including the biological organism, always makes its contribution to the reality that is known. Every other alternative leads to hopeless skepticism.

But what the organism in the wholeness of its being is experiencing at any one time is always vastly more than what is consciously known at that time in that situation. This can be demonstrated by focusing attention on different parts of the body or engaging in some other purpose that will bring to consciousness what could not reach consciousness until this new goal of endeavor directed attention to it. Yet it was being unconsciously experienced all the time. Therefore, what we know is determined by our goal-seeking activities, because every goal-seeking activity, if successful, brings to consciousness items relevant for the goal. Also, when we know any object, much more must be active in the knowing mind than what reaches consciousness. That is to say, in any case of knowledge much of what is known is below the level of consciousness, to be brought forth when difficulties arise requiring this unconscious knowledge to bring forth what is sought. Also much activity in the organism sustaining our knowing mind is unconscious at levels that cannot be brought to consciousness, except in the form of feeling. Feeling carries a wealth of guiding awareness that cannot be put in the form of language. We feel the concrete fulness of the reality far beyond what can be described.

The purpose of this discussion of scientific knowledge and of knowledge in general is to demonstrate that in science there is a creativity operating to transform the world, together with the human mind and human society, into forms that are progressively accessible to knowledge, to evaluation, and to control. Furthermore, this creativity operates below the level of consciousness even more than in consciousness, although it transforms consciousness also. The unconscious part of it controls the consciousness more than the reverse. In the third place,

## ZYGON

this creativity involved in scientific inquiry operates in a community of inquiring minds where each must trust the other very fully, where each tells honestly and completely what he thinks he has discovered relative to the problem under inquiry, and where what each discovers must be integrated quite completely into the community of knowledge after due criticism and discussion.

This creativity operating in science to create a community of mutual trust, along with full and honest interchange within the limits of research, is the same in nature as that creativity which operates in any association of individuals to the measure that they attain a true community of mutual trust, complete and honest communication, and integration of the findings of each into a common body of knowledge, value, and control.

This is similar to the creativity calling for religious commitment. But in religious commitment the whole self and the whole society are involved, not merely that fragmentary part of the individual and the society engaged in scientific research on a restricted area of knowledge. In the age of science, the whole self and the whole society cannot be fully committed to anything unless obstructions to this commitment are removed. For example, after describing the massacres that are going on throughout the world, perpetrated in the name of morality and religion, John F. Wharton writes,

The new method [of science] would begin by observing how human beings actually behave and the forces that have changed their behavior, and then, reasoning from such observations as to what a human being really is, determining how further changes might be effected. In fact, there exists today a school of psychiatry which asserts that we now have the tools to build such a method and only our blindness to its potentialities keeps us from going to work. . . . We have today for the first time in world history, the basis for a psychology of human behavior, but we use it only as a therapeutic device to help a few thousand neurotic and psychotic unfortunates.<sup>2</sup>

The author goes on to say that we should have an "Academy for Man," following the suggestion of Dr. K. R. Eissler, to study human behavior and apply methods for changing the motives of behavior. Whether or not this is the right way to go about it, this quotation is offered as a suggestion of what is needed.

To submit human life to scientific control is just as futile and dangerous as to submit it to religious control, unless the scientific control is directed to providing the conditions under which that creativity which creates freedom and love can operate most effectively. Thus science and religion must work together, religion giving us the ruling commitment,

science providing the tools and the knowledge required to render our commitment intelligent and creative.

We have seen that science is peculiarly fitted to do this because it operates under the control of this same creativity within the narrow limits of specialized research. In this sense, science might be called a pathfinder and scouting party, going ahead to explore a trail that the rest of human life can follow. The rest of human life would follow if religious commitment were given to this same creativity as it operates not only in science but also throughout the whole of human existence.

As said before, science and religion are not the only agencies that must serve this creativity which expands the bounds of freedom, community, and mutual control. Art, education, government, and industry all have their parts to play.

