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Matters of Life and Death

Paul Tournier, Christian Psychologist

"The fear of the Lord is the beginning of Wisdom." Psalm 111:10

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What Is Life?

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In beginning courses in Biology the meaning of the term Biology is usually asked, and the typical answer explains that the Greek roots of *bios* and *logos* stand for the study of life. The next question is then, of course, What is life? But can we actually go out in search of life and expect to find it? And would we be looking for a thing, a substance, a force, or a series of reactions? Or maybe something less concrete? History indicates that just to ask these questions may mean that we are on the wrong track, as the time worn dualism of Vitalism vs. Mechanism bears out.

Vitalism is seen by contemporary leading biologists as the doctrine that all things are controlled by supernatural, vital forces; and this doctrine, therefore, has no value in science. More specifically, vitalism explains life as something nonmaterial, as a unique force, or a mysterious property, an entelechy, which controls life, but which is not explainable in terms of chemistry or physics, and is forever outside possible observation or scientific explanation.

As a reaction to this position most modern biologists take the mechanistic position that life is ultimately explicable in terms of the same chemical and physical principles which define non-living systems. Life is then the result of special chemical and physical interrelations, and the phenomena peculiar to living things arise from the nature and complexity of their organization, and do not involve either materials or processes absent in the non-living world. The universe is said to be controlled by a natural set of laws (i.e., of physics and chemistry) and the controlling agent resides in the material itself and must consist of physical and chemical events only.

Is life nothing but the sum total of physical and chemical principles, or is life something more than or above these principles?

A Basic Dilemma

We have thus this basic dilemma: is life nothing but the sum total of physical and chemical principles, or is life something more than or above these principles? It should be pointed out, first of all, that this dilemma is not one of the Christian position over against the non-Christian. Both Christians and non-Christians are found in either camp, fighting shoulder to-shoulder against people in the other camp. Now it appears that the vitalists and the mechanists are both partly right and partly wrong. Their positions have become polar-

ized in reaction to each other, not only in recognition of part of the created structural order, but also in objection to the violation of structural order by the opposing camp. The vitalists have correctly recognized that life is more than simply a series of chemical reactions, while the mechanists have rightly seen that there is a physical basis underlying all life phenomena, and that a special, non-material substance is uncalled for. Yet, their formulation of the question, in terms of *what life is*, makes it in essence impossible for either camp to solve the problem.

Seeing some of the difficulties inherent in the problem, the Neo-vitalists have taken a new turn. Basing some of their arguments on experiments with sea-urchin eggs, which, when cut during the early stages of embryologic development, still ended up as perfectly normal sea-urchins, these men say that the germ cells develop as an 'harmonic equipotential system' in which all the elements have an equal disposition to direct toward the final result, in mutual harmonic cooperation. In the attempt to withdraw 'life' from the dominating rule of the mechanistic concept of causality, the position is taken that equifinality contradicts the physical laws and can be accomplished only by a soul-like vitalistic factor, called entelechy, which regulates these processes "in foresight of the goal" (i.e., the organism to be developed).

Countering this new position is Bertalanffy, for example, who says that equifinality is responsible for the primary regulability of organic systems, i.e., those regulations which cannot be based on predetermined structures or mechanisms. This, of course, puts us back at the original dilemma of opposing answers to the question, What is life?, except that the sparring ground has shifted slightly. But the basic problem is not any closer to being solved now than it was in its earlier form.

We are still steeped in the same problem today, and that it permeates our contemporary situations and difficulties is exemplified very clearly in the 1971 *Time* essay on "The New Genetics: Man Into Superman", where the introductory paragraph poses the same old dilemma in these words: "Perhaps it was simply a matter of chance, a random throw of the molecular dice. Perhaps some greater, transcendent force was at work in the earth's primeval seas." In the ensuing pages the problem of "life" is dealt with almost exclusively on the presupposition that life can be defined "in the logical language of chemistry." So in essence we have made no progress in the long search for that which is the essence of life.

A New Starting Point

As Christians we can of course not side wholeheartedly with either the vitalists or the mechanists. It is, therefore, not unfair to ask that we reconsider the entire question from a new starting point and that we discard not only the traditional answers but the original question as well. Obviously, if you ask the wrong question you can never arrive at the right answer.

Where do we go from here? We have to go all the way back to the beginning and ask what Biology really is. Instead of saying that Biology is the study of life, it would be more accurate to say that it is the study of living organisms. Now we do indeed have a turning point, for our next inquiry as to where we can find living organisms is one we can deal with very concretely. Whereas we were unable to find 'life', as such, anywhere around us, we have no difficulty recognizing living organisms, and find that, in the bargain, we also experience life, which is never found outside the context of living organisms.

There is a fundamental difference between all living things and non-living things, and this difference we are able to recognize in our naive, everyday experience. Thus any ordinary person can infallibly sort the world around him into lifeless or inorganic, and living things. He will see that life is not just scattered all over, but exists only in individual organisms. This recognition is not a superimposition of order by our mind on a chaotic world, but a true recognition of the order which God created in the cosmos. And we are able to recognize this order, although always imperfectly because of sin, because God created us with that ability, which is part of our being human.

The fact is inescapable that the biotic aspect is inseparably intertwined with the other aspects . . . . Yet it is the biotic which you recognize, and it is the biotic only which sets the organism apart as a living thing.

We are forced to admit the validity of our everyday experience, for if we deny it we are in serious trouble. On what basis would we then accept the claim that the sky is blue, or that lead is heavier than water? And if we could not rely on our experience, is there any basis on which we can accept anything at all? Our naive experience is, by and large, reliable even if our understanding of what we experience may have to be corrected by theoretical analysis.

The question is, therefore, not *whether* living things are different from non-living things, but *how* they differ. If at this point we say that that which makes living organisms different from non-living things is "life" we will be right back at the dilemma we seek to escape, for our next question could then, again, be, What is life, a process, a substance, etc.? We should, instead, recognize that all living organisms have something which we all recognize, and which allows us to group them together as living beings, and this something we call the biotic aspect of the organism. There are several observations we can make about the biotic. First of all we must say that the biotic is irreducible, and in this respect is like numbers, space and motion. I will say more about this subsequently. Secondly, we must see that the biotic cannot be equated with a machine. The concept of the animal (or man) being a machine was posited by Descartes already in the 17th century, where he thought in terms of a mechanical machine such as the clock. With increasing refinement of the machines invented, the model for an animal changed accordingly to a heat machine, to a cybernetic machine, and presently to a molecular machine which controls itself by means of its structures and configurations at the molecular level. But no matter how refined our machine may be, we are always left with the nasty problem of how the machine originated, of what regu-

lates any deviations which may occur from the pattern for which it was programmed, and lastly of where to find a machine which today could actually serve as a model for demonstrating the different metabolic or protoplasmic properties, and their organizational coherence. Thirdly, we can assert that the biotic is that which sets living organisms apart from the inorganic world. And that which sets them apart is not "life", but the fact that they are living.

The Cell

If we now, as biologists, ask what makes an organism different from all inorganic things, we call to mind the fact that all living things are made up of the same unit, the cell. All unicellular organisms, like an alga or an ameba, are cells, while all multicellular organisms, whether plants, animals, or man, are made up of a number of different cells. We may also say that all organisms are made of protoplasm; i.e., the stuff of which cells are made. All cells have what we know as the protoplasmic properties, which are those functions which we can observe in all living cells, more in some cells and less in others, yet always present. All these functions can be summarized in the term metabolism, which includes respiration, digestion, growth, reproduction, assimilation, secretion, excretion, irritability, conductivity and contractility. Besides these functions of protoplasm, we could list the organic constituents which are found in organisms and which are not normally found in organic things, as well as their dynamic organization which regulates the functioning of an organism in the full context of its living conditions. Although we can enumerate all these different constituents, properties and functions of an organism, however, the sum total of these is not equal to the organism. There are always more questions to be asked and to be answered about a living organism than we can enumerate in a list of properties or of constituents.

We can categorize the different types of questions which we can ask about an organism, and in analyzing what type of questions these are, we will also more clearly see what it is that sets inorganic things apart from living organisms. Some of the questions we may ask are of a strictly numeric nature, involving the number of sepals and petals of a flower, the number of toes on a paw, etc. The question here is always,

A living organism is an organism . . . because of its unique constitution and organization.

How many?, and is strictly on the arithmetic level. Another kind of question which we can raise involves the spatial aspect of the organism, and here we ask about size, relationship, as, e.g., in the question of the size of the internode on a stem, or the relationship of the pancreas to the duodenum. The answer to this type of question will not only require numbers but also a unit of distance. The variety of questions in this category is obviously much richer than in the first category. The third category involves questions of a physical nature, where besides numbers and distance the element of time also enters in, and thus allows us to express something about the forces, motion, speed, reactions, etc., with which we deal. Physicists and chemists are asking questions of this nature all the time, and those who ask these questions about living organisms are of course the biophysicists and the biochemists. In the molecular biology of today very many of the questions asked are of this nature. But although the results of the work of the biophysicist and biochemist are of great interest and importance to the biologist, this work is not, strictly speaking, of a biological nature, and can only be subservient to the real work of the biologist, which deals with questions of a different nature, and which uses the results of these other fields to augment the foundational knowledge on which biology is built.

Biotic Aspect

The biologist deals with the biotic aspect of the organism, and is not content to limit himself to asking mathematical, chemical or physical questions about the organism, important as those questions may be. Truly biologic questions deal with numbers, distance, and time, but in addition must concern themselves with the dynamic organization of the organism, and delve into its complexity, its organization in the full context of life, as that particular organism lives it. If we limit ourselves to asking physical and chemical questions we will limit our knowledge to physical and chemical knowledge. But as biologists we must ask other questions which cannot be answered by chemistry or physics, and which will open up vistas of biotic knowledge. When we deal with problems of inheritance, dominance and epistasis may be explained on a biochemical basis, but can never be fully expressed in terms of chemistry, because they are more than just chemical reactions. The place of an alga in the food chain, too, cannot be expressed just in terms of chemistry even though as a food it undergoes a number of chemical reactions. Tropisms of plants are known to be based on chemical and physical principles, as, e.g., the growth of roots toward their source of water, but all chemical and physical principles put together fall far short of explaining the full situation in which this tropism occurs. Or, again, the relation of the structure and function of, e.g., a mitochondrion is a matter of concern strictly for the biologist. And the parent-to-offspring relationship which exists between a plant and its seedling, or between a child and its biologic father, is forever beyond the reach of chemistry and physics, even though these fields may contribute much toward an understanding of how this relationship came about. The complexity of metabolic pathways, their purpose and interrelationships among each other, placed in the wider context of cell organization, is still another situation which is accessible only to biology. These are only a few representative examples demonstrating the fact that a number of questions can and must be asked by the biologist beyond those dealing with physical, chemical and mathematical aspects of an organism in order for the biologist to be truly active as a biologist. And it is in his asking these questions that he begins to uncover the biotic aspect of the organism in all its complexity and beauty. In finding out more about the biotic aspect he will then also find out more about what the living organism (or "life") is all about.

Now the task remains to elucidate the relationship of the biotic to the other aspects of an organism. When

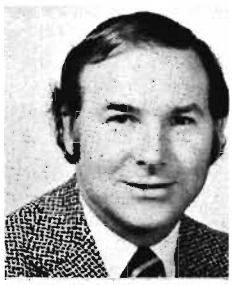
we see a living organism we recognize its biotic aspect in our naive experience, and immediately we want, as scientists, to ask many questions about this organism. But as soon as we subject the organism to analysis, we find that inevitably we become involved in questions which are also of a physical, spatial or numeric nature. The fact is inescapable that the biotic aspect is inseparably intertwined with the other aspects, and, in fact, presupposes the other aspects, and is based on them. Yet it is the biotic which you recognize, and it is the biotic only which sets the organism apart as a living being. But it is not simply a *super additum* which can be separated from the rest, analyzed all by itself, and then restored to the "lower" part. It is therefore easy to see why in many instances the failure to distinguish the biotic aspect from the other aspects results in a number of problems which are of such a nature that they cannot be solved unless the questions asked are replaced with truly pertinent ones.

An Example

In conclusion I would like to demonstrate with an example some of the implications of the above. We may be able to find a calcium carbonate molecule outside as part of the soil. This molecule is subject to the elements of nature, and may some day, after a heavy rain, be dissolved in water, and subsequently, after the water evaporates, recrystallize and again be just a part of the soil. At a later date a cabbage seed may fall in the soil, sprout, and grow into a cabbage. Again the rains come, and the molecule of calcium carbonate is dissolved in the water. But this time it is absorbed by the roots of the cabbage, and the molecule becomes part of the mineral content of the cabbage, or it may be incorporated into an organelle of a cell, and become an integral part of the plant. If now a rabbit comes along and eats the cabbage, the same calcium carbonate molecule enters the digestive system of the rabbit and hence is absorbed into the blood stream, and may eventually end up as part of the rabbit's bone. The molecule, in a physical sense, has not changed at all, for structurally it is the same. But the status of the molecule when it is part of the cabbage's organelle or the rabbit's bone has radically changed, because it has become an integral part of an organism, where it plays a role in the total life situation of the plant or animal. As long as it participates in the complex organizational set-up of the organism, as part of the skeletal system for locomotion, or as part of the intricate mass of metabolic pathways within any cell, the calcium carbonate molecule has a status different from when it is merely a part of the soil.

It is therefore not the structure of the molecule, nor the biochemical reactions in which it is capable of participating, which gives the calcium carbonate molecule its special status, but its being a part of a living organism. And in a similar way we can say that a living organism is an organism, not because of its chemical constituents or reactions, or of its physical properties, but because of its unique constitution and organization, which is characteristic only of living organisms, which is recognizable by an individual in his native experience, and which is distinct from, and yet inseparably intertwined with, the other aspects of the organism.

Christian Perspectives on Abortion



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The subject of abortion is one manifesting particularly strong coupling between Christian and environmental concerns. This paper will attempt an analysis of this relationship, concentrating on the moral aspects of abortion as seen from a Christian perspective.

Methodology

Abortion is a very complex subject and because of this complexity many people have made up their minds on the matter based upon the emotions that are related to a few key phrases such as "sanctity of life," "murder of human beings," or "secret and loathsome crime." It is not the triggering of emotional responses by value-laden words that I would object to, but the attitude that these few trigger words suffice to come to a reasoned conclusion on the subject. In an attempt to minimize the impact of value-laden terminology, I would like to use a method of analysis which I find to be helpful in dealing with moral questions that are further complicated by legal prohibitions.

Let me illustrate this method by supposing there exists some aspect of human behavior, call it X, which has been regarded by a large enough segment of a society as sufficiently immoral or "bad" so that a law or code has been enacted or otherwise established prohibiting X. For example, X could be miscegenation in the deep south, skinny-dipping in Vermont, or wearing clothes in Kampala, Uganda. [1, 2] The dispassionate analysis of the X issue proceeds as follows. One attempts to discover all the reasons why the society regards X as immoral and then one tries to find the reasons why the prohibition of X works to the disadvantage of that society. Once the reasons are accumulated, the analysis continues with a careful assessment of the validity of each reason proposed. The investigator arrives at his conclusion that X is indeed "bad" for that society or that its prohibition is just as bad or worse through a subjective weighing of the relative merits of each argument.

The analysis is based upon the existence of negative aspects, both of X itself and its prohibition. The reason that the negative or "bad" aspects are examined is because the law enters the moral scene only through negative commandment, "Thou shalt not." Societies do not make laws prescribing *good* behavior. As the apostle Paul observed, "It was the law that made me know what sin is. For I would not have known what it is to covet if the law had not said, 'Do not covet.' "[3]

The analysis concludes with a *subjective* evaluation of all the reasons proposed as to why X is bad and why its prohibition is bad. It may happen that scientific or objective data will be used in support of one or more of the reasons examined. This does not alter the fact that the final evaluation of the situation cannot be a scientific one. However logical one tries to be in his analysis of the situation, he cannot automatically expect someone else who has followed the analysis to arrive at the same conclusions. As G. J. Warneck has observed, moral arguments suffer the handicap that while an argument offers reasons to people, people are not always reasonable.[4] In spite of this difficulty, the exercise we are about to go through will still accomplish an important objective, namely, to force a subject which is heavily cloaked with emotionalism to open itself up to the light of patient inquiry.

Moral Propositions on Abortion

We must now get down to cases. X is going to be abortion and the prohibition of X, of course, refers to the antiabortion laws on the statute books of most states in our country. Our methodology calls for the assembling of all the major reasons offered as to why abortion is immoral and then the reasons why the laws against it are bad for our society. This task is not made less arduous merely because there can be only a relatively small number of *major* reasons to assemble. The difficulty comes in stating these reasons so that they overlap as little as possible and still cover the necessary territory. Some indication of this territory is suggested by Daniel Callahan in his book, *Abortion: Law, Choice, and Morality.* He notes that, "Abortion is at once a moral, medical, legal, sociological, philosophical, demographic, and psychological problem, not readily amendable to one-dimensional thinking."[5] These category labels merely suggest the extent of the territory to be examined and are not intended to define separate areas of concern that are relatively isolated from one another. It is important that none of these broad categories is overlooked in the process of analysis we are undertaking.

Our methodology calls for the assembling of all the major reasons offered as to why abortion is immoral and then the reasons why the laws against it are bad for our society.

This process can be continued by listing two separate sets of propositions. The first set states the major reasons why it is claimed that abortion is immoral or otherwise bad for a society. The second deals with the major reasons why it is claimed that antiabortion laws raise moral questions.

In the first set I include four propositions which seem to cover the moral, theological, legal, and sociological aspects of the antiabortion side of the issue. These are:

1. An abortion terminates human life.
2. An abortion interferes with the Divine Plan.
3. An abortion interferes with the rights of the fetus.
4. Abortion fosters sexual promiscuity.

In the second set are five propositions which relate to laws prohibiting abortion and which seem to cover the ethical, sociological, medical, legal, and religious aspects of this side of the issue. These are:

1. The law denies a woman authority over her own body.
2. The law forces unwanted children upon society.
3. The law discriminates against females and low income groups.
4. The law gives preference to one religion over others.
5. The law can be held responsible for unsafe medical practices.

I have arranged the order of these propositions to indicate roughly my own evaluation of their relative weights.

We now undertake an examination of each of the nine propositions stated above, attempting in each case to see if a Christian perspective tends to support or refute it.

Analysis of the Propositions

A. *The Antiabortion Propositions*

1. *An abortion terminates human life.*

There is no doubt that this proposition is used most frequently by those who are opposed to abortion. A pamphlet published by the Knights of Columbus expresses this point of view rather succinctly: "The killing

My interest in this subject grows out of a long study, extending over some 25 years, of the Biblical teaching on the nature of man. This study, quite logically, led to the consideration of such questions as, "When does man have his beginning?" I soon found that the subject of abortion is closely intertwined with these theological issues with the result that my theological interest began to expand into the social, medical, and legal aspects of abortion. My association with people interested primarily in the latter led to the formation of a local chapter of the California Committee on Therapeutic Abortion for which I served as chairman until its merger with a local affiliate of Planned Parenthood. I now serve as Vice President of the board of directors of this organization.

The labeling of the blastocyst as a human being at this stage depends completely on the attitude and cultural religious background of the potential mother.

of human beings through abortion strikes at the common good so gravely that it endangers the fabric of society and so should be suppressed by law."[6] With terms that home in on their emotional targets, this statement demonstrates that little progress is likely until the central issue is separated out from the proposition. This central issue can be cast in the form of a question. "When does human life begin?"[7]

A variety of answers have been offered to this question over several centuries of contemplation by theologians, philosophers, legal scholars, and scientists. They range from the moment of conception, to implantation, to ensoulment, to quickening, to viability, to actual birth and possibly even beyond birth. I would like to comment briefly on these various answers in order to provide an indication of the wide variety of philosophies and opinions one can encounter in this study. For those desiring a more exhaustive treatment of the question, Callahan's book makes an excellent reference.[8]

a. *Conception*

That the moment of conception marks the beginning of human life is the position of most Roman Catholics.[9,10] A Catholic friend of mine, and incidently a scientist, remarked that he accepted this teaching simply because the time of conception was well defined—any later stage of development was too fuzzy to use as a starting point. Certainly there is no debate about the fact that conception marks the beginning of a developmental process which eventually culminates in a human being. And there is no debate about the fact that conception does take place at a definite point in time. But when the definiteness of time is coupled with the indefiniteness which is intrinsic in the word "human" the result is a concept which has little pragmatic value.

The set of responses that are triggered when a person hears or reads the word "human" are typically those resulting from his experiences with adult persons, not from experiences with children or babies or fetuses and certainly not from his experiences with newly fertilized ova. The application of the word "human" to that which is potentially human is a perfectly legitimate use of the figure of speech synecdoche, or the substitution of the part for the whole. Unfortunately, the use of this figure of speech is not sufficient to convey the status of fact to that to which it is applied. For example, the figure synecdoche would allow the term "human being" to be applied to an unfertilized ovum provided that the particular ovum in mind was regarded as eventually developing into a full-fledged person. But to then insist that the unfertilized ovum is, in fact, a human being is to debase and degrade a valuable tool of language, the figure of speech.

It would be naive to suppose that the traditional Catholic teaching is adhered to by all practicing Catholics. A typical liberal Catholic position has been stated by Father Joseph F. Donceel, S.J., Ph.D.:

> Nobody can tell with certitude when a child is capable of performing his first free moral choice, but all of us are quite certain that, during the first months or years of his life, a human baby is not yet a free moral agent. Likewise I do not know when the human soul is infused, when the embryo becomes human. But I feel certain that there is no human soul, hence no human person, during the first few weeks of pregnancy, as long as the embryo remains in the vegetative stage of its development.[11]

In addition, Daniel Callahan, a Catholic and former editor of *Commonweal,* in which he published strong antiabortion editorials, after his four years of exhaustive study and research on abortion, is able to state, ". . . at no stage of its development does the conceptus fulfill the definition of a person, which implies a developed capacity for reasoning, willing, desiring and relating to others . . ."[12] These opinions are in stark contrast to another statement in the Knights of Columbus pamphlet, "Biologically it is clear that life is present from the first moment of conception and all the evidence is in favor of saying that the resulting fetus is a truly human being."[13]

b. *Implantation*

Implantation of the fertilized ovum in the uterine wall occurs about a week after conception. This stage of embryonic development is crucial, and there is a probability of somewhere between 10% and 38% (depending on which authority is cited) that a spontaneous abortion will terminate the pregnancy due to failure to achieve implantation.[14] Without implantation the hormonal changes which signal the onset of pregnancy would not take place and the fact of fertilization would go undetected. Paul Ramsey, a Protestant ethicist, discusses the idea that the human being begins at the time of implantation.[15] The point made is that the growing mass of cells (now called a blastocyst), once implanted, begins the development of its own "life support system" in the uterine wall. In a sense, the mother merely supports the parasitic existence of a

CONSTITUTIONAL GUARANTEES

The thrust of our more recent Civil Rights laws as well as the Fourteenth amendment are designed to make clear that its legal guarantees cannot be denied any person within the jurisdiction of the States. There are no categories in the Constitution such as slaves or free, black or white, born or unborn . . . in fact the constitutional guarantee of equal protection has been applied to business corporations as persons. How can it be denied to unborn children who are in actual fact, living human beings? . . .