Finally, philosophy has an indispensable part in this undertaking. Philosophy should be the overseer, surveying the entire project, keeping the comprehensive vision clear, and showing how science and religion, art and morality, and other such agencies can work together to bring the whole self of each individual into a community of each with all, expanding indefinitely the range of what each can know, control, and value.

We may never reach an end of this task of advancing life, but striving for it seems to be our assigned task.

#### HUMAN EXISTENCE

A further key concept involved in the basic problem we are considering is human existence. Human existence can be distinguished from every other kind of being by three outstanding features. First, human existence breaks free from confinement to more limited systems of living activities. The second feature is self-conscious individuality, critical and anxious about itself. The third is conscious conflict that can be creative.

*The first feature of human existence is the expansion of life's activities beyond the biological.* The demands of the biological process must be met, but the human being is not limited to them to the degree that other forms of life are. Symbolized meanings, pre-eminently in the form of language, make possible a complex and far-reaching social organization of co-operating individuals, accumulating these meanings through history. These accumulated meanings are organized into systems that create the world and values known to the human mind. They create culture or civilization.



## ZYGON

The human individual can confine himself to any one or more of the subsystems within the range of his culture. He may confine himself largely to the needs of his biological organism, or to some narrow group of associates, or to some economic or political process, or to some art or profession. This propensity to restrict oneself to a narrow system of activities without regard to the comprehensive creativity that sustains all systems in mutual support carries the danger that these systems then develop in ways that conflict with one another, resulting in frustration and mutual destruction.

The way of salvation from this danger is a commitment to the overall creativity pervading the entire range of human existence. This may keep alive a ruling concern for human life as a whole and for that mutual support which all specialized activities and limited systems must have if they are to be sustained. Participation in the religion of the community provides this salvation.

*The second distinctive feature of human existence is the individual who is conscious and critical of himself.* Without this consciousness or awareness of self and world based on symbolic intercommunication or exchange, we could not have that indefinite expansion of activity which was the first mentioned characteristic distinguishing human existence.

This second distinguishing feature carries its own danger. As the self-conscious individual becomes increasingly conscious and critical of his evils and errors, his limitations and humiliations, he is addicted to anxiety. This anxiety may lead to despair if not brought under control. This carries many evils. One of the worst is the creation of illusions to keep self-criticism and despair out of consciousness. One common way to do this is to create the illusion that I and my community have a moral righteousness superior to other people. If one can feel morally superior to some other person or people, he need not be so self-critical and anxious about himself. This illusion of superior moral righteousness against some minority group can lead to massacres of the cruelest sort, because it seems morally justified by the illusion. Examples of minorities thus persecuted are Jews in Nazi Germany, Hindus in India under a Moslem regime, Moslems under a Hindu regime, American Indians when the Christian white men came to this country, and most recently the Communists in Indonesia.

Here again salvation lies in commitment to the creativity that operates to bring all men into a community of mutual support and expanding system of shared values. But this commitment is relatively futile unless the sciences are applied to show how this commitment can be made to prevail among men.

*The third distinctive feature of human existence is creative conflict at a conscious level.* Human existence is more addicted to conflict between individual members of its own species and between organized divisions of its own species than is any other form of life. But conflict can be creative as well as destructive. Creative conflict leads men to discuss their differences, thereby learning to understand one another and acquire from one another new insights. Out of this mutual learning and reorganization, of both personality and social relations, they can integrate their differences to form a wider and deeper community wherein a wider range of activities can sustain each other. Thus out of conflict a common good may be created that brings the parties together more profoundly and extensively than was possible before the conflict. This is creative conflict.

Any given case of conflict can be in part creative and in part destructive. Even the great wars, with all their destructiveness, have also been creative of new communities. The two world wars have created a wider and deeper community between the United States and Europe, among European countries, between the United States and Japan, and between other parts of the world.

I do not mean to suggest that we should practice war for the sake of the community it creates. The destructiveness of war today is far too great to compensate for the creativity that may also operate in it. I am only trying to show that conflict can be creative; and even in the most destructive forms of conflict some element of creativity may be present. The problem is to control conflicts so they can be creative to the maximum degree and destructive to the minimum.

Here again the way of salvation is by commitment to creativity and by the application of the relevant sciences to the problem to find how the conflict can be kept within the limits of creative communication, mutual learning, new discovery, and consequent reorganization of individual personality and of social relations.

During the next several decades, the chief danger will probably arise from one of two alternative developments, either one of which would be a disaster. The outbreak of disruptive conflict might reach the point of destroying civilization. Yet the establishment of a worldwide system of control to prevent such a conflict might at the same time suppress individuality, diversity, creativity, and freedom. These two alternative dangers will arise from three developments now going on.

1. Diverse ways of life are becoming increasingly interdependent, each equipped with increasing power either to impose its way of life on others or to resist such an imposition with destructive conflict.

2. The impoverished and relatively deprived people of the earth are becoming increasingly aware that a more just distribution of wealth and privilege is possible but not being attained; this awareness is combined with their acquisition of enough modern technology to fight for what they want.

3. There has been a failure to develop a religion that directs our ruling commitment to what actually operates in human life to create a wider and deeper community, a religion that is accessible to scientific inquiry as well as to commitment. This is the only kind of religion fit to meet the demands of the new age we are entering, because it alone is able to work most closely and co-operatively with science on the basic problems determining the good and evil of human existence.

Often in time of danger there comes to the religious mind the notion of supernatural intervention. God will intervene to save his people is the affirmation of this kind of faith. But this engenders a passivity that is itself one of the great dangers. If this passivity based on the hope of divine intervention should prevail, it will be as fatal as the other dangers we have mentioned. In the past, this propensity to passive trust was not so lethal, because men did not have the power to act with such magnitude of destruction or construction. Today, they do have this power. Consequently, passivity which refuses to use the available power constructively will expose us helplessly to its destructive use, and this can be fatal.

We are rapidly moving into that critical period in human history when decisions concerning how to deal with conflict must be made with a completeness and finality never before required.

Will it be that in times of conflict we fight to win with whatever means are available? If that should be our decision, civilization will not long endure.

Will it be to suppress all conflict with a superimposed order enforced by all the devices and sanctions available through modern technology? If that should be our decision, all the great values of life distinctively human will fade out of our existence.

Over against these two alternative ways of using technology to deal with conflict there is a third way. In this third way, physics and chemistry, biology and psychology, economics and all the social sciences may be applied to find out how the conflicting demands can be met by modification, reorganization, and new discovery. But this cannot occur unless our lives are ruled by commitment to this way of dealing with conflict.

The institutions of religion can come to appreciate more clearly from

the scientific community how open, conscious conflicts of ideas can be creative of better ideas and ways of living. In their limited problem areas, scientific communities have demonstrated ways in which open conflicts of ideas can be resolved by killing bad ideas with reason and evidence rather than by killing the scientists who hold them. Scientists have learned how to express openly, rather than suppress, conflicting ideas and, by this method, how to reach new levels of enriched understanding and consensus. Why cannot this same richness of creative conflict be applied to religious ideas to engender the ruling commitments to the total requirements for the life of the total interdependent human community? Could we not thus keep our precious freedoms and value differences while at the same time avoiding the hatred or destruction of our fellowmen and sister cultures with whom we are now interdependent?

#### THE GREATEST GOOD

Perhaps no idea is subject to greater diversity of meanings than *greatest good*. Yet nothing determines the course of human living more profoundly than what men choose as the greatest good. We shall treat the idea under the headings of freedom and love. These also are words of many meanings, but it may be simpler to seek clarity and some agreement on these than on the more comprehensive concept of greatest good. But we must say something about the good in general before we discuss these major forms of it.

Any limited goal-seeking activity viewed apart from all other activities is experienced as good when it successfully attains its goal. Therefore, a successful goal-seeking activity is the elementary unit of good.