To argue that abortion is a private matter is to put all of our rights upon the uncertain ground of shifting sands. It is unacceptable to leave a moral or ethical judgment to any individual when the rights of a third party are at stake. There is no room for tolerance when

new living entity within her.

In what sense is this entity "human"? The question now is a little different than it was at the moment of conception. Here the existence of the blastocyst is clinically detectable, and in a few days the potential mother will know of its presence through her first missed period.

Once she becomes aware of the fact of her pregnancy, the whole complex of attitudes and expectations will begin to determine how she views this "new development." If the pregnancy has been hoped for, human status is attributed at once. If the pregnancy is a disaster for her she may regard the intruder as human but she is likely to develop a hatred for it.

The labeling of the blastocyst as a human being at this stage depends completely on the attitude and cultural-religious background of the potential mother. Theologians and philosophers may engage in eloquent debates over whether the entity is human or not, but they are not the ones that are pregnant. How can they, or any outsider for that matter, make the determination for this woman that she has a human being within her when "human" is such a subjective quality at this stage?

c. *Ensoulment*

The concept of ensoulment or the "infusion" of the soul has an important bearing on the question we are exploring especially since we are interested in a Christian perspective. Here we encounter what is purported to be a Divine act, the merging together of the human soul and body even though the body has only the most primitive form. If it can be established that ensoulment is something that indeed occurs in the womb of a pregnant woman, and not merely in the minds of theologians, then we have the answer to the question, "When does human life begin?"

In all the research I have done on the subject of man's nature I have yet to come across an elaboration of the process of ensoulment. Because of this deficiency in my resource material I am forced to extrapolate from the implications contained in the terminology and from widely held religious beliefs in the existence of the soul.

Ensoulment, then, seems to imply a supernatural process in which a preexisting or newly created entity called the soul is somehow merged with or infused into or otherwise intimately identified with the group of cells that is called the embryo. Whether this merging is done in the space-time realm of the embryo or whether it extends beyond the four dimensions of the physical world is a matter only for speculation.

However, as scientists who also have the conviction that the Scriptures have something authentic to say to mankind, we can do more than speculate. The Bible contains 859 occurrences of the Hebrew word *nephesh* and the Greek word *psuchē* (the words commonly translated soul). A study of all these occurrences has persuaded me that the Biblical writers do not set forth a dichotomy or a trichotomy in man's nature. Instead, they see man as a unity, with the word soul describing this unity from the sentient point of view. Nowhere in the entire Bible is there real evidence that an entity called the soul has an existence separate and independent from the physical body. Any attempt on my part to substantiate this assertion would take us far from our subject so I shall resist the temptation. Instead, may I observe that the pages of the *Journal of the American Scientific Affiliation* have carried several articles in past issues which tend to refute this dogma.[16]

> *When those trained in the respective disciplines of medicine, philosophy and theology are unable to arrive at any consensus, the judiciary, at this point in the development of man's knowledge, is not in a position to speculate as to the answer . . . . All this, together with our observation that throughout the major portion of the 19th Century prevailing legal abortion practices were far freer than they are today, persuades us that the word "person", as used in the 14th Amendment does not include the unborn.*
>
> **Harry A. Blackmun**
> Justice of the United States Supreme Court
> February 1973

d. *Quickening and Viability*

These two terms are considered together since they have a close relationship, medically and philosophically. Quickening, of course, refers to the first movements of the fetus that can be felt by the mother and takes place generally between the 13th and the 16th week. Viability is defined as occurring near the 20th week when the fetus has a definite chance of surviving outside the uterine environment.

The embryo announces its presence through chemical signals. As already discussed, these signals can be interpreted variously by the mother who may or may not attribute human status to the entity causing them.

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human life is at stake. A basic, fundamental human right as well as a moral issue is contained here and it cannot be satisfactorily answered by saying "you may kill" but "I will not kill." There is no room for tolerance here. We all admit that we have a pluralistic society . . . but that society has become a corrupt society when we can't agree on human life.

The idea that abortion should be elective is an outrage to the conscience of hosts of Americans and attempts to legalize it either by judicial decisions or acts of the State legislatures or the Congress will polarize millions of Americans against those who make their laws and those who interpret them.

To set aside the laws governing abortion could establish "irresponsibility" as the new norm for our society. If abortion becomes a right, shall the support of a child by his parents, or the support of a family by its father, also become an elective for those who do not want to face all the consequences of the decision to marry?

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Fetal movements, on the other hand, provide signs of life which have more than just symbolic content. The mother's interpretation of these signs of life are still highly dependent upon her attitude toward her pregnancy. If the pregnancy is desired, quickening is accompanied by joy; if not, then anxiety is increased and could mount to desperation levels.

It can be seen that attributing human status to the fetus is still an arbitrary matter depending on the attitudes of the observers. Outsiders, through common law up to the nineteenth century, have generally regarded quickening as a point beyond which the fetus should have the protection of law.[17] As medical knowledge increased and showed that no logical distinction could be made between the fetus before and after quickening, the religious climate of the times prevailed to cause legislatures to move this legal protection back to the time of conception. The current trend toward a liberalization of these legal restraints has recognized that the concept of viability implies more than just the ability to live outside the womb.

e. *Summary*

Our examination has been sufficient to demonstrate that the concept of human life is a growing, a developing thing which roughly parallels the growth and development of the fetus itself. Of course, there are those who contend for its full humanity from the moment of conception, but their argument is based more on the sanctity of life in *any* form rather than attributed human status.

The proposition that abortion terminates human life can then be said to have increasing validity with the length of time that has elapsed since conception.

2. *An abortion interferes with the Divine Plan.*

The analysis of this proposition requires knowledge of the Divine Plan as it relates to the existence of human life in general and individual human beings in particular. I have been able to isolate three reasons that are usually offered in this category by antiabortionists.

a. *An abortion prevents a soul from entering the world.*

This reason is based on a belief in preexistent souls that live in some supernatural realm prior to the preparation of a human body for them to inhabit. Since I have already dealt with the theory of ensoulment and its lack of support both in the Scriptures and in science it should not be necessary to comment further on this point. However, it is interesting to observe that the Mormons, who believe in pre-existence, are strongly opposed to abortion and that India, where there is an almost universal belief in reincarnation, had restrictive abortion laws. Population problems in India have proved to be of greater moment than religious tenets, and a much more permissive statute is about to be adopted.[18]

b. *An abortion deprives God of a potential worshipper.*

The Bible ought to be a valid source of information on this point, but the only passage I can find that deals with God seeking worshippers is John 4:23. It would appear that *quality* of worship, not *quantity,* is of greater value to God.

Another passage that bears tangentially on this point is Matthew 3:7-9. If God were being denied potential worshippers because of interrupted pregnancies, it would seem that He is able to cope with the problem, resorting to rocks if necessary.

c. *Abortion violates God's command to multiply and replenish the earth.*

William Pollard has pointed out that the lot has fallen to the present generation to experience the fulfillment of the injunction of Genesis 1:28.[19] We are now hearing the pleas of the experts, "Please turn off the people machine!" With the doubling time of world population now at about 35 years and with the prospect that some of us here may have to live in a world of 6 billion people, we can rightfully ask if the earth has not indeed been replenished to God's satisfaction. Since He has allowed nations to walk in their own ways,[20] it would appear that man is forced to use his own best judgment on how many people he can stand to have around him. Some nations, such as Japan and Hungary, have determined that they have enough people for the resources available and allow abortions to be practiced as a primary method of birth control. The argument that abortion is wrong because it doesn't allow the population to grow would not be warmly welcomed in such countries.

3. *Abortion interferes with the rights of the fetus.*

This proposition arises from the fact that law, tort law in particular, recognizes that the unborn fetus has certain rights. Abortion makes it impossible for the

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POTENTIAL VS. ACTUALIZED HUMANITY?

Some opponents of abortion . . would claim that something may have a right to life not only in virtue of its present properties, but also in virtue of its potentialities—the properties that it will come to possess in the normal course of its development. . . .

Let us suppose that technology has advanced so that it is possible to construct humans in the laboratory, starting with just the chemical elements. . . . Given these technological advances, suppose that we put together an adult human in the laboratory, carrying out the construction at a temperature at which it will be frozen. . . . If we now allow the organism to thaw out, we will have a conscious, adult human being with beliefs, desires, and a distinct personality.

But what if . . . we grind it up, (still unthawed)? . . . Would our action be open to moral criticism? In particular, would we have been guilty of murdering an innocent person? Surely not. Until the organism has been brought to consciousness and until it envisages a future for itself, and has hopes and desires about such a future, one does not violate anyone's right to life by destroying it. This example shows that a thing does not possess a right to life simply in virtue of its potentialities.

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Stanford Daily, November 17, 1972

fetus to enjoy these rights and therefore must be immoral. The argument is based on the contention that law, being a distillation of what is in the public mind, reflects at least a relative morality.

Noonan and Louisell, in Noonan's book *The Morality of Abortion*, deal with this point at some length.[21] The following paragraph illustrates the approach taken.

> The tort law is not simply a guide to the status of the fetus in one branch of the law. It is a reflection of how judges responding to changing medical knowledge and attempting to do justice have come to regard the being in the womb. In the words of Dean Prosser summarizing the revolution in tort law, "all writers who have discussed the problem have joined in condemning the old rule and in maintaining that the unborn child in the path of an automobile is as much a person in the street as the mother." We shall see if the unborn child can become less than a person if he stands in the path, not of a negligent motorist, but of a surgeon who would take his life.

Apart from the fact that the supposed analogy in the last statement is grossly deficient in its logical structure, the argument set forth above contends that if tort law recognizes the fetus as a person then there is greater reason for maintaining antiabortion laws.

The situations that arise in tort actions on behalf of a fetus, however, actually support my contentions that the person status of a fetus is an attributed rather than an absolute quality. Let me illustrate with this example. Suppose a woman is crossing the street on her way to get a legal abortion and she is struck by a negligent motorist with the result that the fetus is killed. Now I have no doubt that any jury would award the fetus damages (payable to the mother) as a result of a wrongful death. But what would the jury do if it knew the mother was planning on an abortion? Furthermore, if the mother were honest would there even be a tort action on behalf of the fetus?

4. *Abortion fosters sexual promiscuity.*

The public seems to be about equally divided on this proposition. In a nationwide survey conducted by Louis Harris 42% agreed with the proposition, 45% disagreed, and 13% were not sure.[22] About the same time the survey results were published, an assistant professor of obstetrics and gynecology at University Hospital, San Diego, Dr. Paul Brenner, noted that there had been a sharp increase in the number of abortions performed on girls under 21. He said, "Many more are getting pregnant now, because fewer are taking the pill in concern over its effects."[23]

The proposition could be stated as follows: Since abortion provides a sure cure for the pregnancy problem, many more people will engage in illicit sexual activities. Whether the increase in the number of legal abortions is a direct indication of an increase in promiscuity or reflects changes in other variables such as a decrease in illegal abortions, only further research can verify. Garrett Hardin has pointed out that people do not avoid committing a dangerous or wrongful act merely on the basis of the risk of getting hurt or getting caught unless the risk is better than 1 in 10. This means that fear of pregnancy could reasonably deter illicit sexual relations without responsible use of contraceptives if the chance of becoming pregnant were close to 1 in 10 or greater. However, studies show that this probability is more like 1 in 25, which is far smaller than the level needed to be an effective deterrent.

I am of the personal opinion that sexual promiscuity has a deleterious effect upon the kind of human relationships that are conducive to a stable society. But I also believe that human nature is such that unless a bad effect follows a pleasurable activity in such a direct and forceful way that the connection is unmistakable, it is unlikely that man will cease that particular activity on the basis of the bad effect alone. Until carefully controlled research studies indicate to the contrary I think it is more reasonable to attribute a rising promiscuity (if indeed, this is the case) to a complex of other pathological social factors rather than to the availability of legal abortions.

I think the evidence is mounting to justify enlarging the scope of the phenomenon "battered child syndrome" by using the term "unwanted child syndrome."

B. *The Anti-Law Propositions*

When I use the term law in these propositions, I mean that law which would prohibit abortion for whatever reason. Of course, no law is that prescriptive. Even the states with the most restrictive statutes make exceptions for the preservation of the life of the mother. But I am referring to that overriding philosophy which, if it could prevail, would eliminate even the exceptions.

1. *The law denies a woman authority over her own body.*

In the face of mounting feminine militancy, even the most ardent advocates of male supremacy are beginning to acknowledge that a woman may have a few rights over her own body. The fact that women have minds as well as bodies is also being recognized, as indicated by a small but growing number of state legislatures that have made provision for abortion on mental health grounds.

Even with abortion law liberalization there are those who contend that the restrictions on what is regarded to be a personal medical problem are demeaning to a woman. As Alice Rossi put it, "A woman may have compelling reasons for not having a child, but if they are not pathological, she has the cruel choice of hypocritical feigning or seeking an illegal abortion. She must show her 'weaknesses' not her 'strengths.' "[24] As a specific example of this, consider the wording of the mental health provision of the California Therapeutic Abortion Act:

> 25951. (e)(1) (An abortion is authorized if) there is substantial risk that continuance of the pregnancy would gravely impair the physical or mental health of the mother.
> 25954. The term "mental health" as used in Section 25951 means mental illness to the extent that the woman is dangerous to herself or the person or property of others or is in need of supervision or restraint.

The American Civil Liberties Union has taken the position that, "It should not be deemed a crime for a woman to seek, and for a doctor to perform, the termination of a pregnancy in accordance with generally accepted community standards of medical practice."[25] The ACLU views present laws as unconstitutional because (among other reasons)

Whether we like it or not, our system honors the rich and dishonors the poor, and the law is the tool used to make this happen.

> They infringe the Constitutional right to decide whether and when to have a child, as well as the marital right of privacy and the privacy of the relationship between patient and physician. (Furthermore), they deprive women of their lives and liberty in the sense of deciding how their bodies are to be used, without due process of law.[26]

The main argument that contradicts this proposition is that the rights of the woman are not absolute and that they must be balanced against the rights of the fetus she carries. Callahan pursues this line and finds that neither extreme, the absolute right of the woman to abort or the absolute right of the fetus to live, can accommodate the multitude of other dimensions that are necessarily intrinsic to the abortion decision.[27]

2. *The law forces unwanted children upon society.*

A new term has recently thrust itself into medical, legal, and sociological parlance. It is "the battered child syndrome." Hardly a week goes by without the newspaper reporting on a child beating case or perhaps a child's death with the cause still under investigation. I think the evidence is mounting to justify enlarging the scope of the phenomenon by using the term "unwanted child syndrome." This is not to suggest that all battered children were born unwanted, but the etiology of these cases may show that being unwanted is a common factor in many of them.

It is probably important to distinguish between an unwanted pregnancy and an unwanted child. The former may be the result of fear of childbirth or the embarrassment or inconvenience of a protruding abdomen. Upon reflection or counseling the woman may grow to accept the prospect of having a baby even though still maintaining negative feelings about her pregnant condition. The real problem of the unwanted child arises out of either the mother or father or both being unable, for whatever reason, to accept the long-term consequences of the pregnancy.

Evidence supporting the proposition comes from several studies done in Sweden where a moderate abortion law has been in effect since 1939. One follow-up study of 120 children born between 1939 and 1941 after an application for a therapeutic abortion had been refused, made assessment of their mental health, social adjustment, and eductional level through age 21. Comparison was made to a control group born at the same time in the same hospital or in the same district. The results of the study indicated that, "The unwanted children were worse off in every respect . . . The differences were often significant (statistically) and when they were not, they pointed in the same direction . . . to a worse lot for the unwanted child."[28]

Callahan discounts the implications of these studies suggesting that the refusal of the abortion in itself could have a tendency to produce a negative reaction against the child. In addition there was a significant number of mothers who, while having an abortion refused, nevertheless made a normal adjustment after delivery.[29] While Callahan may have a point in cautioning us not to be too quickly swayed by these studies, I feel that he is sidestepping a major conclusion, namely, that a large number of unwanted children did indeed encounter a sufficiently hostile environment so as to cause both them and society a degree of anguish which is rather difficult to justify.

3. *The law discriminates unfairly against women and low income groups.*

I have made a fine distinction between this proposition and the first of this set on the basis that the first proposition deals with the woman's own personal autonomy whereas the present one is concerned with class discrimination. Both propositions come under the province of the Fourteenth Amendment.

Perhaps a woman's point of view could be allowed at this time. In an essay entitled, "A Woman Views Abortion," Marya Mannes says:

> Who decided that life began—and was therefore sacred—when sperm and ovum met? Men of the cloth, who never bore or suckled a child. Who drew up the laws that determined in effect, that women had no control over the uses of her own body? The inseminators, not the bearers. Who governed the states and nations, who saw that these laws were sustained and enforced? Men, of course. And for what reason? In their terms, for the good of society. For the good of the soul. For the preservation of the family, the state, the agriculture, the economy, the wars of conquest.
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> But whose society? Whose land? Whose state? Whose markets? Whose wars? Not woman's. Through all these thousands of years, with a handful of exceptions, the laws that governed the lives of women were never written by women; and the matter of life never held subject to the decision of the bearers of life. That a man should be master of his own body was never questionsd. That woman should be mistress of her own body was *out* of the question. She was a vessel to be filled, a field to be planted. Such was the natural law. Such was the will of God—such was the convenience (couched in the loftiest, most spiritual terms) of man.[30]

A Christian perspective on women's rights on abortion can hardly avoid acknowledging the controversy about the place of women in the Judeo-Christian tradition. I have no doubt that the present inferior status of women in our society can be attributed, in part, to this religious tradition.[31] However, in other cultures not influenced by this tradition, women have even a less significant role. My own tentative resolution of this dilemma is that the apostle Paul was expressing prevalent cultural maxims when he dealt with women in public such as in I Cor. 11 and I Cor. 14:34. As far as the marriage relationship described in Eph. 5 is concerned I have found no reason for disagreeing with Paul. And in the final analysis, I believe that his statement in Gal. 3:28, where he notes that, "So there is no difference between . . . men and women: you are all one in union with Christ Jesus," describes the foundation upon which Christian men and women can build a relationship of mutual respect.

The defenders of the antiabortion laws do not deny that the laws discriminate on the basis of sex. The defense is expressed in terms of the good of the society. As David Granfield expressed it,

> A sound political decision would oppose the passage of liberal abortion laws because they are against the public interest of the community, not merely because these laws are immoral but primarily because they undermine the basic principle of our democratic structure, the equal dignity of all men before the law and their legal right to equal opportunity for personal fulfillment.[32]

I think it is interesting that Granfield uses the phrase

"equal dignity of all men;" one can only wonder whether he would be willing to include women.

The fact that the restrictive abortion laws discriminate against low income groups hardly needs documentation. Whether we like it or not, our system honors the rich and dishonors the poor, and the law is the tool used to make this happen.[33] Any woman desiring an abortion, regardless of her state of residence, can fly to New York and have it taken care of. All she needs is the plane fare plus about $400. This little matter of money plus the restrictive abortion laws of about 43 of our 50 states are quite effective in making sure that pregnant women of less than modest means have their babies whether they want them or not. It is true that Jesus said, "You will always have poor people with you," but this is not an excuse to deny them equal protection under the law.

4. *The law gives preference to one religion over others.*

In a pluralistic society it is not surprising that people of different religions view things differently. As far as abortion is concerned the Harris survey cited above[22] showed that the public is exercising its religious preferences in typical American fashion. The question asked was, "In general, do you favor laws permitting abortion for almost any reason or do you oppose them?"

	Favor	Oppose	Not Sure
Protestant	39%	49%	12%
Catholic	30	64	6
Jewish	71	18	11

Many people of different religions have strongly held beliefs which directly influence their behavior: Jehovah's Witnesses will not submit to a blood transfusion even to save life; a Sikh will not allow his hair or beard to be cut; an Orthodox Jew will not eat pork even if he is starving. While we may find these beliefs and practices strange, we respect them because their adherents do not expect outsiders to engage in the practices or submit themselves to the beliefs. We also respect the people who hold these doctrines because they have restrained themselves from pressuring legislative bodies in an attempt to force other people to see things their way.

Such restraint is not evident among some Roman Catholics who seem to want everyone to subscribe to their belief that human life begins at conception and that abortion is murder. When the California Legislature was considering liberalizing the State's century-old abortion law the pressure on the lawmakers to defeat the liberal bill was extreme, and came almost exclusively from members of the Roman Catholic hierarchy.[34] It is somewhat mystifying to compare this activity with a statement by another member of the hierarchy, the late Cardinal Cushing:

> Catholics do not need the support of civil law to be faithful to their own religious convictions and they do not seek to impose by law their moral views on other members of society . . . It does not seem reasonable to me to forbid in civil law a practice that can be considered a matter of private morality.[35]

If the public good were truly placed in jeopardy by the removal of abortion restrictions, one would nominally expect a cross section of the public to be represented at legislative hearings protesting the removal of such restrictions. In view of the fact that such is not the case one can only conclude that when lawmakers yield to the demands of one religious group they are doing so in open violation of the First Amendment.

5. *The law can be held responsible for unsafe medical practice.*

Abortion is said to be the most widespread, and the most clandestine, method of birth control in the modern world.[36] That the clandestine nature of this practice is directly responsible for a large number of maternal deaths each year is widely believed but difficult to verify. Between the years 1955 and 1960 most of the socialist countries of Eastern Europe adopted legal abortion primarily to protect women from perilous and unhealthy illegal abortions. [37] In Chile where abortions can be performed only when a pathological condition makes it absolutely necessary, pregnant women in the lowest economic class, in order to get an abortion, usually induce hemorrhage by inserting anything from

HUMANNESS NOT PURELY PHYSICAL

For a great many Christians the answer to the question of the permissibility of abortion depends on determining the time when the body comes to possess an entity which survives beyond physical death. This question is very much downgraded in its significance by Dr. Shacklett. Dr. Shacklett asserts that this question has no answer, contending rather, if I understand him correctly, that being "human" is not a state with sharply defined bounds, and thus there is no precisely defined instant when a fetus or a child becomes human. In essence, it would appear that he would have us consider "humanness" within a purely physical context.

I must take exception to his assertion. Not only am I unable to reconcile with the tone of Scripture a proposition which would lead to assigning different degrees of moral rectitude to the taking of a life depending on the "humanness" of the victim, but, even more basically, I cannot conceive of an intermediate answer to the question of whether some part of a person's being survives the death of his body. The silence of the Scriptures on the question of the precise time at which such an immortal entity commences its existence in the body should not lead one to conclude that this question is unanswerable.