But no limited goal-seeking activity can be separated from other activities. The goal of every activity is further activity. Also, the individual self is a vast complexity of goal-directed activities, both those concerned with internal or individual behavior and those relating to other individuals. This can be extended indefinitely.

Therefore, the good I experience can never be limited to any one activity, no matter how successful, but to the totality of all those with which I identify myself; and these in turn are dependent on other activities of which I have no knowledge. Therefore, it is impossible to estimate the good of life by computing the success of all the activities with which I am identified. Where and how, then, can I find the greatest good?

This brings us back to the creativity discussed throughout this argument. There is a creativity running through the whole of human

existence, selecting some activities, rejecting some, and transforming others in such a way as to carry through all of human life the maximum possible community of mutual support and the historic continuity of the community. To the degree that I can identify my good with this creativity, to that degree do I experience the greatest good. This is true if we define the good as any goal-seeking activity attaining its goal to whatever maximum degree is possible. The only activity involving the total self that can do this is this creativity.

The only good that I, as a total self, can experience is a good that involves the total self. To the degree that I identify my total self with this creativity running throughout the whole of human history and all society, to that degree do I experience the greatest good.

We can now look at freedom and love. We shall find them to be nothing other than forms of this greatest good.

*Freedom* in terms of a single activity is that activity attaining its goal. Freedom of the total self is that self attaining the one supreme unifying purpose for which it lives. If the self claims to have no one supreme unifying purpose but many purposes, either these obstruct and defeat one another or they support one another in some degree. To the measure that they obstruct and defeat one another, the individual is not free if we define freedom as any activity attaining its goal. To the measure that they support one another, the individual has freedom. But to the measure they support one another, they are implicitly parts of a single unifying goal. So our definition of freedom stands. The individual's consciousness is free only to the measure that he identifies himself with some one form of activity which is successful and which he prizes so highly that all his defeats, frustrations, rejections, and ignominies count as nothing against the success of this one ruling activity.

The individual may be imprisoned, frustrated, and defeated in many of his limited activities. He may even be killed, but if he can in some way make his limited frustrations, defeats, and death contributory to the one supreme form of activity for which he lives, he finds his freedom in the success of that activity. We have seen that the one activity that triumphs over all others and always makes for the greatest good when and where and to the degree it triumphs is the creativity we have been considering. Therefore, the individual and the community find fullest freedom to the measure that they commit themselves to this creativity.

There is objection to this from many who hold other forms of religion. Some will say there is a cosmic activity that goes on after human existence disappears. Only he has fullest freedom who identifies him-

self with the total cosmic process. Others will say that even this falls short of fullest freedom. Only he who identifies himself with the creative ground of all being can find fullest freedom, because this will continue when the cosmos disappears.

My reply is in the form of questions. Is it true that the total cosmos carries on any activity beyond human existence with which the human person and human community can truly identify without ascribing to the cosmos something pertaining to human existence?

Is it true that the ground of all being carries anything with which men can identify unless it involves potentialities of human existence?

It seems to me those questions answer themselves. Only by way of illusion can a human being identify himself with anything except the potentialities of human existence. He can identify himself with the destructive potentialities or with the constructive potentialities or with some mixture of these. But it would seem to be a self-contradiction to say that he can without illusion identify with anything that is not the potentiality of human existence. This excludes the subhuman cosmos except as it supports human existence; and the same applies to the ground of all being.

One may identify himself with the destructive potentialities of human existence, and if these win over the constructive he may be said to have attained his freedom. But one cannot attain fullest freedom in that way, because goal-seeking activities that cease cannot have as much freedom as goal-seeking activities that continue indefinitely attaining their goals.

Finally, let us say that if it be true that the total cosmos or the ground of all being is one single unified goal-seeking, then fullest freedom is found by identifying oneself with that activity, supposing one is able to know what it is. But, even so, he must find it in human existence, because that is where he is, and if he cannot find it there he cannot find it anywhere in such form that he can identify with it.

*Love* is generally considered to be a form of greatest good. But this word, like other words in common usage, is either highly ambiguous or else carries little meaning until carefully examined.

There are many kinds of love. We here wish to distinguish that one kind that has greatest value. The word "agape" has sometimes been used to distinguish this kind of love, but we shall not use it, because we believe it also is confusing. In our judgment, agape is not the kind of love that carries greatest value unless it is identified with what will here be defined as having this superior character.

## ZYGON

Love, like all forms of value, is one kind of goal-seeking activity. When love is identified with sex, as it often is, the goal-seeking activity is obvious. The kind of love here to be distinguished as having greatest value can be sexual in the sense that sex may be one ingredient. But it need not be sexual except as sex may be involved in response to the total self.

Love of the kind that carries greatest value is that response of one person to another (or to a community) that has two distinguishing characteristics: (1) it engages the total self more fully than any response other than the religious can do; (2) it unites what is good for the self with what is good for another self (or selves) to make a total good which is their summation. Yet this summation of all the goods is not merely their addition. This summation is the weaving of the goal-seeking activities of the two or more into a total unity such that each component activity is more effective in attaining its goal than it could be outside the co-operative system. Also, each component activity carries the value of the whole system. Furthermore, the creativity that weaves the activities of the two or more lives together operates to expand their community by weaving into their joined lives the activities of other people, expanding indefinitely into the economic, the political, the educational, the artistic, the interpersonal, and all the other activities of life.

When this kind of love takes the sexual form and creates a family, this indefinite expansion of activities weaving an ever wider system of support is obvious. But communities of various other kinds can be formed in this way. They exemplify love to the degree that (1) they engage the total self in response to others and (2) these responses create a common good of interwoven activities. The religious community aims at this kind of fellowship and under the leadership of great religious personalities has approached it. Also, the family has at times approximated it. Perhaps we should say that the great majority of religious institutions and families do not, but the religious community and the family community are based on principles more specially fitted to engage the total self than other communities. Also, in principle they are fitted to extend their community to bring more individuals and more causes and more values into the system of mutual support and common concern.

While this kind of love is of the highest order, some qualifications must be added. It was defined as engaging the total self more fully than other interests can do. But the words "more fully" must be emphasized.

There is reason to think that the total self is never completely and perfectly engaged. Always there are unconscious regions of the self that are withheld from the response. This is a matter of degree, in some cases much more, in other cases much less. Love may engage the total self more fully than any other response, yet in some cases no response may engage the self more than fragmentarily. Thus the response might be one of love and still fall far short of engaging the total self. Hereafter, when we speak of this kind of love engaging the total self, it should be understood that we mean to a higher degree than any other response can do except the religious. Whenever we speak of love as the "greatest," we mean to except the religious, unless the two merge into one, as is often the case.

Also, they who seek the way of love are perhaps more commonly addicted to illusions than when pursuing many other interests of human life. One may think that he is responding with his total self when that is very far from what actually happens. A passion that absorbs the conscious mind does not necessarily bring all the interests of the total self into action. There is the further illusion of thinking that one is responding to the other person or community when in truth he is responding to what he mistakenly thinks the other to be. In such a case, he is responding to some construction of his own imagination.

All of life is infected to various degrees with this failure to understand one's own self and the true selves of other persons. But, to the degree that that kind of love prevails which has the greatest content of value, sensitivities and intuitions are awakened to enable each to understand himself and the other more profoundly than is possible in any other relation.

One may think that he is loving with this superior kind of love when his love is really of a different sort. There is the kind of love that lavishes compassion and care on the other person without understanding the other person's true needs or responding to his true personality. Rather, in this kind of love the other person or the community is subordinated to the interests of the lover's own self. Instead of creative interchange, in which each creates the community of their shared lives, the other is treated as though he were a beloved piece of property and not truly another self. With this kind of love, one dominates and controls the other.

Then there is the opposite kind that might be called servile love. One subordinates himself to the other as a servant or a slave. The hidden desire in this case is to cast off responsibility for one's own activities, to



## ZYGON

have another take the responsibility. In the higher kind of love, each assumes responsibility for that united life made of the activities of the two meshed together to form a united life. But in servile love the individual assumes no responsibility, either for himself or for the other.