Surely the Scriptures affirm the continued existence of those whose bodies have died. (. . . absent from the body . . . present with the Lord (II Cor. 5:8). See also II Cor. 12:2,3; Phil. 1:23; II Sam. 12:23; Luke 23:43,46; Acts 7:59; Matt. 10:28.) I would certainly hope that our relatively meager knowledge of the non-physical side of our existence would not be deemed a justification for neglecting it as a consideration in confronting the issues of our day.

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> *Marriage involves acknowledgement of the right of life that is to come into being, a right which is not subject to the disposal of the married couple.... Destruction of the embryo in the mother's womb is a violation of the right to live which God has bestowed upon this nascent life. To raise the question whether we are here concerned already with a human being or not is merely to confuse the issue. The simple fact is that God certainly intended to create a human being and that this nascent human being has been deliberately deprived of his life. And that is nothing but murder.*
>
> **Dietrich Bonhoeffer**
> *Ethics*, Macmillan, New York (1961), pp. 130,131

rubber probes to knitting needles. They then can go to the hospital where the abortion is completed under more antiseptic conditions.[38] Callahan, after reviewing a variety of reports on the mortality due to illegal abortion, concludes:

> Lacking any real accuracy, the data on illegal abortions can be used either way, by choosing to stress the high or the low estimates; but neither side can make a solid case. Significantly, however, even those who have complained about the constant citation of high, but unverified, figures on the number of illegal abortions have not tried to contend that illegal abortion does not constitute a problem. Even if the lowest cited figure, 200,000, is closest to the truth, it is a figure worthy of considerable concern. Similarly, even the low figure of 500 deaths each year from illegal abortion means that illegal abortions constitute a significant health hazard.[39]

Conclusions

We have reviewed nine propositions, four on one side and five on the other, that cover most of the important territory around the abortion question. Our analysis, while exhausting, has not been exhaustive; much more could have been said on each of the propositions, and even other less important propositions could have been reviewed. As one who has had a glimpse of the enormous amount of material in existence on abortion, I shall be the first to acknowledge the deficiencies in this paper.

But aside from the shortcomings, this research has enabled me to come to some fairly definite conclusions on the abortion question. First of all, the question "When does human life begin?" has, I believe, an answer. Perhaps "answer" is an inappropriate term; "elucidation" might be better. As I tried to demonstrate, one can no more designate a point on the continuum of growth and development as the beginning of human life than one can pinpoint a wavelength in the color spectrum of the rainbow and say, "Red begins here." The sensation of color called "red" cannot be defined objectively and no one bothers trying. In like manner, the "sensation" that goes under the label of "human" depends on the observer and is equally incapable of objective evaluation. In spite of this uncertainty in the word when applied to a fetus, the closer the fetus is to birth the more consensus there is about its humanity and its right to live.

I am persuaded that God loses nothing in an abortion. While this sounds terribly assertive, I see no reason to put it any other way. To contend otherwise is to place man's will above God's.

The sudden removal of restrictive abortion laws may result in a temporary rise in sexual promiscuity. The extent to which this may happen, I believe, is insufficient to erode the general moral level of society and certainly not enough to justify retaining the restrictive laws.

I agree with the five propositions that assert that restrictive abortion laws have a much greater deleterious effect upon society through the abridgment of fundamental rights guaranteed by the Constitution and through the creation of complex sociological and medical problems than the purported evil they are supposed to curtail.

This paper has concentrated on abortion to the exclusion of any mention of other forms of birth control. Some may get the impression that because I take a liberal stance on this issue that I would advocate abortion as a perfectly acceptable and normal form of birth control. Actually, quite the contrary is true. Abortion, in my opinion, is the last resort. Compared to the other methods available, in our country at least, it is the worst method by almost any measure. Reliability is about its only virtue. But since it *is* a last resort it must not be withheld from those who need it.

In summary, I believe that abortion is a matter to be decided by a woman and her physician and should not be made a point of criminal law. Others close to the woman may be involved in helping her come to a decision, but outsiders should no more be a party to this matter than if she were seeking sterilization. I believe this position is in accordance with the evidence that can be brought to bear on the question. Finally, I am persuaded that it is in accordance with a Christian understanding of love and life.

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Abortion is a matter to be decided by a woman and her physician and should not be made a point of criminal law.

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[33]See Chapter V, "Anatomy of the Corporate State," in Reich, Charles A., *The Greening of America*, (New York Bantam Books, 1971).
[34]*Pacific Churchman*, April, 1967.
[35]*Ibid.*
[36]Tietze, C. and Lewit, S., "Abortion, *Scientific American*, 220, 21-27 (1969).
[37]Hall, *op. cit.*, pp. 302-314.
[38]*Ibid.* pp. 226-237.
[39]Callahan, *op. cit.*, p. 136.

Abortion: A Subject for Research

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Conflicting Opinions

Should physicians abort any undesired pregnancy on demand and with little or no legal restraints? May they do this only until an arbitrarily numbered week, or at any time in a given pregnancy? Under what circumstances should physicians recommend an abortion because of genetic aberrations? These questions and other important aspects of proposed liberal abortion laws are being discussed by legislators and interested groups, often with conflicting opinions that becloud the issues.

For adherents to an organized religion, whether they be liberal or conservative or undecided about abortions, a central set of questions might include: Is that body which occupies a pregnant womb simply a fetus? If it is not simply a fetus, how human or how much of an individual is it? If it is an individual soul, how and when did it get there? In the case of induced abortion, what happens if it is denied birth? For these and related questions, are there available sound religious answers?

Mechanical prolongation of life, organ transplants, human experimentation, recurring proposals for euthanasia, and even assisted suicide are prime discussion topics today, along with new laws to regulate abortions. For all of these, like the debate over abortion, each side can collect reasonable support for argument from health data, hospital records and statistics, anecdotes and philosophy. Social scientists, in speaking of abortions, emphasize economic or family problems associated with unplanned and unwanted children. Gynecologists and obstetricians are apt to be more concerned with the relative safety of carefully timed and surgically correct techniques, contrasting these to the dangers of illegal or clumsy abortions. Psychiatrists report emotionally traumatic experiences of patients they see after crude abortions, or the distress which parents or even children may suffer when that pregnancy is not wanted.

Even as these related professional persons have differing but predictable opinions, so do the clergymen of several major faiths, based on respective Scripture, dogma or religious law. Their opinions may also reflect contributions from medicine, social sciences and legal thought because church groups sometime lack their own clearly derived and tested experimental evidence.

A Fresh Theological Approach

What now seems required is that the governing bodies of major organized religions initiate fresh theological research into the nature of being or of existence. Life itself has always been a primary concern of major religions. Church-sponsored action programs, in the main, relate to concerns about human life, improving human existence, lessening suffering, and preparing individuals for life everlasting. Christianity has a particular concern for man's individual being-ness but,

without a continually expanding knowledge of this life-force, its statements and social action to protect individuals tend to become either progressively more secular or more dogmatic. In the matters of life and death, which the debates over abortion and euthanasia bring to our attention, spokesmen for organized religions must be prepared with cogent arguments reasonably developed, if they wish to influence public policy.

New attitudes concerning birth and death generate new questions, answers to which will require that religious professionals possess an improved understanding of the life process. Dael Wolfle, in an editorial about dying (*Science,* 12 June 1970) said, "Physicians alone cannot answer such questions. They call for wider attention, for they all involve scientific, ethical, humanitarian, social, and sometimes religious questions." Denis Cavanaugh, M.D., professor of obstetrics and gynecology at the St. Louis University School of Medicine, said (*American Medical News,* 22 June 1970),

> I think that certainly from the blastocyst stage the fetus qualifies for respect. It is alive because it has the ability to reproduce dying cells. It is human because its parents are human and because it can be distinguished from other non-human species. It seems evident that the fetus is only different from you and me in that it has not yet been given the time to develop its whole potential.

For the fetus, abortion is always a matter of life or death. Sometimes it is also for the mother, and in this case society cares what happens to her. If society really believed that the unborn infant needed only time to develop its whole human potential, think what a difference it would make in any consideration of abortion. It is interesting to note that psychoanalytic literature reports cases in which people related their adult problems to their experiences in the womb or while being born. Should this really be so, one would have additional reason to think of the fetus as a developing human being.

What, then, should be done about this fetal child, this person on the way to incarnation or embodiment? Is it fair to brush aside considerations of his destiny because one does not yet know him? Obviously, abortion either makes no difference at all to the unborn child or it matters greatly to him. At this time, no evidence supports either supposition, and one guess is as valid as another.

Only occasionally do physically harmful conditions truly threaten the lives of mothers. Ample legal permission now exists to abort dangerous pregnancies. However, the bulk of requests for abortions are to terminate healthy conceptions in healthy women. The Maryland State Department of Health reported that 91 percent of legally performed abortions in that State for 1969 were to relieve "maternal emotional distress." Career women, careless marital partners, unmarried women, or accidental pregnancies later in married life are major components of this broad category of legal abortions.

A physician can find it difficult to evaluate women who plead severe emotional distress when they demand that he abort their pregnancy or they will abort themselves. "The clear-cut fetal, medical and severe psychiatric case is not difficult," wrote Charles A. Dafoe, M.D., in the *American Medical News* for 15 June 1970; for the other cases which put professional judgments to severe test "there must be a middle ground of medical, social, and public opinion. This we must seek out and find." Major church organizations should insist that effective religious opinion for that middle ground be available.

Religious questions about abortions should have to do at least with the nature of ensoulment and the effects of human tinkering with this process.

Questions which face churchmen, then, are not those which deal with whether abortions are safe or dangerous, legal or illegal, free or restricted. These are matters for physicians and lawyers. Religious questions about abortions should have to do at least with the nature of ensoulment and the effects of human tinkering with this process because the very nature of existence has always been a proper religious study. Indeed, it is now an urgent subject inasmuch as technology can abort one's becoming or prolong human existence even when conscious life has definitely ended.

From their own knowledge, as well as from that understanding gained from the study of other disciplines, major denominations should begin by issuing comprehensive opinions on the nature and process of birth and death. Denominational statements about abortion, euthanasia, and assisted suicide, based on religious experience and interpretation, are urgently needed.

Religious Research

Having first responded by these fresh expressions of their unique concepts of existence, which are in addition to their other official statements, major denominations soon thereafter should engage in serious attempts to gain new insights into life processes through religious research.

Imaginative medical and scientific research has developed techniques which can interrupt pregnancies without danger to the mother, extend reasonable life by transplants, or prolong existence by mechanical support. Just as medical-engineering partnerships have solved complicated technical human problems, so can equally determined medical-theological investigative partnerships learn more about the life which is in those humans with problems.

One would hope that church governing bodies could seriously consider the sponsorship of research centers allied with other university-based health and social welfare study groups, and with staffs who match them in curiosity and integrity. Moves of this nature should attract additional contributions from foundations interested in human studies, if church money is also sincerely committed.

Should an independent research center not be feasible at this time, a seminary associated with a medical school or university could, if it desired, attract research professors and graduate students with sufficient curiosity and proficiency to investigate religious problem areas previously considered impossible. Although it is not easy to persuade either the biological scientist or the theologian to accept each other's viewpoints, often apparently incompatible, the beginning and ending of human life surely is an exciting area for joint

exploration. Together, they should succeed in developing a new set of valid research techniques which are needed to explain much of what has been considered a mystery. Some movement in this direction has been made at universities like Harvard and Vanderbilt, where several professors have joint appointments in schools of divinity, medicine and social science.

Unfortunately, church governing bodies cannot be expected to receive favorably a proposal to establish a religious research institute. In addition to the constraints of increasingly limited budgets, and the tendency for large ruling or governing groups to be conservative and resist all but the most orderly change, the serious impediment to collaborative research is attitudinal.

Uncritical Beliefs

Progress through research is rendered difficult by the heavy reliance of most religions upon belief. Uncritical belief or belief that permits no doubt will block research in any field; but it is particularly troublesome in organized religion because both its leaders and the rank-and-file regularly say, "I believe." Creedal statements and Scriptural statements emphasize this belief base. It is natural, therefore, for a true believer to find it nearly impossible to deny a belief which has been regularly stated publicly, or to openly question the membership vows which provide access to a circle of respected fellow-worshippers. Although belief may be a useful attribute in the act of worship, it is apt to become a hindrance in the pursuit of knowledge which, paradoxically, can improve the worship process.

One would hope that church governing bodies could seriously consider the sponsorship of research centers.

Religious beliefs may perhaps be termed paradigms, which have recently been discussed in another context by Charles C. Tart.[1] He pointed out that "A paradigm is an intellectual achievement that underlies normal science and attracts and guides the work of an enduring number of adherents in their scientific theory." He further stated that a paradigm is an implicit framework for most persons working within it, and that it does not seriously occur to the adherents of a paradigm to question it any more. (His paper should be consulted for a further discussion of state-specific sciences and religion.)

Inasmuch as organized religions are composed of leaders and followers with firmly established sets of believing relationships or paradigms, one can expect only gradual, evolutionary changes, if the formal organizations are to survive. However, Canon David Jenkins, a well-known British theologian and Director of the Humanum Studies for The World Council of Churches, has suggested that interdisciplinary inquiry into problems of biology and the quality of life be started, even though "it is not . . . . very clear what, if anything, biologists, moral philosophers and social scientists have in common in their respective customary methods of investigation for dealing with problems."[2]

Beliefs upon which we have built assumptions for handling questions no longer work smoothly, and these new uncertainties appear in the form of problems. Canon Jenkins says that problems are merely symptoms of disturbances, and do not necessarily describe the nature and causes of the disturbances. He proposes an interdisciplinary approach, with full use of respective expertises, to probe into the causes and features of disturbances recognized as problems. Furthermore, he believes that a collaborative investigation into the quality of life can be constructed so that scientists, social scientists and theologians may work together on the questions "Who am I?" and "What am I for?"

An Effective Research Institute

Relevant religious research can hardly be expected to issue from a constituency which repeatedly and faithfully affirms belief in a system. Nor can it be expected to issue from dedicated pastoral clergymen, or even from governing bodies unless they are encouraged and supported by theologians or divinity school faculties.

No doubt, the development of an effective research institute will be difficult. Without a research technique, without religious persons interested in research, it may be almost impossible. Yet, there are signs of a growing interest in the problems of life and death now evident in progressive universities. One can only hope that the news will reach denominational headquarters soon.

REFERENCES

[1]Tart, C. C., "States of Consciousness and State-Specific Sciences," *Science* pp. 1203-1210, 16 June 1972.

[2]Jenkins, D.: "Problems of Biology and the Quality of Life." *Anticipation: Christian Social Thought in Future Perspective*, pp. 21-29, (Published by Department on Church and Society, World Council of Churches, Geneva, Switzerland).

From the whole of these discussions concerning causality and the nature of the will, it is evident that the common, intense, subjective conviction that our volitions are freely our own, that we are not ridden by an alien potency which could make us will what we would not will, arises simply from the fact that our volitions, though they are determined in part by the stimuli of our total environment, are in harmony with our own natures. This conclusion is in accord with the preponderance of philosophical opinions and with the principles of classical physics.

Victor Guillemin
The Story of Quantum Mechanics, Scribners, New York (1968), p. 288.

A Christian Definition of Death

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This article is written in the form of a response to Robert B. Morison, "Death: Process or Event?" and, Leon R. Kass, "Death as an Event: A Commentary on Robert Morison," Science, 173:694-702, August 20, 1971

One of the results of the great sophistication of modern medical technology is the creation of imponderable ethical crises. One of these crises is the definition of death. We now know it is a continuous and complex process so that we may speak of many kinds of death, (brain death, physiological death, medical death, cellular death, legal death, etc.). Furthermore the same sophisticated technology may prolong dying or shorten it. In prolonging death, machines may replace one of the major life-systems of the body (breathing, heartbeat). Heart transplantation has brought this technological crisis to its most dramatic focus. In order to cope with this increasing sophistication in medical technology and its impact on the problem of death (for it is not only a medical problem but a legal one, a social one, and a psychological one) a new journal has been founded: *The Journal of Thanatology* (from the Greek word for death, *thanatos*).

In the articles by Morison and Kass one scientist offers his opinions on the problem of defining death in the light of the new technology and the second offers a critique of the first with some observations of his own (Morison *vs.* Kass).

A Naturalist View

Apparently Morison is a thorough-going naturalist and reductionist, for to him the difference between the living and the dead is apparent, not real. There is one spectrum of chemical changes wherein we arbitrarily call one part of it "life," as if life were a thing or a substance. The passage from one set of classifiable chemical reactions (the so-called processes of living protoplasm) to another is a continuum and it is only by social custom that we specify death as an event.

Morison rejects any attempt to redefine death, as that would presume the old errors over again that "life" is some sort of essence and that death is some sort of event. As far as medical practices are concerned he thinks the difficult cases (shortening or prolonging life) should be decided upon by a team. He ends his article by making a case for euthanasia. A patient knowing of an impending terrible illness and death could talk the matter over with his doctor and settle on some sort of procedure for euthanasia. Morison has a good word for men like Eastman and Bridgman, who when informed of their incurable and painful disease, committed suicide and shortcut the whole lamentable process of a prolonged and agonizing dying.

Rebuttal by Kass

Kass's article is a point-by-point rebuttal of Morison's basic theses. What Morison and Kass have in common is the recognition of the complex decisions modern technological medicine puts on the back of the doctor. To Kass death is an event no matter how much recent bio-medicine has shown how difficult it is to define. There is a distinct difference between a living body and a dead cadaver and not a continuum of chemical processes where for society's sake we draw an artificial line of death. As Kass remarks, according to Morison's thesis, there is no such thing as murder, for murder is only *a process* to Morison!

Furthermore Morison's pragmatic solutions to difficult cases are not that simple. Value judgments are involved in every decision and values cannot be settled by votes nor weighed in grams. He also contests Morison's brief for an intelligently planned euthanasia between patient and doctor when the patient is in full possession of his senses. There is a difference between *letting* a patient die (such as stopping a heart-pacer or respirator) and actually *doing something* to induce death. Kass is very insistent that in no situation should the doctor ever leave his role as healer and take on that of a killer.

Christian Insights

Fortunately Christians who are knowledgeable in these matters have also written on these topics and attempt to bring theological insights to decision-making dilemmas in technologically advanced medicine. We look at three such attempts to correlate Christian ethics with the topics discussed by Morison and Kass.

1. Harmon L. Smith, *Ethics and the New Medicine* (New York: Abingdon Press, 1970)

Coming to terms with these problems in chapter 4 of his book Smith follows the set pattern in which he writes the entire book. The first part of the chapter reviews the complexities of the problem from a strictly medical standpoint with specific examples; then he cites the opinions of some theologians; and he concludes with his own judgments.

One of the crises medical technology has produced is connected with organ transplants. We know that dying is a *process* and that there are *many kinds of death* (e.g., brain, cellular, etc.). Modern practices in organ transplanting seem to require a Stage I death at which time an organ may be removed from the patient and a Stage II death where the body is a cadaver and is to be buried.

A second crisis produced by modern medical technology is just the reverse. When a person has passed a certain stage in his disease or injury so that reversibility of health or life is impossible, what right has the doctor to prolong the life of such a patient? Or to put it another way, at what point is a doctor no longer under the stipulations of the Hippocratic oath?

In matters of medicine and technology Smith cites Barth and Bonhoeffer as being extremely conservative or reserved. To both of them God and God alone has the right to end life and man may do nothing to end the process or hasten it. Barth's one concession is that in relieving pain the powerful dosages may as a secondary cause (not primary!) shorten life. Smith thinks that the experiments in medicine by the Nazis may have influenced Bonhoeffer's position but he believes there is an inconsistency in Bonhoeffer's support for the plot to assassinate Hitler.

Smith then discusses Fletcher and we find the pendulum swinging wildly (as can be anticipated) to the other side of its period. Fletcher wades in where theologians, doctors and angels fear to tread and says we ought to do without dispatch what love, common sense, and a regard for humanity (and humanness) dictate. Fletcher says a person ought to die in dignity and not at the end of a long drawn out debilitating, dehumanizing and undignified period of suffering.

Smith then turns to his own convictions. As a Christian his basic conviction is:

> (1) to perceive as clearly as possible God's will, as this is manifest in Jesus Christ, and to relate that will to the conduct of human affairs; and (2) to assess the coherence and congeniality between particular actions and affirmed values. (p. 152).

In the matter of dying, transplants, and the prolongation of life the focus becomes sharper:

> Theologians, especially, must insist that the management of terminal illness or injury sustain, *as far as possible,* the personal dignity and integrity of the patient, together with the interpersonal values of the relationships between the patient and the larger contexts of other persons, particularly the immediate family. (p. 165, italics are his).

> *The decision about the right to destroy human life can never be based upon the concurrence of a number of different contributory factors. Either an argument is cogent enough in itself to bring about this decision, or else it is not cogent at all, and if this is the case, no number of good additional reasons can ever justify such a decision. . . . The taking of the life of another must never be merely one possibility among other possibilities, even though it may be an extremely well-founded possibility. If there is even the slightest responsibility of allowing others to remain alive, then the destruction of their lives would be arbitrary killing, murder. Killing and keeping alive are never of equal value in the making of this decision; the sparing of life has an incomparably higher claim than killing can have.*
>
> **Dietrich Bonhoeffer**
> *Ethics,* Macmillan, New York (1961), pp. 116, 117

In context Smith is denying that any simple criterion is possible to follow, whether it be medical (e.g., we are only sure of death when nidation sets in) or motivational (when the doctor is motivated by "innocence" where in other situations it would be considered a crime). Decision making in medically complex situations is a *vectoring* process which includes all factors.

Smith then becomes very specific. As Christians we may consider a person dead when he has undergone *personality death* (my expression, reflecting Smith's discussion and terminology). *Personality death* occurs when it is medically ascertained that there is an "irreversible loss of consciousness and function" due to the extensive damage of the brain. At that point the Christian may consider the patient as a cadaver and its organs may be used for any reliable medical use—even though other organs or systems show signs of being alive or a machine is replacing a life system.

Concerning people who are hopelessly damaged or hurt, especially in the brain, the doctor is faced with three options:

(1). The doctor has the moral right to withhold or withdraw all mechanical supporting machines. Smith assents to this.

(2). The doctor has the moral right to administer pain-relieving drugs which may hasten the person's demise. Smith assents to this.

(3). The doctor has the moral right to actually induce death by drugs or other means (such as pumping air into the arteries). Smith disagrees at this point. He says that most theologians, lawyers and doctors would agree on points (1) and (2).

To sum up, Smith tries to go from general Christian convictions to specific points in medical ethics: (1) he does believe that organs may be taken from patients who have suffered *personality death;* and (2) he does not believe that doctors should use all measures possible to prolong senselessly the inevitable ebbing away of life in catastrophic cases.

2. Hemut Thielecke, "The Doctor as Judge of Who Shall Die." Kenneth Vaux, editor, *Who Shall Live: Medicine, Technology, Ethics* (Philadelphia: Fortress Press, 1970). Pp. 146-186

Thielecke is a distinguished professor at the University of Hamburg who has written several massive volumes in a set on Christian Ethics. He was also one on the few men left after the end of World War II who proved a real point of beginning again for a dispirited German nation.

Like any other person interested in medical ethics he has read extensively in medical literature and medical ethics. Thielecke has also been personally involved in much counseling in medical cases. Furthermore, more than any other writer in ethics (as I have read them) he attempts to be as Biblical as he can, drawing very consciously from Biblical materials.

His first point is that the Hippocratic oath calls upon doctors to preserve *human* life, not *biological* life. That which makes man human is his *humanum* or image of God (imago Dei). When the *humanum* is no longer there, the moral obligation of the doctor to follow the Hippocratic oath no longer exists. This he reasons from Genesis 1. Animals and plants are created. But man is specially created and called by *name* and addressed as a *thou*, a *person*. This leads him to a modern definition of man with "the consciousness of self" as "the critical sign of human existence" (p. 161). The corollary is that "a man devoid of any trace of self-consciousness, would be, as it were, merely a biological culture" (p. 162).

If a man is no longer addressable as a person or a thou, if he no longer possesses the *humanum* or the *imago*, he is, from the standpoint of Christian theology, dead as a person. Scientists may then use the body for transplants or for whatever else medical science may use a body for. Technological difficulties in determining when a person has lost his *humanum* and become a culture should not deter us from operating with such a distinction. With the increase of medical knowledge the point of transition will become less ambiguous.

In this exposition there is a treatment of a theological theme that should not go unnoticed. According to Thielecke (as a theologian) man lives in the half-light of creation and sin. This is God's world and man is God's creation. This is clear. But sin has entered the world and man is a sinner. The light of creation is not extinguished but yet burns. This Thielecke calls the half-light of the existence of a sinner. In a half-light many moral decisions are ambiguous because we cannot see clearly. All man's existence is in half-light and therefore shot through-and-through with ambiguities.

Medical ethics does not escape these ambiguities. Medical ethics will always be fraught with problems because decisions in medicine are made in half-light, as are all other moral choices, and therefore will suffer from ambiguities. To expect simple, direct, easy answers in medical ethics is to misunderstand the essential ambiguity of human existence. Although he makes no reference to Fletcher, this is a devastating attack upon Fletcher's bold pronouncements in medical ethics, where he seems to speak as if he stood in the clarity of daylight and not in the half-light of human sinfulness with its inescapable ambiguities.

Thielecke does not believe a flickering life ought to be prolonged by heroic medical measures. It should be mentioned parenthetically that Thielecke has been a wheel-chair case himself and is not talking pure theory. He admits that he has a hard time finding moral arguments for not prolonging a flickering life for he feels that his answer is more intuitive than reasoned. Yet he does some reasoning. Hebrews 9:27 says that it is given to man once to die. What is the logic then of dragging out the flickering period of man if man does have such an inevitable appointment? Or, in prolonging a flickering life do we really prolong *agony* and not *life*?

We know that dying is a process and that there are many kinds of death.

Thielecke then, thinking deeply as a theologian, raises the question of suffering. Maybe we ought to let life keep flickering. We kill an injured animal because suffering is not an ethical issue to an animal. It is a burden and man mercifully shoots a horse with a broken leg. But suffering is an *ethical* problem to man and we don't shoot a man if he breaks his leg. When then does a doctor *frustrate* suffering by refusing to prolong life; and when does he expect a patient to *endure* suffering as part of his lot as a moral creature? Thielecke admits that there is no rule of thumb to differentiate cases, so that in some instances we *end* suffering and in others we permit the patient to *endure* suffering as an ethical challenge. In the language of the English, Thielecke says that in such cases we can only "muddle through."

When it comes to organ transplants Thielecke suddenly flips on us. He deserts his Biblical exposition, his theological resources, and his ethical analyses. He simply announces that when a person is in an irreversible coma due to extensive brain damage he has become a cadaver and a doctor may use the cadaver as he wishes as a medical researcher. It is not a religious or a moral question (p. 176).

But has he not forgotten himself? Did he not previously state that when the *humanum* is gone the person has become a *biological culture*? This he bases on Biblical texts and their theological implications. To be consistent he should have said *it is morally right* to use a biological culture for transplants and not that it is a morally or theologically indifferent matter.

3. Paul Ramsey, *The Patient as Person: Explorations in Medical Ethics*. New Haven: Yale University Press, 1970. The Lyman Beecher Lectures at Yale University.

Of the three Christian moralists we have read in connection with the issues raised by the Morison-Kass article Ramsey is both the best and the poorest.

He is the best in that he has written an entire book on this subject and related subjects with extensive medical, ethical and theological documentation. Our discussion of Ramsey cannot begin to do justice to the enormous amount of materials he has amassed and the mastery of them manifested in the way in which he handles them. He is no research grubber who can dig out a mass of data but is helpless to assess it and interpret it.

It is the poorest book however, because the theological elements are so far in the background. If he had not tipped us off (very rarely) of his Christian

Protestant stance we would assume he was writing merely as a philosophical ethicist. We know from his other ethical writings that he is very well acquainted with the Christian ethical heritage and is the most articulate critic of the "shoot and ask questions later" ethics of Joseph Fletcher. Frequently when he states "from the standpoint of ethics" he really means "from the standpoint of Christian ethics." So what I mean by saying that his is the poorest of the three books, is that he does not make his connections between his theology, his ethics, and his medical ethics as obvious as Smith and Thielecke do.

My impression from reading Ramsey is that his decisions about medical ethics, and especially the extreme kinds of cases we are dealing with in this article, are based on two premises:

(1). Medical technology is in such a rapid state of progress and transition that Christian ethicists ought to move very slowly and not plunge into the situation with premature rules or principles. Here he parts company with Fletcher who wants to cut loose radically from the binding cords of the past and retool medical ethics according to the latest theory or practices. Ramsey has much appreciation for Hans Jonas and his extreme regard for the patient and life no matter how low the candle flickers and for Barth's extreme regard for God as the Creator, Lord, and Determiner of our lives (even though he does think Barth is too extreme in the way he uses this principle in medical ethics).

(2). The ultimate value in medical ethics is the person, or the patient as a person. To be specific, the need for organs for transplants might make *social needs* the basic value in medical ethics; or from our knowledge of genetics we might make consideration of *future generations* (as Thielecke sometimes does) the basic value. Ramsey resists this and makes the patient as a person the primary value in medical ethics.

This second principle comes out clearly when he discusses the necessity of updating death. He is aware of all the technicalities of the problem. But he seems far more informed of the complications of updating death than Smith or Thielecke. What doctors call *brain death* Smith calls *personality death* and Thielecke calls it loss of the *humanum*. But *brain death* is not an adequate criterion. Ramsey chooses the definition of the Harvard Medical School report of 1968 which lists four criteria (which I shall condense): (1) the patient does not respond to the most painful stimulus; (2) the patient shows no signs of resuming breathing after being taken off the respirator for more than three minutes; (3) the patient does not respond to any of the standard neurological tests for reflexes; and (4) the electroencephelogram is flat.

The Hippocratic oath calls upon doctors to preserve human life, not biological life.

After establishing a more vigorous criterion for death than Smith or Thielecke he then makes his main point. We must keep separate our concern for updating death with a view to organ transplanting and our concern for a medically accurate definition of death. Ramsey's fear is that in our anxiety to transplant organs we will have a short-cut definition of death in order to get the organ. This does not do justice to the patient as a person, ignores other values in the situation besides the values of a transplant, and could lead to the actual killing of a patient because we are working with a definition of death aimed at transplanting but not for the ultimate concern of the patient.

With reference to the patient who is catastrophically sick or injured, Ramsey is again reserved in order to preserve his thesis of the ultimate value of the patient as a person. He goes into great detail of medical complications about such cases. The problem hinges around the meaning of the terms *ordinary* and *extraordinary*. There is general agreement that the doctor is morally obliged to use *ordinary* methods for treating a desperately sick person and that it is cruel and financially unjustifiable (care of "human vegetables" can cost $25,000 to $30,000 a year) to use *extraordinary* measures. Then Ramsey shows in a number of cases that an *ordinary* measure is really an *extraordinary* measure, and that in other cases an *extraordinary* measure would be considered *ordinary*. So there is no simple definition of *ordinary* and *extraordinary*.

But Ramsey does not leave us hanging in the air because the terms *ordinary methods* and *extraordinary methods* are not capable of simple definition or identification. Ramsey's guides in this matter are: (1) It is morally proper to give pain-relieving drugs with the knowledge that as a secondary effect they will shorten life. (2) We must be very careful in defining what we mean by a doctor doing something by *omission* (as if that were morally right) and what he does by *commission* (as if that were morally wrong [as in euthanasia]). Medical procedures of *omission* and *commission* must be determined by the value of the patient as a person and not by clever definitions of terms. (3) As a refinement of point (2) Ramsey says that the real point of any medical procedure of *omission* or *commission* is that the doctor be humanely present with the dying and not treat him as a "case." (4) A doctor should never abandon a patient or hasten the death of a terminally ill patient except when medical treatment is *"entirely indifferent to the patient"* (p. 161, italics are his).

According to Ramsey one of the most distressing aspects of dying is not physical or medical, but psychological. *One should not die in solitude.* But this is so often the case. The terminal patient is in a private room and allowed visits for only short periods of time. He eventually dies alone or in the presence of unknown hospital personnel. Ramsey thinks that it is not wrong for a patient to die at home. In the company of his loved ones he makes his transition from life to death surrounded by their love and comfort. Further, children, whom we so efficiently isolate from the terminally ill and the dying, learn that death is part of the cycle of human existence and not a sudden and foreign catastrophe that happens to people in hospitals.

Ramsey is not too anxious about heart transplants. The terrible psychological agony that the patients and the nursing staff go through has been documented for us in an article in *Life* (Thomas Thompson, "A New and Disquieting Look at Transplants," 71:56-71, September 17, 1971). Ramsey supplies us with a chart of disappointing results of transplants to the time of his writing (p. 232) which may be updated by referring to the article in *Life*.

To expect simple, direct, easy answers in medical ethics is to misunderstand the essential ambiguity of human existence.

Transplants throw an enormous responsibility on the doctor. Who shall receive the kidney or the dialysis machine or the new heart? The usual method of taking the decision and its awful burden from one doctor is to place it on the shoulders of a team within the hospital (doctors, nurses, social workers). The Swedish Hospital in Seattle has gone a further step (known in the literature as the *Seattle Experiment*). A committee within society has been set up of knowledgeable laymen. They are given the documents on the patients with pertinent medical advice and they are left to make the decisions. Their identity is kept anonymous for obvious reasons.

On paper such a committee seems like an excellent idea, as now medical ethics is the concern of society and not medical experts whose range of concern might be too professionally limited. But the practice ran into a snag. To prefer one patient over another is to express a value judgment as to the worth of individuals. *But there is no common value system under which Americans live.* Is one life more valuable because of its meaning to the immediate family? Or, is the value of a life to be judged by its social worth? But what value among social values is the higher value? Is an ardent church member whose activities help an entire community more valuable than the pharmacist who is the important link between doctor and patient, yet who may never lift a finger for social reform?

The issues as I see them (in a summary way) are:

(1). Technological medicine is moving faster than our ability to assess ethically the decisions it summons us to make.

(2). Medical technology is becoming so complex that it is more and more difficult for laymen and perhaps even well-read theologians to comprehend the factors involved and their complex inter-relatedness. For example, what does a doctor do when a patient is suffering from two or more catastrophic diseases at once where the treatment for one will cause death by the other, etc.?

(3). Team decisions seem the easiest way out for "playing God" (an expression we should perhaps eliminate from future discussions because to turn one shovel of dirt and plant a potato is "playing God" in that it is not letting nature run its course!) in these catastrophic cases and perhaps in time we will "muddle through" to a common ethical ground.

(4). Christian theologians have wrestled with these problems and have supplied theological criteria. However this should not be sporadic but programmatic (as it now is in the Houston medical complex under the leadership of Kenneth Vaux). Furthermore, I believe that it should not only include medical experts and theologians but knowledgeable Christian laymen.

(5). Of the three men discussed Thielecke has given us the best model (which we could not adequately reproduce for reasons of space) for a theologian working with Biblical materials and drawing guide-lines from them for medical ethics.

One of the most distressing aspects of dying is not physical or medical, but psychological.

LIFE, DEATH AND HOPE

Reflections of Two Ministerial Colleagues

THE RULE OF LIFE

Exodus 20:13 is the sixth commandment: "You shall not kill." This is the rule for life. This may be the most difficult of all the ten commandments to treat and to apply to modern situations. Many perplexing questions arise when you consider this commandment in all of its meaning. Some questions are old and some are new.

Murder

Basically, the commandment is a prohibition of murder. When a private person deliberately and with malice goes to take the life of another, he is breaking this commandment. The Book of Genesis gives us the reason why this is a sin: "Whosoever sheddeth man's blood, by man shall his blood be shed, for God made

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DEATH AND HOPE

Many millennia ago, Job asked a very important question, "If a man dies, shall he live again? (Job 14: 14) The answer to Job's question is found in I Cor. 15. Paul's main concern revolves around two ideas—"death" and "hope". In I Cor. 15, two words continually reoccur: "death" and "raised"; the latter I see as characterizing hope.

Death

Death is not a particularly easy subject to treat. Yet if Lewis Mumford's observation in *The Myth of the Machine: The Pentagon of Power* that our culture is death-oriented is correct, then it becomes a topic which we must discuss and come to terms with. But not only

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THE RULE OF LIFE

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man in His own image." There is that in human life which is of unique importance because of the values that God has set upon human life. Therefore when the first murder was committed by Cain, God had an inquisition for that murder and he said to Cain: "The voice of your brother's blood is crying out from the ground." What a vast wail must have gone up to God through all the ages and must be going up to God now, the crying of the blood of those who have been slain in murder.

Criminal Negligence

Of course, the commandment calls for the preservation of our own life and that of others. Therefore, there is such a thing as criminal negligence which is a kind of murder. In the very book of Exodus which enshrines the Decalogue there is a requirement concerning the man who knows that he has an ox that is dangerous to people, and the law states that if the ox, known to be dangerous, gores a man or woman to death, then the owner of the ox is guilty and must be put to death. The applications of this principle to modern life are almost endless. You think immediately of the person who is drunk and is driving a ton or two of steel and rubber and glass down the highway and who takes another life because of his carelessness. You think of failures in modern industry to preserve the life of workmen by proper safety devices.

Suicide

I have heard people make some very harsh remarks about Christians who have committed suicide as if they had committed the unpardonable sin. I do not take that position. I think I have known some very devoted Christians who in moments of utter desolation of mind and spirit have taken their lives, and I would apply to them the words of Jesus on the cross as He looked at the soldiers who were doing Him to death and at others around Him and said, "Father, forgive them for they know not what they do." Suicide is, of course, a violation of this commandment. But I believe it is forgivable.

Capital Punishment

This prohibition of murder occurs in the context of a total law which did require at times capital punishment and at times that the nation go to war. I do not intend to say much about capital punishment except that there is Old Testament justification for it and perhaps some New Testament justification in the 13th chapter of Romans where Paul speaks of the magistrate not bearing the sword in vain. Personally, I do not crusade for capital punishment, and at the same time I do not easily take the other position that it should be universally abolished.

War

As to war, the church has historically taken the position that there may be occasions when it is necessary for the nation to wage war. These occasions come under the rubric of what is "just warfare." In the beginning, it seems that the early Christians felt that one could not even be a soldier and a Christian at the same time. Tertullian, one of the early church fathers, said that if any Christian were a soldier, he must give up his place in the army. But in the third century this position was modified. You have also the instance of Cornelius and of other centurions who came to Christ who were not required to stop being soldiers, and again you have the statement of Paul in Romans 13 where the magistrate is said to bear the sword and not in vain, as a minister of God.

Today, there is much uneasiness on the part of those who in a church like ours have believed that there may be occasions for just warfare, because of the horrible brutalities and seemingly endless implications of cruelty and destruction in any kind of warfare. I think that more and more as a church we are stressing the obligation of Christians to be a peace minded people, people who must work almost to any lengths to avoid the horrors of war. And yet the mere preservation of human life is not the supreme value, and therefore, we are in this dilemma still with regard to war.

Abortion

Some states have already liberalized their laws as has California so that a woman in the early weeks of pregnancy, after consulting a doctor and psychiatrist, may decide to terminate a pregnancy for reasons of inconvenience or shame. The involvement may not be one of risk to her life or the life of a child.

I personally favor abortion only for the gravest reasons. For example, I favor abortion when the life of the mother and the child is unquestionably threatened because of infection or the possibility of kidney failure or heart failure on the part of the mother. I favor abortion when the life of the mother alone is at stake on the principle that the higher life already existing takes precedence over the unborn life, and on the principle that the life in relationship to a family should be preferred to a life that is not yet in that kind of relationship. I am inclined to favor abortion when the very best medical advice indicates that, because of the use of a drug like thalidomide or because of German measles, Rubella, the fetus seems to be terribly injured.

Organ Transplants

The questions that arise concerning this practice and the sixth commandment have to do with the donor and the recipient. In other words, you have to be sure that the donor has indeed irreversible brain damage and cannot live before you take that heart. The donor has the right to die and not to be killed by a doctor who is eager to use his technique. Therefore a neutral medical team should make the decision concerning the *de facto* death of a possible donor. The other question concerns the recipient and whether in the haste of performing the transplant there is the adequate matching process of the white cells in the blood which argues for life and not for death on the part of the recipient. It seems that this kind of surgery should be performed only in consultation and in a very public manner, and, where a Christian doctor is involved, with much prayer.

Care of Dying

You have also the dilemma that arises in the care of the dying. I'm inclined to favor the position taken by many doctors and theologians that there is a valid principle of noninterference with death. When only extraordinary means of supporting life keep the patient

going and maybe even torture the patient, and all the evidence points towards irreversible unconsciousness, it seems to me permissible under God to withdraw these extra-ordinary means of supporting life that the patient may die in dignity.

There is also the principle of indirectly hastening death by the use of painkilling drugs. A doctor in compassion may administer drugs that have a toxic effect in accelerating death although the direct intention is not to bring on death. It seems to me that this may be valid under God.

I cannot endorse the principle of administering death-causing agents. I do not believe in euthanasia or mercy killing. I think God has not given us that right. Again if I were a Christian doctor living in the midst of this kind of thing, I believe that in every instance where I might be making a fatal decision, I would certainly seek the consultation of respected colleagues and consultation with the Lord.

Sacrifice

There is also something to be said about the principle of sacrifice, of giving your life for another. This introduces a higher principle than the one that occurs in this commandment. You think of a doctor experimenting upon himself in the effort to find a specific for yellow fever and dying in that cause for humanity. You think of an explorer realizing that the food supply of the party is scanty and saying to the party, "I believe I'll go outside for awhile," and deliberately perishing in the ice and snow in the hope that the party might yet be saved. You think of a missionary going to Erromanga in the South Seas, called in church history "the martyr isle", because there was such a succession of missionaries murdered there. You think of him laying down his life in the hope of a gospel triumph. And all you can say about these instances is in the words of Jesus, "Greater love has no man than this that a man lay down his life for his friends." You think of the time when Jesus was about to be born and how the angel said to Joseph, "You shall call his name Jesus, for he will save his people from their sins." At the cradle there was the shadow of a cross; Jesus came in order to die and to give His life a ransom for many and that we, believing in Him, may have eternal life.

Mere mortal life is not the supreme value. The supreme value is a right relationship with God and the righteousness of the kingdom of God and the possession of eternal life. So what do you think this commandment means, "You shall not kill," if you withhold from a friend or loved one the saving knowledge of Jesus Christ, and if you never have a word of witness to others about how Jesus came to save us from our sins?

(I am heavily indebted to *Ethics and the New Medicine* by Harmon L. Smith, Abingdon Press, 1970, for the treatment of modern dilemmas.

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DEATH AND HOPE

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for that reason; we must come to terms with death because we all face it. The writer to the Hebrews reminds us of this, when he says, "It is appointed unto man once to die . . ." I Cor. 15:22 also makes this affirmation, when Paul says, ". . . in Adam all die." As we confront the subject of death, we in America face many restraints. Death is considered a taboo area. This seems to be true for Christians as well, for in the decade just preceding the present one, there were only two major treatments of this topic from the Christian perspective. Not only is it considered taboo, but any discussion of death is thought to be *morbid*. Therefore, few dare introduce the subject into a discussion.

Eugene Ionesco's plays show a continual concern and emphasis on death. His play, *Exit the King*, has as its main theme the subject of death. The characters play the roles the way 20th century man handles death. One queen wants to tell the king he is about to die, another queen favors silence, and the doctor stands aloof though finally succumbing to the pressure of the first queeen. And the king thinks he has the power to stop or at least control his death. Ionesco said concerning the theme of death in this play, "I told myself that one could learn to die, that I could learn to die, that one could also help other people to die. This seems to me to be the most important thing we can do, since we're all dying men who refuse to die. This play is an attempt at an apprenticeship in dying."[1] When he was further questioned if the play helped him, he said, it didn't help *him* at all.

Ionesco's honesty suggests that death is fearful, at times manageable, but also basically unmanageable. Elisabeth Kübler-Ross, an Assistant Professor of Psychiatry at the University of Chicago as well as a Director of Consultation at the University's hospital, has spent much of her time with the dying, and in directing seminar courses where medical students, nurses, aides and ministers sit in on discussions with those who are terminally ill. In her book, *On Death and Dying*, she says, "Death is still a fearful, frightening happening, and the fear of death is a universal fear even if we think we have mastered it on many levels."

Christians somehow think they can skirt around death and many have never come to terms with their death. "Psychologists have amassed an impressive body of evidence to prove that Christians often suffer from a fear of death, and that on this particular question they in no way differ from men in general."[2] One would think that of all places, the Church would provide the atmosphere where Christians could openly discuss their fears and apprehensions about death; yet generally speaking, this is not the case. Christians apparently judge each others spirituality by the fearless way they face death, and no one wants to be seen as less spiritual than someone else. Attempting to settle my attitude toward my own death releases me to enjoy life in a new way. It's at this point that Martin Heidegger has made an important contribution. "Heidegger highlights the significance of death because it wrenches us out of our unthinking participation in the commonly accepted valuations of life and forces us to decide for ourselves about the meaning of life."[3] In other words, a man who clearly sees his own finitude, who realizes that he is going to die, will make the most of those life hours that are his by God's grace. This leads to two

questions: (1) Why do we avoid facing death? and (2) How has man traditionally faced death?