Then there is that kind of love in which each seeks the company of the other for the pleasure he gets out of it. This may be sexual, but not necessarily so. It may be the wit and charm of the other that gives the pleasure; it may be the fun they have together in games and at parties; it may be the glamor or fame of the other which one feels is reflected on himself by the association. There are many ways in which one may gain personal satisfaction from a relation called love which is not love of the highest order.

When we say that the love of greatest value is a weaving together of the diverse activities of the total selves of two or more individuals in mutual support to form a single life, we do not mean that this weaving together is done by the conscious control and direction of the participant individuals. This they could not do any more than one can create the living cells in his biological growth or direct the detailed operations of metabolism by which the organism lives. One can provide the conditions for this growth, but he cannot create and direct the operations of the million cells which are the growth. So also one cannot consciously direct the million subtle, complex, often unconscious impulses, sensitivities, and intuitions which create the community of two or more lives. This is the work of that creativity which has been our central theme. We can serve it, we can live for it, we can seek always to meet its required conditions. But if we tried to do by direct conscious control what this creativity does, it would be like trying to make the flower grow by direct control of the process of growth. We would kill the flower if we tried. So also love of the highest order is killed if we try to shape it to serve our present purposes rather than letting it creatively transform our purposes into a community of purposes.

Love is one of the supreme creations of this creativity, but love is not its only creation. To develop human existence, creativity is always operative at some level, whether conscious or unconscious. It is even present in hate. Hate has some kinship with love. Hate arises when individuals rebel against, and try to break, the bonds of interdependence which unite them. To the degree that people are independent of one another, they may be indifferent toward one another or feel contempt or disgust, but they do not hate. Hate arises when they fight against the interweaving of their diverse activities that create a life

shared together. Hate can obstruct this creativity but cannot eradicate it completely.

There is a kind of love called the love of all mankind. There is no community of all mankind in the sense that every individual responds to every other individual of the millions on earth or shares the culture of every other. What, then, can it mean to love all mankind?

To love all mankind means to be fully committed to the creativity that creates a shared life between individuals and peoples whenever association makes it possible. It means to be always in readiness to respond to every individual or community of individuals in a way that creates a community of value whenever conditions permit. It is also readiness to participate in a community of mutually sustaining individuals.

This participation in a community is also a form of love. This readiness to love may not always be actualized when one comes into personal contact with individuals and communities. The other person or the community of persons might use every approach you make serve the ends of hostility. But insofar as one is fully committed to the creativity that creates love when that is possible, one does in an indirect way love all mankind.

This love for all mankind requires a most complete commitment to the creativity that weaves the activities of diverse individuals into a system of mutual support. Only when this commitment to creativity is most profound can obstacles in some cases be overcome. But sometimes they cannot be overcome. Perhaps only a few persons throughout human history have given themselves to creativity with such a measure of completeness as to be able to love all mankind. But, like all such matters, this can be approximated to various degrees. According to the standard here adopted, this love for all mankind is the supreme attainment of human life and merges with the religious when fully developed. This kind of love is not a potentiality for all men, but it is a potentiality for human existence in the sense that it will be created where conditions permit.

In summary, the greatest good calling for religious commitment can be conceptualized thus: The greatest good is experienced when one is most fully committed to that creative interchange which integrates diverse activities into an expanding system, absorbing new activities when encountered, controlling conflicts and diversities in ways that are mutually sustaining, and endowing each participant activity with the value of the total expanding system. Even when this creativity is obstructed

## ZYGON

and beaten back, we experience the greatest good to the measure we are fully committed to it, because this creativity carries the potentiality of all the great values ever to be experienced in human existence. This is religious commitment of the kind to be joined with science.

### NOTES

1. Ian G. Barbour, *Issues in Science and Religion* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1966), p. 178.
2. John Wharton, "En Route to a Massacre?" *Saturday Review*, November 4, 1967, pp. 19-21.