To the first question, Dr. Ross's answer is most helpful. She says, ". . . dying nowadays is more gruesome in many ways; namely, more lonely, mechanical, and dehumanizing; at times it is even difficult to determine technically when the time of death has occurred." The reason death has become more gruesome in terms of loneliness is easily realized. In time past the person died at home surrounded by his friends and family. Death was not given a mystical aura. In many cases the dead person could be seen in his own bed after death. That is rarely the case today. Rather, the dying man is rushed away to a hospital by people he does not know, to be cared for by strange faces who most likely will be concerned only that he stay alive and will not really care about *the man*. On the other hand, our technological capabilities have made death more mechanical and dehumanized. People no longer have the right to die, it seems. One can be in a coma for months and still be considered alive. In times past a similar ailment would have meant death. Ethically, the topic of life and death and modern medicine is just now being discussed by Christians. Many questions can be raised in this area. But if we acknowledge our fear of the loneliness and dehumanization that accompany death, we start down the road of resolving or at least facing our own finitude.

Man's Concern with Death

Arnold Toynbee lists nine ways that man has traditionally reconciled himself to the fact of death. *Hedonism*, or the philosophy of "eat, drink and be merry for tomorrow we die" is one of the more obvious ways men have faced death. The TV program "Run For Your Life" best exemplified hedonism. As you may recall, the plot centered around a lawyer who learns of his impending death within a year. He decides that he will see and do the things he has failed to do in the past. "But hedonistic solutions of death, of course, are illusory." It is impossible to eat enough or drink enough and thus push the thought of death totally out of ones mind.

Because the hedonistic solution is illusory, some have concluded that life is so wretched that death is the lesser evil. *Pessimism* then becomes the answer. One index of pessimism is suicide. It is not surprising to read that the suicide rate in America is highest among those in the 17 to 30 year old bracket. Our youth look at what surrounds them, conclude that death must be better than life and then take their own lives. But the pessimistic solution is only a "cop-out".

Thirdly, man invents *physical countermeasures* in his attempt to circumvent death. In recent years the new area of cryonics has emerged, i.e., freezing the dead so that at a later date those who have been frozen may be defrosted and brought back to life when our technology develops the skill of reviving life. Such physical counter-measures allow only a temporal solution which at the end of the road is actually no solution at all. Another way man attempts to circumvent death is by *winning fame*, and then having that fame passed on to succeeding generations. Man has also reconciled himself to death by attempting to *merge himself with Ultimate Reality*.

But in each of these cases man really attempts to avoid facing the meaning of his death. And in some way death appears as a natural phenomenon in each of these views. From the Christian view death is not normal. Paul depicts it as an enemy which will be overcome only when Christ returns the second time. Because death is abnormal, even when we know a loved one faces imminent death, we are always crushed or totally surprised by the death of that one. Some one has called death a "thief" and rightly so, because death steals us away from those we love as well as taking those we love from us. We also need to remember that "biological death is not the Great Finitude. That description applies instead to the judgment of Christ, before which we shall all stand (Rom. 14:10)."[4]

Hope

Finally, we Christians, while facing the judgment of death, also have a word of grace and hope which is the central thrust of our passage, namely, resurrection. Paul sets forth our hope as centered in Christ. Christ's resurrection is the guarantee that you and I will be raised, too. Christ is the "first-fruits". This term announces that our hope has a foundation. The first-fruits are just what the words imply—in an agricultural setting some of the fruit appeared before the harvest; according to the Mosaic law this was given to God (Ex. 23:19; 34:26), because it was an indication of the fruit that was coming. Paul applies this imagery to us. Just as Christ has been raised by the power of God, Paul declares fearlessly that we who know Christ need not be overwhelmed by death because there is hope: resurrection.

[1]Claude Bonnefoy, *Conversations With Eugene Ionesco*, p. 79.
[2]E. J. Carnell, *The Case For Biblical Christianity*, ed. Ronald H. Nash, p. 175
[3]Thomas W. Ogletree, "From Anxiety to Responsibility: The Shifting Focus of Theological Reflection," *New. Theol.* No. 6 p. 58
[4]*Christianity Today*, Ministering in a Death-Oriented Culture", Calvin Milled, Nov. 19, 1971 p. 12

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Disagreement within and without the Christian community of believers should be possible without rancor or hostility. To experience enmity because of diversity of viewpoint is contradictory both to our Christian teaching of love for the brethren and to our political ideal of personal freedom in a pluralistic society.

Mark O. Hatfield
Conflict and Conscience, Word Books, Waco, Texas, 1971, p. 13

Galileo and the Church: Tensions with a Message for Today Part II

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Copernicus (1473-1543)

Copernicus' vindication of his system took two tacks, a critique of earlier views defending a stationary Earth and a presentation of alternative arguments for the mobility of our planet. Each was, in turn, a combination of kinematic and dynamic reasoning. The former rested upon a simple description of observed motions in the heavens and the latter was based upon theories as to the nature of motion.

In treating his geostatic competitors kinematically, Copernicus argued that what we observe of the motions of the stars and the bodies which wander across them may equally well be described by means of his heliocentric scheme. Indeed it did rather better, for Copernicus was able to employ contemporary observations to correct varied errors in Ptolemy's predictions and to make improved forecasts in refining the geometry of his own scheme. That was, however, no more than a historical accident, for presumably the Ptolemaic system could be revised in order to account for the newer information. Thus we can explain how Reinhold, in deriving his *Prussian Tables* of 1551, could utilize Copernicus' data and applaud his technical abilities while retaining the essentials of the geocentric method in his calculations. At best, then, Copernicus' argument here served merely to undermine confidence in the Ptolemaic prejudice by offering an alternative; at worst, it left the debate at the sceptical level of Nicolas of Cusa.

The dynamic arguments in favor of a geostatic position were met in an even less satisfying manner. The critique tended to take the form of esthetic judgments or to resort to suggestions for a physics rather different from Aristotle's. The first, unfortunately, reduced the mobility or stability of the Earth to a matter of taste. The second introduced various quite speculative ideas such as the assumption that the rotation of the Earth was natural and unforced and the argument that heavy objects fall toward the center of the Earth because of a natural affinity rather than because it lies at the middle of the universe. The whole was rather poorly thought out and would certainly carry little conviction by the time of Newton. Apparently Copernicus, convinced as he was on other grounds of the correctness of his system, was aware that this required that the old dynamic dogmas be in error. Unable to foresee the new physics suited to his own scheme, he could do no more than make rather gratuitous and fragmentary suggestions as to its nature.

On what basis did he found his convictions? It was the interdependence and coherent simplicity which his model gave to the available observational data. In the Ptolemaic scheme, motions on the deferents of the inferior planets and motions on the epicycles of the superior planets took place in a period of a year. The Copernican scheme replaced these by the single annual revolution of the Earth about the Sun. Now the relative size of the deferent and the epicycle for any planet in the Ptolemaic scheme could be fixed by observation. Placing this fact beside his replacement just mentioned, Copernicus was enabled to fix the relative sizes of the epicycles of the inferior planets and the deferents of Mars, Jupiter, and Saturn by employing the circles which represent the movement of the Earth at the same scale when dealing with each planet. The result, of course, is that once these relative sizes were known they became the orbits of these planets and the order of the planets was established properly about the Sun. After several thousand years of debate about the ordering of the planets and about their relative distances, an insight into what a single circle apparently meant in the separate planetary devices used by Ptolemy seemed to resolve the problem in one short step! Where tradition left these matters on a speculative, arbitrary, and erroneous level, the Copernican system pulled them so tightly together that to change any part was to make the whole unintelligible[9].

Certainly the Copernican scheme now begins to

The year of 1973 has been designated Copernican Year in honor of the 500th anniversary of the birth of Copernicus in 1473. In keeping with this commemoration, the Journal ASA *offers a four-part publication of a paper presented by T. H. Leith at the 1972 Convention of the American Scientific Affiliation at York University. Part I appeared in* Journal ASA 25, 21-24, *March* 1973.

sound worthy of belief. Belief, however, is often a complex psychological matter and thus a function of an idea's agreement with familiar concepts and theories. Many were too astounded by the relative emptiness of Copernicus' universe, by the immensity which it required to explain the lack of observed stellar parallax (it was first found in the fourth decade of the Nineteenth Century), and by Copernicus' disdain for the logic of the two-level cosmos of the past, to find the new scheme credible. And, of course, Biblical scholars could point out its apparent incoherence with the traditional understanding of passages such as Psalm 93:1, Psalm 104:5, Psalm 75:3, Psalm 119:90, Psalm 19:4-6, Joshua 10:12-14, Ecclesiastes 1:4-5, Job 26:7, and 2nd Kings 20:9-11 and the theologian could ask how man's important role in creation was to be reconciled with his position on a mere planet rather than centrally in creation. Clearly an acceptance of Copernicus' understanding would not be widespread in the short term.

Tycho and Kepler

In its ability to predict the motions of the heavenly bodies the Copernican scheme was flawed by the fact that the data which it employed were only very partially an improvement upon those available to Ptolemy. Consequently, tables such as those of Reinhold contained serious errors and modern observations made with accuracy and over a long term were required if the deficiency were to be corrected. It is on Tycho Brahe (1546-1601), the diligent and eccentric Danish astronomer, that the task fell although his motivation was scarcely to strengthen the Copernican system. Rather, Tycho's ambition was to provide the foundations for a model in which the Sun circled a stationary Earth, lying in the center of a spherical cosmos, carrying with it the five known planets. Thereby he hoped both to reconcile astronomy with Scriptural teaching as commonly understood and to remove the necessity of placing the stars far beyond the outermost planet as was required by the heliocentric scheme. His careful observations revealed no measurable stellar parallax, thus either the Earth did not move about the Sun in an immense circle or the stellar regions were at even greater distances than had been thought necessary in Copernicus' day. He preferred the former.

Because his suggested model also retained a non-rotating Earth, it was necessary, as it was in all geocentric systems in which the Earth lacks a daily rotation, to move the planets and Sun and Moon as well as the stars around the Earth once each day. The individual motions of the bodies moving within the starry heavens of course caused these also to drift at various rates across the stars. Tycho was apparently willing to retain this long-standing complexity in spite of the fact that he took his model to be true to what was actually occurring, rather than to be a useful fiction, and in spite of the absence of any physical explanation. However, he did not live to see his data applied in a detailed technical manner to his scheme; his colleague in the short period before his death, Kepler, was to use them to quite different ends. They provided instead the foundation of a Copernican picture of a novel sort, a picture he had intended to avoid.

Tycho contributed too, we must mention, to the downfall of certain aspects of the Aristotelian worldview, something he did intend. His careful studies removed the comets from their traditional place above the atmosphere and beneath the Moon and placed them in paths at distances previously reserved for the planets. Aristotle's transparent shells were shattered thereby. Again, his observations of the new star of 1572, because they failed to show any parallax over the eighteen month period in which it was visible, led him to conclude that it lay in the regions beyond the planets. The supposedly changeless starry heavens exhibited an unforeseen novelty and decay; another facet of the Aristotelian cosmos had been destroyed[10].

Upon Tycho's death, Johann Kepler (1571-1630), his successor as Imperial Mathematician to the Holy Roman Emperor in Prague, obtained Tycho's massive collection of data on stellar positions and the apparent movements of the heavenly bodies. Kepler was already a Copernican, tutored in the system by one of its few astronomical adherents, Maestlin, while Kepler was his student at Tubingen, and the author in 1597 of a small book defending a heliocentric scheme entitled *The Cosmographic Mystery*. As is well-known, Kepler employed the information to develop a revised Copernican model in which the traditional circles and epicycles of its founder were replaced by elliptical orbits. His conclusions appear in 1609 in the *New Astronomy*, the same year that Galileo began his equally revolutionary studies with the telescope[11].

What is less commonly realized is the extent to which Kepler challenged another tradition, the received attitude on Biblical teaching regarding the Earth's motion. When his volume of 1597 had appeared, while he was still a high-school teacher, he had withdrawn a chapter on the subject to avoid setting off a serious dispute and lest the Tubigen faculty might not approve the work as his printer had requested they do. Later, as Imperial Mathematician he could better afford to treat this contentious question which he did in the *New Astronomy*, in his *Epitome of Copernican Astronomy* of 1618, and in the second edition of the *Cosmographic Mystery* of 1621. Let me quote briefly from the second of these.

> Astronomy discloses the causes of natural phenomena and takes within its purview the investigation of optical illusions. Much loftier subjects are treated by Holy Writ, which employs popular speech in order to be understood . . . Not even astronomers cultivate astronomy with the intention of altering popular speech. Yet while it remains unchanged, we seek to open the doors of truth . . . This is all the more reason not to require divinely inspired Scripture to abandon the popular style of speech, weigh its words on the precision balance of natural science, confuse God's simple people with unfamiliar and inappropriate utterances about matters which are beyond the comprehension of those who are to be instructed, and thereby block their access to the far more elevated authentic goal of Scripture.
>
> In our days all the most outstanding philosophers and astronomers agree with Copernicus . . . Yet the authorities are cast aside by most educated people, whose knowledge is on a level not much higher than the uneducated. Acting by themselves and blinded by ignorance, first they condemn a discordant and unfamiliar doctrine as false. After deciding that it must be completely rejected and destroyed, they then look around for authorities, with whom they protect and arm themselves. On the other hand they would make an exception of these same authorities, sacred and secular alike . . . if they found them aligned on the side of the unconventional doctrine. They show this attitude in connection with the book of Job, chapter 38, when anybody proves by means of it that the earth is flat, stretched to the tautness of a line, and resting on certain foundations, according to the literal meaning.[12]

I quote from the third source.

> Who would deny that God's word is attuned to its subject matter and for that reason to the popular speech of mankind? Hence, every deeply religious man will most carefully refrain from twisting God's word in the most obvious matters so that it denies God's handiwork in nature. When he has understood the most delicately harmonious coordination of the celestial motions, let him ask himself whether sufficiently correct and sufficiently productive reasons have been discovered for the agreement between the word of God and the hand of God, or whether there is any advantage in rejecting this agreement and by means of censorship destroying this glorification of the boundless beauty of the divine handiwork. The ignorant refuse to have respect for authority; they rush recklessly into a fight, relying on their numbers and the protection of tradition, which is impervious to the weapons of truth. But after the edge of the ax has been struck against iron, it does not cut wood any longer either. Let this be understood by anyone who is interested.[13]

Two aspects of Kepler's comments deserve special note here. The coherent simplicity of Copernician astronomy and the discovery of a mathematical regularity in nature enunciated in Kepler's famed three laws of planetary motion (the third appeared in 1619 in his *Harmony of the World,* the first two in the *New Astronomy* a decade earlier), together with a welter of speculative musical analogies, astrological theory, and mystical theology had convinced Kepler that he had indeed uncovered in part the true handiwork of deity. His choice of the most eminent philosophers and astronomers, all Copernicans, was colored by this belief. We assume that he included Galileo, unaware likely of Galileo's distaste for Kepler's approach, but he clearly ignored his Aristotelian and Ockhamist philosophical opponents, those who found the lack of a physical basis for his system disturbing, and astronomers for whom a Tychonic scheme more readily fitted their predilections. Also 'authority' in matters astronomical was not only handed to Copernican sympathizers but removed from its traditional tenure by Biblical exegetes, Aristotle, and those who espoused a belief that astronomical work must resort to fictions. His point that tradition was employed only when convenient to current opinion was a worthy one but most of his contemporaries were unprepared to recognize it; novel ideas, even if founded upon evidence, often have to await a new mind-set before they are accepted and only then are the short-comings of traditional authorities comprehended.

(To be continued)

FOOTNOTES

[9]Further information may be found in *The World of Copernicus,* A. Armitage, New York, 1947; *Des Revolutions des Orbes Celestes,* N. Copernicus, Paris, 1970; *La Revolution Astronomique,* A. Koyre, Paris, 1961; *The Copernician Revolution,* T.S. Kuhn, New York, 1959; and *Three Copernican Treatises,* E. Rosen, New York, 1959.

[10]See *Tycho Brahe,* J.L.E. Dreyer, New York, 1963 for details.

[11]On Kepler's life and work see *Kepler,* M. Casper, New York, 1962.

[12]Translation by E. Rosen in his paper "*Kepler and the Lutheran attitude toward Copernicanism*" at the Kepler Colloquium, Linz, Austria, 1971.

[13]*Op. cit.*

A NEW AGE FOR THE UNIVERSE?

It is my enormous pleasure to ask Allan Sandage to take us on a trip through that enormous dimension of time and space in which he feels at home—Martin Schwarzschild, introducing the Henry Norris Russell lecturer, 138th meeting of the American Astronomical Society, Michigan State University, 15–18 August 1972.

The universe may have started with a big bang, or it may have always been in a steady state. There are few measurements of the nature of the universe, and the most important has been found greatly in error. Allan Sandage presented evidence for the big bang, and announced that new data on the time lapse since the initial explosion give an age for the universe that is consistent with the ages of life, the earth, and the stars. The well-known astronomer from Mt. Wilson and Palomar Observatories further predicted that within the next 10 years it may be possible to tell whether the universe will keep expanding forever or eventually slow down and contract.

Following the tradition of eminent astronomers such as Russell himself, who laid the groundwork for the understanding of stellar evolution, Sandage spoke eloquently and authoritatively. His presentation touched almost every point in modern cosmology; indeed, it seemed to signal that the study of the evolution of the universe had progressed a step closer toward becoming a full-fledged empirical science. However, some of the arguments made at the end of the talk were clearly speculative, arguments thought by some of the younger astronomers in the hall to be reminiscent of a grand but perhaps less rigorous age of astronomy.

Since Edwin Hubble established, in 1921, that the universe is expanding, it has been known that more distant galaxies recede faster. The constant of proportionality in the relation between the velocity and the distance of a galaxy (the Hubble constant) indicates an age for the universe under certain assumptions about the expansion. With the best techniques of his day, Hubble determined a constant which indicated an age of only 1.8 billion years. But even in the late 1930's this was known to be less than the age of the earth's crust. Either the simple "big bang" model was incorrect, or the Hubble constant was wrong. This famous discrepancy was a prime motivation for the "steady state" model developed by Hermann Bondi, Thomas Gold, and Fred Hoyle, which describes a universe that has no beginning or end, but continuously remakes itself according to a fixed and immutable pattern.

The original measurement of the Hubble constant was in error. In fact, the Hubble constant has changed so often that it is a notable example of mutable constant. According to Sandage, "It has gone down linearly with time," and has now reached a value that makes the age

of the universe consistent with the age of its constituents. The most important announcement at the Russell lecture was that the new age of the universe, estimated from the remeasured Hubble constant, is 17.7 billion years, an age remarkably close to the best estimated age of the galaxies (12 to 15 billion years).

The Hubble constant is difficult to measure because there are random velocities of galaxies in addition to the velocities of expansion. Galaxies receding at such great speeds that these perturbations are insignificant are so far away that their distances are extremely difficult to measure. According to Sandage, "You have to look so far in order to see cosmological velocities that individual stars cannot be seen. So you have to devise a technique to bridge the gap between the place where precision indicators [of distance] exist and where the universe is really expanding without any perturbing effects."

Measurements of distance must be done in many successive steps, beginning with the calibration of Cepheid stars in our galaxy (a peculiar class of variable stars whose brightness can be determined by the cycle of variation in their intensities), next measuring the angular sizes of certain hydrogen regions in galaxies near ours, then using distances of further hydrogen regions to calibrate the absolute luminosities of galaxies having a cosmological velocity. Distance can be determined from absolute luminosities by the inverse square law.

In 1932, Hubble established a value of 530 kilometers per second per megaparsec as his constant (a megaparsec is about 3.3 million light years), but the scales of optical magnitude were not accurate for faint objects because certain nonlinearities in photographic plates were not understood. Furthermore, the absolute scale of Cepheid brightness was in error, as discovered by W. Baade in 1952. Correcting these two errors reduced the Hubble constant to about 265. In 1956, it was stated to be 180, then after corrections of Hubble's data for others errors, Sandage estimated in 1958 that the best value was 75. The value Sandage announced at the Russell lecture, based on the first complete remeasurement, was 55 ± 7. Sandage commented quite candidly on the contrast between his estimated error and the enormity of mismeasurement over the years.

> Now that's an incredibly small error, 15 percent of the value. Hubble said his value was good to 15 percent also. HMS [Humason, Mayall, Sandage] said their value was good to 15 percent, and the value of 75 is good to 15 percent. Almost everybody, when quoting distances . . . quotes 15 percent. So that's kind of unrealistic, but Martin Schwarzschild said today that one should always underquote the errors so as to give himself some enthusiasm to continue on with the problem.

The problem of the next 10 years, as Sandage sees it, is to look out to greater distances to see whether the linear relationship between the distance and velocity changes. The largest red shift used by Hubble or Sandage was 0.46, but Sandage thinks it will be possible to find the distances of certain galaxies with red shifts of 0.8 [The red shifts of some quasi-stellar objects (QSO's) are almost as great as 3.] The point of measuring objects with larger red shifts is that they may be far enough away so that the time for light to travel to us is a significant fraction of the age of the universe. If the universe is slowing down because of the braking action of its own gravitational forces, then the speeds of very distant galaxies will be observed as larger than one would expect because they would be observed at the expansion rate of an earlier age; in other words, the Hubble relationship would not be exactly linear. Thus, better data at large red shifts will allow astronomers to determine a second constant, called the deceleration parameter. In Friedmann's equation that describes many cosmological models, a deceleration parameter of -1 indicates a steady state universe, a value of $+ \frac{1}{2}$ indicates a flat Euclidean universe, and a value greater than $+ \frac{1}{2}$ indicates a universe that is decelerating and will eventually contract The best value available from the present data (1 ± 1) is not definitive, but slightly favors a "big bang" history for the universe.

After stating so succinctly the outstanding problem that must be solved to ascertain what the future of the universe will be, Sandage ventured the suggestion that there is already enough evidence to determine the past. Though many scientists have questioned whether the very large red shifts of QSO's are really indicative of velocities near the speed of light, Sandage presented some arguments in favor of the traditional interpretation. He then estimated that the light from QSO's with the largest red shifts was emitted before 89 percent of the history of the universe had elapsed. Furthermore, data that Sandage presented in his talk suggested that the 200-inch Mount Palomar telescope should be able to detect QSO's with red shifts larger than 3, but searches for objects listed in the 4th and 5th Cambridge catalogs of radio sources have not revealed any. Looking further out in space is equivalent to looking further back in time, and Sandage suggests that suddenly the objects run out.

> If one could substantiate that a red shift limit of 3 is real, have we actually observed the edge of the universe or the horizon of the universe in time? If so, this would be a fairly decent proof that the universe has not always been the way it is now, that it has evolved. This plus the agreement of time scales [the age of galaxies and the age of the universe] would surely be an indication of an evolution: the world did begin.

While astronomers reared in the oriental cultures express very little interest in cosmology, scientists educated within the western Judeo-Christian tradition continue to be fascinated with questions about the origin of the world. The Russell lecture ended with a powerful allusion to the religious overtones of that fascination.

> The best text that could be indicated here would be that in the beginning there was darkness upon the deep. There was light, and out of that light came everything that we now observe.

Astronomers, of course, will continue making observations.

(A report by William D. Metz in Science 178, 600 (1972). *Copyright* 1972 *by the American Association for the Advancement of Science.)*

CREATION AND EVOLUTION IN SCIENCE EDUCATION

In December 1972 a Consultant Committee of four members was appointed to make recommendations concerning changes in state-adopted science textbooks in the state of California. The charge to the Committee was "That on the subject of discussing origins in the Science textbooks, the following editing be done prior to execution of a contract (with a publisher): 1. That dogmatism be changed to conditional statement where speculation is offered as explanation for origins. 2. That science emphasize "how" and not "ultimate cause" for origins." Two of the members whose statements are given here, have served as President of the ASA in the late 60's. One statement was prepared for presentation at a meeting of the California State Board of Education in November 1972 by Dr. Robert B. Fischer, and the other is some remarks by Dr. Richard H. Bube, also published subsequently in the California Science Teacher's Journal, *p. 15, February* 1973.

I make this statement as one whose vocation is that of an academic scientist and who has long had avocation in Biblical studies, hermeneutics and theology.

The immediate issue is what to do about science textbooks. I submit that, if this immediate issue is to be resolved rationally and effectively, it must be considered in the context of its relation to the underlying, basic issue.

The basic issue is not one of creation vs. evolution. This is not even a sharply-defined issue. "Creation" signifies origin. There is ample evidence that the universe, life and man have not always existed in any way even remotely approximating their present conditions, but rather that there were origins at some point or points in time. "Evolution" signifies change and development. There is ample evidence that significant change and development have occurred over periods of time. There are indeed issues in science as to the time or times of origin, and over the extent and the detailed mechanisms of change and development, but these are not the basic issue.

The basic issue is not one of design vs. change in nature. This, again, is not a sharply-defined issue. "Design" signifies orderliness, and "chance" signifies randomness. On the one hand, there is general agreement that nature exhibits orderliness and is describable in terms of natural laws. On the other hand, there is varied evidence that some individual natural events occur in apparent randomness, in ways not individually predictable, at least not on the basis of present scientific knowledge.

The basic issue is not one of whether or not scientists should engage in speculation. Speculation beyond immediately verifiable observational data is an integral part of the on-going development and application of scientific knowledge and understanding. Speculation may extend beyond those present limits of science which are set by currently available knowledge and tools of measurement. Speculation may even extend beyond the limits set by the very nature of scientific inquiry and may involve presuppositions, for there are basic limitations, and presuppositions of science and of scientists.

What, then, is the basic issue? I submit that it is this . . . . does a Supreme Being exist and, if so, of what essence is this existence and of what relationship is this existence to nature and to man generally and individually? Or to restate it with respect to the immediate issue . . . do the concepts of origin, change, development and design signify an Originator, a Master-Changer, a Master-Developer, a Designer? This basic issue lies beyond the limits of science, but not beyond the limits of speculation and of belief and of personal commitment by human beings, including human beings who are scientists. It involves man's intellect and emotions and actions; it involves the totality of man's being. Science legitimately includes the study of design in nature and of the natural mechanisms whereby this design is exercised. But the basic underlying issue of the designer is much more directly within the realms of theology and of philosophy which, like natural science, are very relevant to all human beings.

The immediate circumstances and the immediate issue are surely not appropriate for the full-scale consideration of the basic issue. I submit, however, that frank identification of what this basic issue is and of

***The Commission on Science Education of the* AAAS *passed the following resolution at its meeting on Oct.* 13, 1972:**

The Commission on Science Education, of the American Association for the Advancement of Science, is vigorously opposed to attempts by some boards of education, and other groups, to require that religious accounts of creation be taught in science classes.

During the past century and a half, the earth's crust and the fossils preserved in it have been intensively studied by geologists and paleontologists. Biologists have intensively studied the origin, structure, physiology, and genetics of living organisms. The conclusion of these studies is that the living species of animals and plants have evolved from different species that lived in the past. The scientists involved in these studies have built up the body of knowledge known as the biological theory of the origin and evolution of life. There is no currently acceptable alternative scientific theory to explain the phenomena.

The various accounts of creation that are part of the religious heritage of many people are not scientific statements or theories. They are statements that one may choose to believe, but if he does, this is a matter of faith, because such statements are not subject to study or verification by the procedures of science. A scientific statement must be capable of test by observation and experiment. It is acceptable only if, after repeated testing, it is found to account satisfactorily for the phenomena to which it is applied.

Thus the statements about creation that are part of many religions have no place in the domain of science and should not be regarded as reasonable alternatives to scientific explanations for the origin and evolution of life.

what it is not points to a two-fold resolution of the immediate issue. First, science authors and their publishers should exercise greater care to insert identifying and qualifying clauses when they engage, properly, in speculations beyond the present or the ultimate limits of science, with open recognition as appropriate of the weaknesses as well as the strengths of these speculations. This is especially difficult, yet especially important, in science materials which are necessarily simplified, as for the elementary grades. Second, frank statements should be made as appropriate to the effect that science per se deals with natural phenomena and with natural mechanisms, verifiable and/or speculative, of origins and of design and not with more ultimate issues of an Originator and a Designer.

Robert B. Fischer
Dean, School of Natural Sciences and Mathematics and Professor of Chemistry
California State College, Dominguez Hills

Science courses should be devoted primarily to the teaching of science. A scientific theory is one that can in principle be contradicted by empirical data. Any theory that can in principle be contradicted by empirical data can be taught in a science course; any theory that cannot in principle be so contradicted should not be taught in a science course. The question is: can "creation theory" be contradicted in principle by empirical data in the same way that "evolution theory" can? If the answer is yes, then "creation theory" should be taught in a science course; if the answer is no, then "creation theory" should not be taught in a science course.

To the best of my knowledge, current forms of "creation theory" cannot be contradicted by empirical data, even in principle. Wherever empirical data might be thought to contradict the theory, appeal to miracle (i.e., to a non-scientific description) is commonly made. In one popular form of "creation theory" it is proposed that the earth was recently created with the appearance of age; in such a case the scientific age of the earth *is* the age it appears to be, and no possibility exists for contradicting the theory empirically. Indeed it may well be argued that any theory of *ultimate* origins (i.e., the origin of the first matter or the energy of the universe) must remain intrinsically speculative, not definable in a form subject to ready contradiction by empirical data. Unless some form of "creation theory" is available with which I am not familiar, therefore, which can be contradicted empirically, I do not believe that the teaching of "creation theory" in a science course is appropriate.

On the other hand this does not mean that the common teaching of "evolution theory" shows clearly how it may be contradicted by empirical data. I believe that "evolution theory" is in principle contradictable (e.g., by an increase in our understanding that showed that all age-dating was in error by a factor of a million—however unlikely that might seem to be at present), and that therefore it should be taught in a science course. But I also believe that "evolution theory" is all too often presented in science teaching as some kind of an absolutely infallible law free from all possibility of future contradiction. For many adherents, evolution has assumed the proportions of a religious faith and this dogmatic acceptance shows up in many texts on evolution. In other words, the trouble with science courses on "evolution theory" is that they frequently misrepresent what science really is and what science can really say authoritatively. In the teaching of evolution, what we can say about the processes going on at present is the most solidly based, what we can say about processes in the immediate past is probably largely valid, what we can say about processes in the distant past becomes increasingly speculative, and we can say nothing scientific at all about absolute origins. Yet the typical discussion of evolution starts the other way round, presenting theories about origins as if they were the foundation of our evolutionary knowledge and established beyond the shadow of a doubt. What evolution teaching needs is not the introduction of an alternative non-scientific "creation theory," but the reformation of the present courses so that they are faithful to the potentialities and limitations of the scientific method. The student should be clearly informed, for example, that all science leads ultimately back to scientific ignorance of necessity, that this happens in the case of origins in the universe about which science can say nothing except in a speculative and variable manner, and that a quantitative theory of

Introductory Statement Proposed for Science Textbooks Discussing Evolution by the California State Consultant Committee:

The subject of origins—how things began long ago—has always been fascinating. Certain questions about how things began science simply cannot answer. Where the first matter and energy came from is such a question, because it cannot be treated by the accepted methods of science. However, other questions of origins are appropriate for scientific investigation. For example, what are the physical mechanisms involved in the origin of life or the origin of specific living creatures? Considerations extending beyond a natural description of the physical universe, even as to whether any supernatural reality exists, are "non scientific," i.e., they lie beyond the reach of science and belong to other disciplines such as philosophy and religion. That such considerations are "non-scientific" does not mean that they are untrue or unimportant, but only that they cannot be evaluated by the scientific method.

The term "evolution" may be used in a number of ways. One use of the term describes processes that can be observed at present. These processes can be described with great accuracy. Another use of the term "evolution" refers to the hypotheses that (1) all life forms now living have come from a much smaller number of life forms in the past; this may have been just one or a few original sources of life; and (2) the great variety now in existence has developed by slow changes over long periods of time in response to hereditary and environmental factors. This theory, commonly called the "theory of organic evolution," attempts to tie together all living creatures and to explain similarities between living creatures in terms of slow change from one form to another form better suited to survive in the local environment. The accuracy of this theory, like that of all scientific theories, depends largely upon the validity of the assumption on which it is based.

Most scientists agree that the theory of organic evolution is the best scientific description we have to account for the complex forms of life in the past and present. The historical reconstructions of life in the past described in this book are presented in terms of this theory of organic evolution.

evolution which shows exactly how it is possible for natural selection and mutation to bring about the apparent changes in living forms over the allowable time span is not yet in existence.

The debate about creation and evolution in education has unfortunately involved itself in two major types of category confusion. This confusion appears in discussions of creation vs. evolution, and design vs. chance. The terms "creation" and "evolution," for example, are really used on two quite different levels which may be distinguished as follows:

Worldview	Creation	Evolution
Scientific mechanism	spontaneous generation (*fiat* creation)	evolutionary process

Creation (with a capital C) refers to the entire Judaeo-Christian doctrine of the origin and continual dependence of the world on the free power of God; Evolution refers to that philosophical (and religious) worldview which dispenses with God and considers an evolutionary process to be ultimately basic to all aspects of life. Spontaneous generation (which is the scientific mechanism appropriate to what "creationists" call *fiat* creation) means the sudden coming into existence where nothing was before; evolutionary process means the gradual development of new forms from existing matter. Creation and Evolution are mutually exclusive worldviews; in any given phenomenon (origin of life, origin of man), spontaneous generation and evolutionary process are mutually exclusive mechanisms. But it should be clear that one could accept Creation *and* either spontaneous generation or evolutionary process without difficulty.

Worldview	Design	Chance
Scientific mechanism	determinism	chance

Design refers to a worldview in which the character of the universe has been formed in accordance with divine intelligence and concern; Chance refers to a worldview in which the universe is the product of blind, meaningless statistical process. The choices in a scientific description are only twofold: either a process is describable in terms of exact mathematical relations (deterministic description) or it is describable in terms of a statistical approach only (called "chance" in science). To say that a scientific description is one of chance, therefore, implies only that our present knowledge leads us to describe it in a statistical rather than a deterministic manner. Design and Chance are mutually exclusive worldviews; determinism and chance are mutually exclusive scientific mechanisms. But it should be clear that one could accept Design *and* either determinism or chance without difficulty.

It is important that our students come to appreciate Creation and Design as alternatives to Evolution and Chance, but this must come in some other setting than that of a science course. What we can do in a science course is avoid the opposite extreme of insisting that science somehow demands for us to accept only Evolution and Chance as worldviews.

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Christian Education: A Contradiction in Terms? Paul H. Hirst, *Faith and Thought* 99 (1), 43 (1971); **Christian Education's Meaningful: A reply to the previous paper,** Geoffrey W. Robson, *ibid.* p. 55; **Comments on Christian education** Arthur Adcock, *ibid.* 99 (3), 184 (1972); **Mr. Robson, Mr. Adcock and Christian education: A reply,** Paul H. Hirst, *ibid.* p. 189. A perceptive discussion in the best British manner of some of the issues in Christian higher education which places particular emphasis on science and mathematics.

Boyles conception of nature, J. E. McGuire, *Journal of the History of Ideas.* Vol. 33, No. 4 (Oct.-Dec. 1972) p. 523. A penetrating study of the influence of his Christian faith on the life and scientific work of the 17th century English Chemist Robert Boyle. **Some current British attitudes,** The Feb. 1972 Issues of *Faith and Thought,* Vol. 98, No. 23 1970. Contains articles by R. B. Acworth, Arthur Jones and D. C. Spanner discussing creation and evolution.

Nobel prize winner Willard Libby has written a very readable review of the current status of radiocarbon dating **(Dating by Radiocarbon),** *Accounts of Chemical Research* 5,289, (1972). In addition to providing historical background and examples of application, Libby discusses factors (such as variation in the earth's magnetic field) which lead to the observation that the method is reliable "in that samples taken from any place in the world for the past epoc will give the same date. . .", but that absolute dates, "can be incorrect by as much as 600 or 700 years".

The paper—**Evolutionary Biology: Its Value to Society**—*BioScience* 22, 349 (1972) contains the substance of a report by the president of the Society for the Study of Evolution to the director of the National Science Foundation concerning ways in which the science of evolutionary biology has contributed to the solution of problems facing society. Examples cited include biological control of pests, food supply, public health, over-population, prescrvation of rare and endangered species, and the dispelling of myths about Human Origin. In the latter

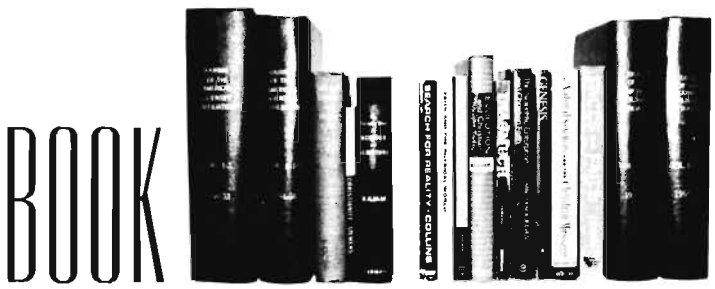
example, the author feels that "in order to consider these questions dispassionately, the mind must be free of the restraints imposed by transcendental edicts about living things."

Christianity is taken to task concerning its view of nature in an article by Jean Mayer—**Science Without Conscience**—*The Am. Scholar* 41, 2, 265 (1972). She finds in the scriptures the only sympathetic reference to animals of no economic value to man was in the story of Noah's Ark and the Covenant. The Neoplatonic inspiration of the church Fathers, the Manichean influence of Augustine, the Thomistic "Natural Law" unrelated to nature, all influence us to believe that ethics is concerned only with relations between man and man, man and society, or man and a personal God. Curiously, the author speaks of conscience but never defines it.

Leibniz on Motion and Creation, Walter P. Carvin, *Journal of the History of Ideas* 33, 423 (1972). A discussion of mathematician G. W. Leibniz's view that the rationality of motion provides a basis to maintain the reasonableness of creation and the role of God in nature.

W. E. Elias in a paper—**The Natural Origin of Active Compounds**—*J. Chem. Ed.* 49, 448 (1972) provides a summary of current views and experimental approaches designed to explain the origin and distribution of optically active organic molecules derived from non-optically active precursors. The various theories are critically evaluated and the reluctant conclusion drawn that "no explanation can be either accepted or rejected on the basis of evidence now available."

(Reported by J. W. Haas, Jr., Gordon College, Wenham, Mass. 01984.)



FUTURE SHOCK by Alvin Toffler, Random House, New York, 1970.

If there were any doubts that futurology has a future, this book dispels them. In its description of the current scene and the *problems* spawned by social change, it is a modern book. The *answer* to these problems is found in "the subjection of the process of evolution itself to conscious human guidance." Immediately, we can label the work as an antique. The kind of futurology presented here may have a future but its final chapters were written in the Enlightenment.

Thanks to a crackling journalistic style shored up by solid research, it is a book from which much can be learned. It is, at once, a popular and a scholarly work. A definite strength is found in its references which provide a kaleidoscopic view into the literature of futurology. Another strength is the system of provocative concepts with which the book glistens. "Future shock" or the disorientation experienced by people who are subjected to too much change in too short a period of time is the anchoring concept. There is also "modular man" or the person who becomes disposable as he moves from one social situation to another. In organizations, there is the concept of "Ad-hocracy"; the shift from vertical bureaucratic forms to horizontal lines of control. All of these concepts, and many more, provide the framework for Toffler's major argument; society is changing so rapidly that we have lost our perspective on reality.

Having made this diagnosis, Toffler would have us understand the new forms of social reality, and rightly so. He recognizes, for instances, that the individual is being ripped from the total environment by social change and manipulated by society. Consistent with a Christian emphasis, he asserts that the individual must be seen as part of a total system. In fact, he recognizes the insulating role played by religion in dealing with future shock.

For the most part, however, Toffler fights fire with fire. If technology is the major cause of future shock then what is needed is more technology and not less. Since we cannot reverse the pattern of technological progress, we must understand and harness it. His suggestions along this line are prolific and sensible. For instance, he recommends that means of "sensory shielding" be used to resist sensory stimuli when the upper levels of human adaptation are reached. Noting that entertainment is used to raise or lower the level of stimulation, he suggests that other psychological controls be discovered and used in like fashion.

But such a recommendation shows Toffler's major weaknesses; his own limited perception of reality and his reliance on technology itself. For him, technology is the only real force in society. Indeed, his reductionism is quite apparent in his reference to change as a concrete force. In man, the reality is his psychological need which is in desperate need of protection. Again and again, he sees the threat to this need expressed in the family, education, organizational structures, and propaganda. In retaliation, he argues for the gathering of human resources and ingenuity to stem the tide. The ultimate objective is to "humanize distant tomorrows".

This is a stimulating and profitable book, largely because Toffler is a realist in his analysis of current problems. When it comes to solutions, however, he is an idealist and can only offer the humanist hopes of the past. Nevertheless, his is a voice which cannot be ignored. Christians must recognze, as he states, that minority styles of life are bound to increase in the future. The majority who represent a traditionally Christian life style, in any form, will find increasing pressure to change. Here is the cutting edge of the problem; what are the critical elements in a Christian life-style and how are they to be maintained? Toffler provides us with the signs of the times and the Christian must interpret them correctly.

Reviewed by Dr. Russell Heddendorf, Professor of Sociology, Geneva College, Beaver Falls, Pa.

THE PSYCHOLOGY OF LOVING by Ignace Lepp, Mentor-Omega, New York, 1963. 223 pages. Paperback reprint, $0.95.

Ignace Lepp, a Catholic priest and practicing psychiatrist, is considered one of France's most provocative writers. His other books include *From Karl Marx to Jesus Christ*, the story of his career as a Communist actionary, and *Psychoanalysis of Atheism*, his explanation of why men reject the idea of God.

The modest aim of this book, according to the author, is not to teach the specialist anything new but to help people to love: "I would hope . . . to be able to contribute modestly to the furtherance of love in the life of the individual and in the collective life of all mankind."

Lepp tries to reconcile the spiritual ideals of Christianity with psychiatric insights into human sexuality via actual case histories, most of which are taken from his own personal experience. While he does not consider himself a disciple of Freud, he nevertheless lauds the contribution which depth psychology has made to the Christian church. He acknowledges his debt to Freudian psychoanalysis and the analytic psychology of C.G. Jung.

The reader finds very little theoretical and abstract discussion in this book. Rather he comes across such pungent remarks as the following:

> Homosexuality, sadism and masochism, impotency and frigidity are so many different types of emotional illness. Their unfortunate effects on the individual and on society are at least as great as those produced by cancer or by polio.
>
> Any form of idolatry is closer to atheism than it is to the true faith.
>
> Only a man who is capable of loving a woman, and only a woman who is capable of loving a man, is in a position to love friends, God, and humanity in a genuine way.
>
> . . . studies of sex among animals tend to support the conclusion that no animal experiences sensual pleasure in the act of intercourse . . .
>
> The French custom of the one marital bed is particularly disastrous to eroticism. A body which one is always touching, even when he does not want to, loses all its mystery and soon, consequently, all its attraction.

On the technical side, the book has an introduction, 12 chapters which are not closely knit together and could be read in any order, and an index. There is no bibliography. The translation into English was done by Bernard B. Gilligan. The *Nihil Obstat* and *Imprimatur* are official declarations that this book is free of (Catholic) doctrinal and moral error.

By way of caution, it should be pointed out that since this book is written by a Frenchman, some of his observations apply strictly to Frenchmen. Since it was written ten years ago, some of his views seem dated, especially in light of the new feminism. The liberationist would surely smile when Lepp quotes with approbation Byron's remark that "Love is only one occupation in a man's life, but for a woman it is life itself."

If the neophyte is looking for titillation or scientific information, he had better turn to other sources. Lepp's accomplishments and purposes extend in neither direction.

The American psychologist might be a little annoyed at Lepp for referring to sex as an instinct, Jung's archetypes as being valid, and the manic-depressive as being neurotic rather than psychotic. However, these are minor semantical differences and should not distract from the overall impact of the book.

Robert Francoeur has written of this book in *Commonweal*: ". . . interesting, frank, lively, and very enlightening." The review in *Cross Currents* said that Lepp has made "a substantial contribution in the area of his expertise." With these evaluations, this reviewer agrees. The book is easy to read and made interesting by the many case studies. Lepp's insights into the nature of love, sex, masculinity and feminity are generally fresh and useful.

HEALER OF THE MIND by Paul E. Johnson, Ed., Abingdon Press, New York, 1972. 270 pages. $6.95.

This seems to be the year for autobiographies. First there was *The Phychologists*, a collection of autobiographies by psychologists. Now there is *Healer of the Mind*, a collection of autobiographies by psychiatrists.

The editor of this collection is Paul E. Johnson, professor emeritus of psychology and pastoral care at Boston University and visiting professor of pastoral care at Christian Theological Seminary in Indianapolis, Indiana.

The autobiographies are written by ten prominent psychiatrists from four different countries (America, Japan, Switzerland, Wales). The writers are Susumu Akahoshi, Leo H. Bartemeier, Carl W. Christensen, Edgar Draper, James A. Knight, David Calder Moir, Donald F. Moose, Jacob L. Moreno, E. Mansell Pattison, and Paul Tournier (who by his admission is not a psychiatrist). All the contributors are specialists in psychotherapy and in some cases were trained in theology as well as medicine and psychiatry. In addition to the personal information about each author in his autobiography, there is a helpful biographic sketch compiled by the editor. There is also a brief bibliography of selected writings from the contributing writers.

These are autobiographies by psychiatrists who try to show the influence of religion on their development. They speak of their search for a viable faith. While their autobiographies are generally illuminating, some of the writers have evidently not seen the Light. It is clear that all of the writers are deeply religious men, but some of them are not Christians in the evangelical sense. For instance, the deity of Christ, his virgin birth, and the sacraments are questioned by one writer. He says that these beliefs "appeal to the pathological in mankind" (p. 99). Furthermore: "It is not necessary to make Jesus of Nazareth divine to accept the basic truths he propounded" (p. 99). Of course, it is necessary if the basic truths he propounded are soteriological. Another writer questions the reality of heaven, hell and immortality (pp. 195, 196). Finally, one writer goes so far as to certify that he does "not hold to any supernatural philosophy, universal godhead, omniscient or omnipotent spirit or intelligence . . . . There are thus no absolute dogmas" (p. 116). Of course, this view is contrary to such evangelical opinion as expressed in W. G. T. Shedd's *Dogmatic Theology*.

Of all the writers, Jacob L. Moreno, founder of psychodrama, must surely be the most unique. He writes: "From my earliest years on I had only one impulse, not to be a Moses or a Christ, a mystic or a philosopher, a prophet or messiah, but *to be God, the Father himself*" (p. 205).

Since the book has ten authors, their views are not always in harmony. For instance, Leo H. Bartemeier

thinks that in dealing with clients the pastoral counselor should shun reference to himself if he expects to be effective (p. 59). Conversely, David Calder Moir believes that no real progress can be made unless the pastoral counselor exposes himself to the person who came to share his problems (p. 161).

In this volume the reader learns some interesting facts: people who are in trouble most frequently choose a clergyman for help; eighty percent of psychiatrists in the American Psychiatric Association belong to religious groups; there are one million mental patients in hospitals; and mental illness among the clergy occurs less frequently than among the laity.

In conclusion, if space permitted, these are some of the pronouncements which could be readily debated:

> Religious faith does not protect us from neurosis or from other forms of mental illness. That is not its function (p. 65).
>
> . . .psychiatrists have learned to help patients . . . without imposing personal values (p. 13).
>
> The function of religion is neither the generating nor the relieving of anxiety, nor the care of our temporal ills. Its function is worship (p. 60).

Reviewed by Richard Ruble, Division of Biblical Studies, John Brown University, Siloam Springs, Arkansas.

GOD AND CAESAR: ***Case Studies in the Relationship between Christianity and the State.*** Robert D. Linder, Ed. Longview, Texas: The Conference on Faith and History, 1971.

Relatively few Christians in America have had to agonize over the problem of the relationship of Christianity to the state. Rarely has the state demanded that a choice be made between Caesar and God. But this has not been the case with Christians of other times or places.

God and Caesar contains a series of essays presented at the 1969 Conference on Faith and History which met at Concordia Teachers College in Illinois. In the first part of the volume, four historians deal with selected periods of history when Christians were considered "subversive" by the state. The subversives included the following: Christians in the Roman Empire, Anabaptists in the sixteenth century, peace church pacifists in twentieth-century America, and the evangelicals of modern Russia. The second part of the work is concerned with the response of Lutherans and Baptists in Germany to the policies of Adolph Hitler.

These essays raise a number of questions that are of importance to Christians today. In the first place, they call attention to the general problem of sorting out priorities. Where does our obligation to the state end and our primary allegiance to God begin?

Secondly, these essays raise the question of the relationship of Christian ideology to political thought and practice. Almost all of the writers point out that when Christians take the Bible seriously, they are in danger of being regarded as subversive to the state. In Russia, for example, the Baptists view man as a spiritual being; the Marxists view him as a social being. The Baptist position tends to undermine the efforts of the Communists to achieve their goals. Are such tensions present only in a totalitarian state? If evangelical Christians are fully committed to obeying Christ, would they be regarded as subversives even in relatively open societies?

Thirdly, one of the writers suggests that many evangelicals "have emphasized St. Paul's legitimizing of established political authority rather than Jesus' explosive challenge to Jewish Law." Have we been guilty of stressing Paul too much and Jesus too little for the sake of political expediency?

Finally, one question looms large in most of the essays. What should be the evangelical attitude toward war? Which position is most compatible with Scripture: pacificism, participation in only "just wars," or a willingness to fight for one's country regardless of the issues involved?

These essays indicate the need for major work on the relationship of evangelical Christianity to the state. Some have made a start in that direction. Among these works is Albert Hyma's conservative *Christianity and Politics,* as well as the more liberal collection of evangelical essays, *Protest and Politics.* It is to be hoped that such organizations as the Conference on Faith and History as well as individual evangelical scholars pursue this subject and produce some works of significance on evangelical political thought and practice.

Reviewed by Dr. Richard Troutman, Department of History, Western Kentucky University, Bowling Green, Ky.

THE JESUS PEOPLE: ***Old Time Religion in the Age of Aquarius*** by Ronald Enroth, Edward C. Ericson, and C. Breckinridge Peters, Eerdmans, Grand Rapids, Michigan (1972). Paperback. 249 pp. $2.95.

This trio of authors from Westmont College attempts a thorough and objective analysis of the state of the Jesus Movement as of the fall of 1971. They begin with a review of other attempts to cover the same or similar ground and indicate the shortcomings of each, which they have consciously attempted to overcome. They pinpoint the origins of the modern Jesus Movement in the beginnings of several ministries in 1967 and 1968, one of the first of which was the conversion of dope-addict Ted Wise in 1966 in Sausalito, California; Wise is now in charge of a drug prevention center in Menlo Park, California. The most striking fact about the Jesus People is this: whereas theogically they are fundamentalists, sociologically they are anything but.

The authors devote six chapters of historical resumes of the main branches of the movement, four chapters to a summary of their theological doctrines, and two chapters to an overview and analysis. Among the groups treated are the Children of God—possibly the fastest growing group, with the strongest organization of any group, and emphasis on 100% commitment to Jesus including alienation from all other relationships, a post-tribulationist view of the second coming, and frequent charges of kidnapping against them; the Christian Foundation of Tony and Susan Alamo—the most attractive group for black converts, characterized by a ceaseless emphasis on the fear of God, the insistence on the King James translation of the Bible as the only inspired version; the Christian Brothers of Fresno, California, who also emphasize doom and judgment. These three groups are also characterized by their emphasis on communal Christian living.

Also included are summaries of the careers of Arthur Blessitt, Minister of Sunset Strip; Duane Pederson and the *Hollywood Free Paper,* the simple approach to evangelism contained in which has been the pattern for many other Jesus People newspapers; singer and

composer Larry Norman. The Jesus Movement has produced some nondenominational "hip" churches out of their rejection of the institutional establishment churches. These include Calvary Chapel of Costa Mesa, Bethel Tabernacle in North Redondo Beach, and the Sierra Madre Congregational Church in Sierra Madre. "A unique ministry to the street people of Berkeley and the students of the University of California campus there" is provided by the Christian World Liberation Front and its superior underground newspaper *Right On*. This work began with Jack Sparks, a dropout from Campus Crusade. The authors feel that CWLF has "an edge on other Jesus groups in terms of intellectual and spiritual maturity," and has been helped by the Walnut Creek Presbyterian Church.

The above summary emphasizes the dominance of California in the Jesus People movement. There are other outposts of the movement throughout the United States. These include The East Coast Jesus People who publish *The Ichthus*, Linda Meissner and the Jesus People's Army of Seattle (although she has more recently joined the Children of God), Carl Parks and the Jesus People's Army in other regions of Washington and Idaho who publish *Truth*, Jim Palosarri and the Jesus Christ Power House in Milwaukee, Sammy Tippit and "God's Love in Action" in Chicago, Ron Rendlemen and his work in West Chicago which achieved national notice when they successfully withstood Satanists attempting to break up a Billy Graham Crusade in Chicago; David Rose and the House of Agape in Kansas City, Missouri; Don Pauly in Florida.

The Movement has naturally generated much activity on the fringes on the interface between radical and establishment Christian practice. Ex-staff members of Campus Crusade are noticeable. Hal Lindsey and Bill Counts head up the J. C. Light and Power House in Westwood, California. Gordon Walker directs Grace Haven Farm in Mansfield, Ohio. Jon Braun's work is associated with the Brothers and Sisters of Isla Vista, California. Of established churches working in the context of the Jesus People, the most outstanding are Hollywood Presbyterian Church, and Peninsula Bible Church in Palo Alto, California. Others working on the fringe include Mario Murillo and his Resurrection City in Berkeley, David Wilkerson and Teen Challenge, evangelist Richard Houge working in the Southwest and Midwest, and Lutheran Youth Alive headed by David Anderson.

Whenever a movement gets going, there are also those who associate with it for motives that are not always sincere or constructive. In this category the authors point to Ed Human and Hollywood's gospel night clubs, the Mustard Seed in Van Nuys with the symbols but not the spirit of the revolution, a shaky alliance with classical Pentecostalists as personified in Kathryn Kuhlman, Victor Paul Wierwille and "The Way" with its ultra-dispensationalist heresies, and the upswing in commercial music including *Jesus Christ Superstar* and *Godspell*.

The doctrines of the Jesus People, more or less common to all the groups regardless of the rich variety in details, have four major emphases. (1) The simple gospel. Set forth with "the simplistic mentality endemic to fundamentalism," the Jesus People neglect the profound implications of the doctrine of Creation and center almost total attention on the doctrine of Redemption. Because of this they are experience-oriented, anti-intellectual, proof-texters of "the worst sort," anti-cultural supported by such writers as Watchman Nee, anti-social, anti-historical resulting in "tendencies toward exclusivism," and radically existential. (2) We are living in the last days; Christ will return in our lifetimes. All three tribulational views: pre - mid - and post-tribulation rapture, are held by various of the Jesus People, but all believe that only a few years are left for them to bring the message of repentance to a doomed world. A new ingredient is "the mixture of the charismatic experiences traditionally associated with Pentecostalism with the eschatology traditionally associated with dispensationalism." (3) Involvement in the Pentecostal scene. Active practice is directed toward speaking in tongues, divine healing, and visions and visitations. The Jesus People experience "a strong sense of the presence of evil and the role of the demonic." (4) The Christian commune. The motivation for establishing self-sufficient Christian communes stems in part from the post-tribulational theology which sees the need to protect the community from Antichrist and his reign of terror. Desire for social control is also a strong factor. This "social and theological isolation quite often produces an inbred ethnocentrism."

Whatever else may be said about the Jesus People, the authors see "their existence" as "a searing indictment of a desiccated, hidebound institutional church." The future of the Jesus People depends strongly on the future of their relationship with the "straight" people of God. Three possibilities are foreseen for present members of the movement if indeed their prediction of an immediate return of Christ is not fulfilled: (1) attraction for the more disciplined and organized groups such as the Children of God, (2) moderation so that cooperation within established churches becomes possible, or (3) rejection of the whole Christain position: "there is no anti-Christian like an ex-Jesus person." Development of option (2) is certainly the healthiest for the entire Christian community. For this to be realized there must be a real determination and effort on the part of church Christians to understand and help, to accept Jesus communes with brotherly love. The "new social acceptability of bearing a public and outspoken witness for Christ is one of the best effects of the Jesus Revolution." But, "without maturity, without education, without grounding in Christian thought, the Jesus People cannot avoid a commercialized end—what Larry Norman terms 'pop Christianity.'"

This is a really useful and informative treatment of the Jesus People. It is to be recommended for reading by all Christians.

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A One-Sided Emphasis

Many articles in the *Journal ASA* March 1972 were quite informative, including those by Gingerich and Jaki. I would question, however, two similar comments by these two authors.

> McCrea raises the issue of the evolution of physical laws themselves. Admittedly the notion of changing laws is not very useful, but, he continues (and I think rightly), "in this fashion we get away from the concept that physical laws are something that the universe must obey. They are something that our thinking about the universe must obey." That our physical laws are created constructions of the human mind has been maintained for years by many philosophers of science; McCrea's perceptive remarks emphasize the situation with respect to the origins of the universe. They should serve as a warning to anyone who would "prove" or "disprove" Genesis I by modern astronomy.[1]

> For reasons inherent in the method of physical science, no water-tight proof of the existence of God can be built on its data and conclusions. But this also meant that no refutation of the existence of God could be built on physics either.[2]

The idea that no proof or disproof of creation or of a Creator is possible is constantly repeated in modern writing. Strictly speaking, of course, this idea is correct. The impression given by this continued one-sided emphasis, however, is surely incorrect. It is quite possible to have just as much proof of (or evidence for) the creation as the rotation of the earth or the existence of electrons. No doubt our general unwillingness to face this is due at least partly to our fear of possible negative evidence in the former case.

We know that we will never have water-tight proofs of the rotation of the earth or the existence of electrons. We nevertheless accept the weight of the evidence and we have found that we can make some sense of the universe by using simple theories. Isn't it past time to balance our views and restore full intellectual honesty by doing the same for the question of creation?

This would certainly buttress our testimony for skeptics who accept science. Even *if* later negative evidence would appear strong, creationists then would still be in no weaker logical position than under the present assumptions.

The prejudice against "proofs" for creation has led to some strange arguments, for example that the Second Law of Thermodynamics may somehow break down on the large scale.[3] There is no hint of evidence for this, however, and in other fields we do not accept such *ad hoc* evasions. Because of statistical mechanics it would be harder to accept a breakdown in the Second Law than in most other scientific ideas.

It is equally fashionable to emphasize that physical laws are just human mental constructs. This often leads to confusing two concepts and overlooking the second, i.e., humanly stated laws, and The Law or Laws actually operating but incompletely known of Nature. We need to get away from the widespread concept and implication that The Law of Nature is merely something that our thinking must obey.

Some objections to this letter can be anticipated but it may be better to let others speak for themselves and see whether further discussion is possible.

[1]Owen Gingerich, "Is Steady-State Cosmology Really Dead?" *Journal ASA* 23, 11 (1972)
[2]Stanley L. Jaki, "Brain, Mind and Computers." *ibid.*, p. 12.
[3]Private communication from a previous author.

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Comments on *Dialogue on Inerrancy* (June 1972)

Bube's distinction between different types of errors seems to be necessary indeed, but it may nevertheless be argued for Maatman that what Bube calls Type 1 Errors in the Bible cannot be properly called errors at all, since this would imply ignoring the writer's universe of discourse: the conflicts may be interpreted as being semantical rather than factual ones. We might call these errors Type 3 Errors and maintain with Maatman that the Bible contains neither Type 1 nor Type 2 Errors.

Bube would agree with Maatman that the error in the statement "the sun rises" may be dismissed very easily, although he insists on calling it a Type 1 Error. In matters liable to be subject to scientific investigation, the Bible's language is phenomenological. In fact, any other kind of language would not be understood by all people of all times, and would, furthermore, risk being in conflict with the scientific opinions of any one time period, even if entirely free of Type 1 Errors.

Some examples of Type 3 Errors: The Biblical writer would state: "The sun rises"—the Holy Spirit implying in addition "as men see it". Jesus talks of the "mustard seed—smaller than any seed"—implying in addition "of those you know". These might look like *ad-hoc* hypotheses, falsely attributing to God a *"reservatio mentalis"*, but everybody uses language in exactly the same way in ordinary, every-day speech—indeed it would be quite impossible to go back, each time we say something, through all the steps of logical reasoning and define each axiom underlying our expressions.

Mark says "All Judea and all the Jerusalemites came out to him (John) and were baptized"—even though he and all his readers know perfectly well that many stayed back. Stephen's account in Acts 7:4 concerning Abraham's leaving Haran "after his father's death" seems to be in conflict with the combination of Terah's age when his first son was born (70), Terah's age at his death (205) , and Abraham's age when he left Haran (75). One might, however, suggest that Stephen meant to say "immediately after we read, in Gen. 11:32, of Terah's death, we read, in Gen. 12:1, of God removing

Abraham into this land". It is difficult to imagine that Matthew, with his wealth of Old Testament quotations, ignored the four Judean kings he left out of his genealogy in Mat. 1; nevertheless he states: "There are 14 generations . . ." (one might have to find a different translation for "genea"); one gets the impression he purposely arranged the genealogy in this way, in order to make it three times 14 generations, as a help for memorizing it, or for reasons of symbolism. That the expression "X begot Y" need not necessarily imply direct fathership can be seen, for instance, in 1 Chr. 4:8, where we read "X begot . . . the families of Y the son of Z".

Although I agree with Maatman that there are lots of scientific problems the General Theory of evolution has not solved, and that this theory is an unprovable hypothesis, I do not endorse his belief that a correct interpretation of the Bible requires "specific and unique instantaneous creative acts of God" for the creation of man and animals. Gen. 2:7 does not indicate how long God took to form man; the fact that he takes nine months to form a baby and 20 years to form an adult does not detract from his glory. In Gen. 1, the expressions "God created", "God made", and for instance "the earth produced" are apparently used in a parallel fashion, suggesting that the same occurrence might possibly be considered either a creative act of God, or an act of form-giving by God, or even a natural growth process.

It certainly was not God's primary purpose to give us any kind of scientific historical sequence of creation, in Gen. 1, yet I am astonished at how well Gen. 1 can be harmonized with what we know of Earth's history; and here I tend to go somewhat further than Bube in interpreting details. God being the designer of this historical sequence of events, he might have arranged them in a way that teaches us spiritual lessons: the report might present both a theological and a historical sequence at the same time.

My main reason, however, for feeling that some kind of generalized evolution might be true is the impression that it would give the history of creation a cosmic, majestic dimension—somewhat like the impression we get when reading Gen. 1, providing for even greater possibilities of our glorifying the Creator than we would have on the basis of a few acts of instantaneous creation. The more we learn of the immensities of space around us and time behind us, and the more we learn about the intricacies of the design of "natural mechanisms"—chance in the scientific sense of the word does not rule out a first cause—, the more deeply we can appreciate the greatness of our God in creation.

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Bube's critique of Maatman is really extremely generous. At best, Maatman's article appears to be hastily written. Surely a careful rereading would have dictated the attention of "The Bible speaks on whatever it speaks . . ." to something less tautological. I would hope that in a second reading it would have occurred to Maatman that his recommended imaginary line-drawing effort could at best only demonstrate the impossibility of drawing lines. Surely it cannot demonstrate Biblical reliability as he claims it does. The total unreliability of scripture is an equally possible conclusion to this demonstration.

Bube passes over a glaring error in Maatman's hermeneutical methodology with a mild comment on inconsistency. It is clear that what Maatman calls "the best position" can never be carried out. The difficulty is that if each passage of scripture can only be interpreted in the context of all of scripture, the interpretation of each passage requires a procedure with an infinite number of steps. To interpret any given passage requires knowledge of all the rest of scripture. But such knowledge can only be obtained by examining all of scripture and since scripture is composed of different passages which must be interpreted in light of all of scripture, we must proceed through an infinity of steps. We are caught in an endless loop. No interpretation of scripture is possible under such a method. Since Maatman, I presume, is not of infinite age and yet he appears to have an interpretation of scripture, I conclude that he has abandoned his own method and drawn a line between relevant and irrelevant passages for this interpretation of a given passage. How he does this in light of his own insistence on the impossibility of drawing lines is beyond me. But it seems grossly unfair of him to deny Bube the right to draw lines when he himself does so.

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I. Maatman's position would benefit greatly from careful linguistic analysis. In general he is not precise in his use of ordinary language.

1. Typical of this problem are Maatman's parallel statements, "No archaeological findings . . . *could* show that the New Testament is not to be the guide for understanding the Old Testament . . ." and "No archaeological findings *could* prove that the Bible contains error" (82, italics ours). "Could" is used equivocally. The mistake is similar to the philosopher's analytic/synthetic distinction. There is no *logical* contradiction involved in a Bible containing errors of fact. (That there is a theological issue is not the present question.) On the other hand, Bube's thrust is that principles of interpretation are not falsifiable on the basis of archaeological data, for example. Principles of interpretation are at a prior level of logic. Hence there is a category mistake in an assertion that archaeology could prove or disprove the New and Old Testaments disjoint. We might, in this case, be forced into agnosticism.

2. The syllogism Bube formulates in his critique (86) cannot be blindly accepted by Maatman as conclusive logical proof for inerrancy. Like the ontological argument, this reasoning must be given careful analysis to discover hidden flaws in the use of ordinary language. Bube emphasizes a crucial distinction by using "Absolute Truth" in proposition (a) and "absolute truth" in proposition (b). If these terms are not equivalent in both uses, then the whole argument fails to be logically certain.

II. Bube's position would benefit from better definition of the operational principles one uses to determine minimum revelational content of the Bible, and hence a minimum orthodox Christian confession.

Suppose, for example, one decides that the bodily resurrection of Jesus is not a part of the revelational

content of the New Testament—that what is being taught is a romantic triumph of good over evil. The creeds and writings of the early Church notwithstanding, how does one argue for or against this position?

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I agree mostly with Maatman's position and mostly with Bube's arguments, but have some definite disagreements with each.

I agree with Maatman's basic position that the Bible is completely free of error, and that no successful classification of errors into acceptable and unacceptable types has been produced. (This is my one large disagreement with Bube's argument.) The revelational content of the Bible is too closely interwoven with its historical and descriptive contents for any error in the latter to have no effect on the former. An error in most cases cannot be Bube's type 1 without also being type 2.

Bube states more clearly than Maatman the general principles and cautions necessary in interpretation of the Bible, and Maatman emphasizes the importance of considering each specific passage by itself as well as by general principles stated in other passages. Both are right, with each slightly over-emphasizing his point, although that may be unavoidable in a debate-like situation. Both would probably come out more balanced in a simple, careful exposition of their position by itself, not in contrast with the other's.

I agree with Bube's argument that archaeology and other fields of research *could* prove the Bible contains error. Such proof is nonexistent, but it is not impossible or inconceivable. Maatman bases too much on philosophy and too little on facts; Bube correctly replaces logical proof with reasonable evidence as an adequate basis for questioning the historical accuracy of the Bible.

As for the question of the definition of "error", the definition that best satisfies me is one based on the intended meaning of the author. I believe that that meaning must be taken to be absolutely correct, but also that great care and caution must be applied in determining what that intended meaning is. It seems that often those who believe the Bible authors' meaning to be infallible are too ready to be dogmatic about many details of what that meaning is, and often even mistake their own feelings and opinions for the Bible's. This does not mean there are not a number of points on which the Bible is unmistakably plain; it also does not excuse those who over-react to the one extreme by going to the other extreme of saying the authors' meaning is not necessarily inerrant. I hesitate to refer to Bube's position as an extreme, when it is so conservative compared to much that is said in the name of theology, but I do believe he goes beyond the point of balance on this particular question. The outlook that satisfies me on such questions as whether the Bible is in error in saying the "sun rose" is that the writers are using the universal, theory-independent language of appearances. They mean to be reporting what they observed, and there is no sense in which they are thereby in error. Similarly, the mustard seed was the smallest seed with which they were familiar, and Jesus' referring to it as such is in no sense an error. All in all, this view seems to me to avoid the problems that Maatman encounters with his concept of complete agreement with absolute truth, and also the problems Bube encounters in trying to determine the purpose of the writers and thus distinguish acceptable errors from unacceptable errors.

Finally, a comment on Bube's final challenge to creationists to produce a theory consistent with all the facts: I'm not sure what extent of detail in interpreting the facts Bube is challenging creationists to produce. Be that as it may, the point is that evolution has been developed quite explicitly and in detail, and encounters some explicit and serious difficulties with the facts. It is not necessary to develop a workable detailed alternative before criticizing an existing theory; Bube's challenge is not valid as a reason for tentatively accepting evolution for now, nor for dropping the basic creationist view. I believe the Bible rules out anything resembling the full-blown theory of biological evolution from amoeba to man, by very clearly describing a series of separate creative acts and emphasizing "after their kind" to the point of tedium. I do not, however, dogmatically endorse any one of what seem to me to be several Biblically possible specific views of the "where" and "when" of the creative acts. Bube's challenge is valid as a goal toward which creationists should work, and as a criterion for choosing among the several possible interpretations of the Bible. It is valid as a challenge to creationists who have proposed detailed theories; for instance all versions I have seen of the pre-flood vapor-canopy theory are physically impossible. Exactly how Bube's challenge should be taken by Maatman, I won't presume to judge, but he definitely need not take it as a reason to quit rejecting evolution or advocating the basic points of creationism.

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Reply to Book Review

It is obvious from Jerome Drost's review *(Journal ASA* 24:118, Sept. 1972) that my preface and other information in the *International Directory of Religious Information Systems* were not sufficiently clear about several details.

First of all, the *Directory* was not based upon a conventional survey. It was a product of a study on the feasibility of establishing a consortium of information systems related to religion. The 600 questionnaires which resulted in "only 77 replies" identifying 80 information systems were not sent to agencies *known* to have information systems because there was no information anywhere as to how many such systems were in existence. The questionnaire attempted to discover and describe such systems. Those who had none or who received a duplicate copy were asked to pass the survey instrument on "to someone else who is an appropriate respondent."

Secondly, the criteria for determining inclusion in the *Directory* were relatively open, depending more upon the respondent than upon the editor. It is indeed true that this is an "unbalanced directory," but that fact reflects abysmal ignorance of everyone about the existence and location of religious information systems at the time the study was made. Through it and studies reported in *Adris Newsletter* we now have identified a large number of them. The instructions given in the

questionnaire were as follows:

> You have received this questionnaire because of the possibility that you have an information service, data archives, or electronic storage retrieval system related to religion. We plan to publish a *Directory of Religious Information and Data Systems* with listings and descriptions of as many such systems as possible.
> . . . We believe that church adminstrators, scholars, and religious researchers can gain much by cooperation, which will reduce costly duplication of effort. An advisory board with representatives from more than a dozen pertinent agencies is helping to explore the nature and types of possible cooperative relationships that will be for the mutual benefit of all who work together. A first step toward effective sharing is identifying the religious and information systems that are already in existence or in various stages of planning.
> If you already have established or are planning an information service, data bank, or storage and revival system with religious content, please complete this questionnaire to the best of your ability and return it to the address below as soon as possible.

Third, Drost's review implies that a religious information system must be for the purpose of "the recovery or retrieving of data concerning all phases of religion." Actually our concern is not limited to those systems (if there are any!) which attempt to cover *all* phases or aspects of religion. Rather, we aim to contribute to cooperative working relationships among the numerous systems which deal with various segments of religion, whether topically, denominationally, by academic discipline, by particular administrative need, or in some other way. Each information system has something that can be of use to others, so we hope to stimulate development of a synergistic or symbiotic relationship among these systems, possibly eventually through some type of clearinghouse or coordinating system. As Drost implies, small systems which are manually operated, as well as those using sophisticated electronic equipment, are important; they can be building blocks or stepping stones toward larger ones.

Fourth, Drost refers to an example of an agency which has information storage that is "an abstract of some form which is not clear." This category represents one response to the question,

> Check each format in which information is stored: Published books___; journals___; computer tapes___ computer discs___; IBM punch cards___; microfilm___; microfiche___; fugitive documents (reprints, letters, mimeographed reports, etc.)___; abstracts___; others:_____

Fifth, agencies like FERES, which publish *Social Compass*, were not ignored. FERES was given a questionnaire and failed to return it, probably because it does not have an information system in the conventional sense of the term. If it were listed, all other journals which include articles relevant to religion also should have been. (Actually, it was only after considerable deliberation that I finally included The American Scientific Affiliation because it completed and returned a questionnaire. In so far as the ASA serves as a clearinghouse of information to which questions about science and Christianity may be sent for reply or referral, it can be thought of as an information system.)

Sixth, reference is made to the Religious Research Association as an information system which should have taken precedence over *Psychological Abstracts*. The latter indexes a broad range of psychological and psychologically-related journals, and it includes numerous references to religion in every issue. The RRA, of which I am completing a term as Editor and a member of the Board of Directors, serves no such function. It is a professional association with no information system other than its journal, aside from the sharing of information that occurs at the annual meeting. If we produce another edition of the *Directory* at some future date, it is possible that a section will be devoted to professional associations relevant to religion. Certainly information about such organizations would be a pertinent part of the content of a comprehensive system, as would also the two or three dozen indexing and abstracting services for periodicals in the field of religion.

In summary, Drost's conclusion, "The directory is very limited in comprehending and understanding the extent and complexities of religious data," is indeed true. That was not its purpose. Its purpose was to identify and "publicize" information systems pertinent to religion as a step toward the goal of establishing and improving relationships among all of the services and agencies involved.

As a means to an end as much as an end in itself, the *Directory* has already contributed greatly to meeting its goals. In spite of its limitations, it is serving as a valuable resource for many people. It has contributed to the establishment of the Association for the Development of Religious Information Systems (ADRIS). It has stimulated interagency communication and aided many research efforts. We are grateful for Mr. Drost's suggestions for its improvement, which will be considered carefully if we produce a revised edition.

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Shocking Editorial

I don't know which I found more shocking: editorial support for a Communist takeover of our country—in a Christian publication (*Journal* ASA 24, 89 1972), or the lack of logic used in rendering such support—in a scientific publication.

Because Jesus Christ did not direct Christians to use physical force in defending their liberty—we cannot deduce that He thereby prohibits such action.

Knowing the evil that can stem from a love of money and material things, He advised the rich man to sell all that he had and to give it to the poor.

Christ said that "There will be wars and rumors of wars." However, He did not direct the Centurion to lay down his sword.

When presented with what appeared to be a conflict between loyalty to God and loyalty to Government He did say "Give unto God that which is God's—and to Caesar, that which is Caesar's."

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(Editor replies: *Readers who may have missed this editorial should dig it out before concluding that it did indeed give "support for a Communist take over." Others may wish to see a somewhat extended version published in* The Church Herald, *p.* 4, *October* 13, 1972.)

Paul Tournier: Christian Man of Science

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On an evening in 1932, a young Swiss physician named Paul Tournier walked across the cobblestone streets of the old part of Geneva and knocked at the door of a stately home on Rue Calvin. Inside, a group of Christians were gathering for one of their regular meetings during which, Dr. Tournier assumed, they would talk about theology and the power of their faith in God. "What a feast of learned and intellectual exchange this will be," Tournier thought as he entered the house, but as the meeting progressed he was first bewildered and then angry. Instead of scholarly discussions, the brilliant minds in that room (including that of Emil Brunner the theologian, Dr. Alphonse Maeder, a psychoanalyst who was a colleague of Jung, Professor Theodore Sperri, a European "man of letters", and an important Dutch official from the League of Nations named Jan van Walré de Bordes) sat for half an hour in silent meditation and then began an honest sharing of what Tournier thought were "tiny trivial personal matters" about their lives.[1]

As he left the house after the meeting a disappointed Tournier complained that he had come seeking bread but had been given a stone instead. Little did he realize that the impact of that night would change his whole life and in a real sense transform him from a cold, distant, impersonal physician to a compassionate counselor and writer whose books would touch thousands of lives. In this special section of Journal ASA *Paul Tournier's contributions as a Christian writer, counselor, and a man of Science are being honored on the occasion of his 75th birthday.*

Tournier's Life

Paul Tournier was born on May 12, 1898. His father, Pastor Louis Tournier, was an elderly and highly respected resident of Geneva, who had served for half a century at St. Peter's cathedral—the church where Calvin had preached regularly at the time of the Reformation and where his famous system of reformed theology had been developed. The young Paul Tournier heard a lot about Calvin in his catechism classes, but this did not have much of an influence, at least during Tournier's childhood years. Orphaned by the time he was six, Tournier grew up feeling lonely, insecure, unwanted and unloved. As a young boy he had chosen to become a doctor but his grades were not very good, except for mathematics, and he felt a real timidity, even fear, in the presence of other people.

In a recent article (1968-9) published in what is apparently the French equivalent of *His Magazine*, Tournier concluded that there were three people who influenced his life, and pulled him out of this loneliness. None of these people had any formal training in counseling but Tournier refers to them as "my three psychotherapists."

The first of these was a high school teacher, Jules DuBois, who took a special interest in Tournier, carried on intellectual discussions with him, and helped the lonely young student to see that he could handle himself very well as a debater. Soon Tournier had a new self-confidence. He made speechs, took part in student organizations, got involved in social action, won election as national president of a student society, and became active in church work. His mind was very alert and he engaged in a variety of creative activities, such as co-authoring and directing a play, founding an international youth movement, and designing calculating machines (for which he received several patents) while sitting around the maternity wards as an intern waiting to deliver babies.

Even with his many activities, however, Paul Tournier remained a lonely man. Although he graduated

from medical school, married, and became a father he remained aloof from people and could only relate to others on an abstract intellectual level. It was then that he met his second psychotherapist in 1932, at that meeting of Christians in Geneva. The therapist was Jan van Walré de Bordes, the Dutch diplomat. He contacted Tournier shortly after the gathering on Rue Calvin, described his habit of daily meditation before God, talked about his own personal needs and insecurities, and encouraged Tournier to do the same. As a boy Tournier had had a conversion experience after hearing a "passionately evangelistic sermon," but not until he met this Dutchman and followed his advice, did Christianity really become alive. When Tournier began to spend time each day in prayer and meditation before God, and when he "opened up" about his own frustrations he discovered that his personality was beginning to change.

The change continued at home where his third psychotherapist, Tournier's wife Nelly, listened patiently to her husband's personal problems and comforted him as he was able to cry for the first time. Before long, Tournier's patients and colleagues noticed that the aloof impersonal doctor was becoming warm, understanding and sincerely interested in others. It is hardly surprising that people began to look on Tournier as *their* therapist and counselor. Although he had never studied psychology or psychiatry, except on his own, he slowly moved into a counseling career and in 1941 he published *The Healing of Persons,* an intimate anecdotal account of his new discoveries and insights.

In the years which followed, Tournier has published a total of sixteen books and written so many articles that he does not remember how many there are. Now retired, he still writes articles, carries on a heavy correspondence, sees an occasional patient, and is much in demand as a lecturer and conference speaker. Because of his age, Tournier has decided that he will not be able to visit North America again, but he has many admirers on this side of the Atlantic; most have in some way been influenced by the insights and practicality of the Swiss doctor's writings.

Undoubtedly there are many people, especially in Europe, who think of Tournier as being primarily a physician, counselor, or public speaker. It is as a writer, however, that he has made his greatest contribution. His books now appear in eleven languages, and the different translations take up three long shelves in the Tournier home in Switzerland. In the table at the end of this paper we have listed Tournier's major books, given a summary of each, and noted the year in which they were published in the original French language.

Tournier's writings cover a variety of topics—medicine, science, education, marriage, divorce, abortion, guilt, suffering, aging, death, magic, celibacy, values, vocational choice, society, suicide, and interpersonal relations—to name a few, but readers of this Journal would especially be interested in Tournier's attempts to integrate theology with his own scientific disciplines of medicine and psychology. In the paragraphs which follow we will first discuss how Tournier approaches this task of integration and then look briefly at his most recent integration effort—a new book on aging.

Tournier's View of Science and Theology

In his studies of the relationship between science and theology Tournier shows at least four basic attitudes —attitudes which would seem to be essential if integration is to be successful. First, Tournier strives to be *knowledgeable,* both about theology and about his particular branch of science. When a man has only a vague idea of what he believes or if he is only vaguely aware of the developments in his own scientific discipline, then it is likely that his integration will also be vague. Tournier refuses to be placed in any theological camp, nor does he align himself with any of the schools or systems of psychology, but he does have a good knowledge of both science and religion and he is not afraid to let others know where he stands.

In his theology, for example, Tournier refers to himself as a Calvinist, although he deviates in many ways from basic Calvinistic thought. Tournier believes that God exists in three Persons and reveals Himself through the Bible and through other "general" means of revelation. God is sovereign, omnipresent, all-knowing, powerful, loving and ready to forgive. We need this forgiveness, Tournier believes, because men are sinful and in need of salvation, which can only come because of the atoning and substitutionary death of Jesus Christ. Tournier is a committed Christian who wants God's leading in every area of his life. Clearly he would have no difficulty in signing and believing the ASA doctrinal statement.

When it comes to psychology Tournier's position is less clearly defined. As a European, he is much impressed by the writings of Freud, Jung, Adler, and more recently Frankl, but he does not completely accept the conclusions of any of these men. Instead, Tournier seems to have developed his own loosely formulated psychological position—a position which combines elements of phychoanalysis, logotherapy and what some have called "Christian Humanism." He reads psychological literature regularly and knows what is going on in the field—although American readers will be surprised that he had never heard of Skinner.

A second attitude of the successful integrator is that he be *flexible* in his thinking. According to Tournier, flexibility and real tolerance can only come when a person has genuine convictions of his own. (1964, p. 34)[2] Tournier tries to remain open to a variety of ideas and he is an intensive listener to what others say. In a speech several years ago he described the "true doctor" as "one who cares more for the restoring of the patient than for boasting about his methods or slavishly following some pre-conceived doctrine" (1969, p. 5). This is another way of saying that the doctor should be humble and flexible. These are characteristics which Tournier possesses in abundance. A person cannot be a creative thinker if his mind is already made up and rigidly closed before he looks at the data.

According to one of his medical colleagues, Tournier's greatest contribution over the years has been his ability to take issues such as anxiety, loneliness, marriage, or magic, and to look at them carefully both in light of contemporary science and in light of the Scripture.[3] In this task Tournier has not been afraid to be creative and his conclusions have sometimes been controversial as well as thought-provoking.

In addition to his being knowledgeable and flexible, Tournier is also *realistic.* He freely admits that there are intellectual problems in the Bible, that becoming a Christian does not automatically resolve all of our personal difficulties, that the organized church has weaknesses and that there are more things in heaven and

earth than can be uncovered by the positivist scientific philosophy. The acknowledgement of problems, however, should not cause us to be discouraged or inactive. Instead it should spur us on to renewed and enthusiastic study. Tournier agrees that we must constantly be learning what we can both from science and from divine revelation, but then we must struggle to see how God's world and God's Word fit together.

Integration, at least in Tournier's thinking, must also be *practical*. He wants to know how science, especially psychological science, and the Scriptures can influence his own life, his readers, his patients, and his work. This great emphasis on the practical has possibly led some scholars to scorn Tournier's work, but it has endeared him to a great many others.

These attitudes of knowledge, flexibility, realism and practicality are seen in many of Tournier's books, including his most recent. Of all his books, Tournier found *Learn to Grow Old* the most difficult to write.[4] This, he thinks, is because he had been asked to write this volume, instead of preparing a manuscript spontaneously. But he has risen to the challenge and produced a book that gives a vivid description of the problems of aging and many suggestions concerning how these problems can be reduced.

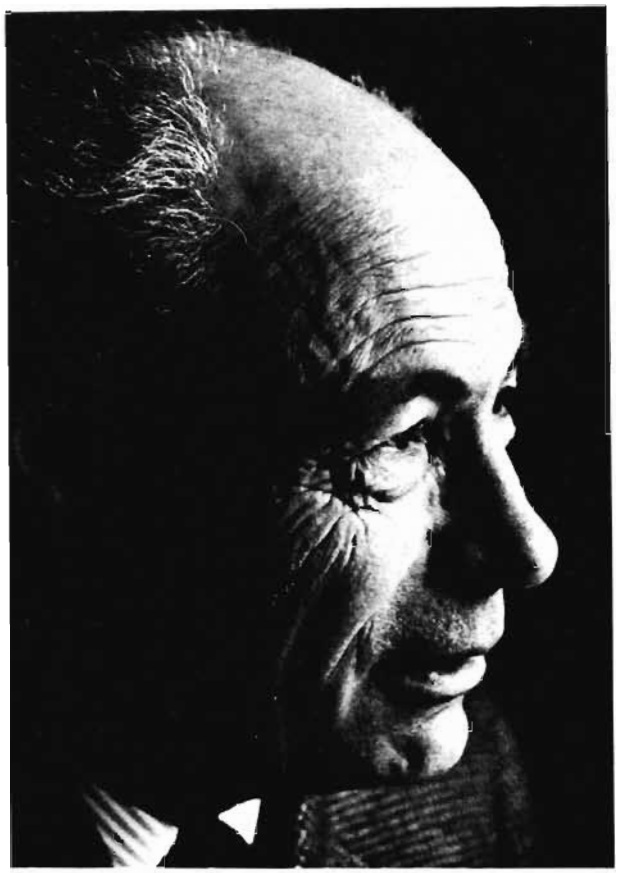
In one sense this book is like those that have come before—anecdotal, "chatty" in style, and practical in its emphasis. But in other respects the book is different and here we see Tournier's knowledge of the issues, flexibility, realism and practicality. *Learn to Grow Old* is more scholarly than anything that he has written before, and is his first book to contain a long list of references. Perhaps because he is nearing the end of life, Tournier has become more willing to give advice, but he is willing to listen, impressed with contemporary students and inclined to look favorably on the 1968 riots in Paris. In the book Tournier says more about himself than he ever has before and he shows how faith, scientific knowledge and personal life experiences can combine to bring forth some realistic and practical solutions to the problems of growing old.

(We might add parenthetically that retirement was abruptly forced on Tournier when he had a serious heart attack in 1965. His latest book is written for the young as well as the old, and he argues that the time to begin thinking about retirement is twenty-five years before it comes.)

Tournier's most recent book is a good illustration of a statement that he made over twenty-five years ago. "One cannot make up for one's technical incompetence with spiritual speculations," he wrote.

> The great adventure to which I believe the men and women of today are called is, in every field of activity, the reconciliation of technology and faith. It is an immense task, simply because they have for so long been kept apart. In the face of all the problems which our civilization has raised, but not been able to solve, people are beginning to realize that . . . scientific study . . . is not of itself sufficient. There is no question of sidestepping scientific study, but of giving it new inspiration . . . . Only those who are prepared to take the risks because of their faith, will make any real contribution to the building of a new civilization. (1966 p. 230)

Throughout his long and productive life, Paul Tournier has devoted himself to the "immense task" of reconciling science and faith. His work has contributed to a better civilization and his example is one that others would do well to ponder, and perhaps follow.



PAUL TOURNIER

A Personal Epilogue

Perhaps the readers of this *Journal* will not object if I add a somewhat personal footnote to what has been written in the above paragraphs. Recently I was able to spend seven months in Geneva studying the work of Tournier, talking with him at length, meeting with some of his friends and writing a book about his work. I came away deeply impressed with Tournier as a person and enthusiastic about his contribution to the integration of science and Christian faith.

Even I am surprised at this in view of my initial opinion of Tournier's work. When I first read one of his books I felt that the writer was disorganized, rambling, far too "folksy" in his writing style, and prone to clutter up his work with irrelevant and distracting case histories. I concluded that Tournier had nothing very important to say and that his ideas were not worth serious study. Fortunately for me, my students thought otherwise. They kept referring to Tournier in seminars and term papers, so much that I began to wonder if my initial conclusions were wrong.

In Tournier, I discovered a man who is personally captivating and who has tremendous insight into a number of subjects including the relationships between science and Christianity. To be honest, I still find his writing style to be distracting and I certainly cannot agree with all of his conclusions, but I have been impressed again and again by the depth of his understanding—a depth which is not always apparent when one reads his books superficially.

During one of our conversations in Geneva I described the American Scientific Affiliation and men-

tioned Chuck Hatfield—our former president whom Tournier refers to in *The Adventure of Living*. Tournier expressed an immediate interest in the organization and later in the afternoon when our discussion had drifted to another topic, he made a statement which went something like this:

> Next month, I am going to Italy to give a series of lectures on the relationship between Christianity and science. It is a topic which has concerned me all of my life. But I am old now and can only talk about the integration. Somebody else will have to do it.

Surely this must be the concern of all members of the American Scientific Affiliation, since the work of "doing integration" is the very reason for our existence.

FOOTNOTES

[1]This quote is taken from Tournier's article in *Guideposts* (1971, p. 4). For more detailed discussions of his life, see Tournier's autobiographical article in the book by Johnson (1972), the book by Peaston (1972) or my own book on Tournier (Collins, 1973), especially chapters 1 and 2.

[2]Tournier does not say it in this way, but perhaps he would agree with the conclusion that people who do not know what they believe in are often most intolerant.

[3]Personal Communication

[4]Personal Communication

THE MAJOR WORKS OF TOURNIER

(In order of original publication, with U. S. publisher and date also.)

The Healing of Persons (1940) A collection of case histories and anecdotes illustrating that "persons" are as important to medicine as "diseases." Includes consideration of a number of practical issues such as suffering, sex, accepting life, etc. (Harper and Row 1965.)

Escape from Loneliness (1943) An analysis of the causes and cures of loneliness. The book is perhaps Tournier's best statement on society and its ills. (Westminster 1962.)

The Person Reborn (1944). An attempt to show that scientific technology and religious faith can and do fit together. Tournier's best statement on the integration of faith and science. (Harper and Row 1966.)

The Whole Person In a Broken World (1947). An analysis and criticism of the popular view that power and social progress are always good for man. The book includes a discussion of adolescent rebellion and consideration of the task of the church. (Harper and Row 1964.)

The Strong and the Weak (1948). An analysis of the causes and characteristics of neurosis. In this book Tournier challenges the view that the world consists of only two classes of people: the strong and the weak. (Harper and Row 1963.)

A Doctor's Casebook In The Light of The Bible (1951). A collection of insights showing Biblical faith relating to such life problems as disease, sin, the meaning of life, etc. Contains Tournier's most complete statements on magic, and on science and the Bible. (Harper and Row 1960.)

The Meaning of Persons (1955). A contrast between the social mask that men wear in their contacts with others and the "real person" underneath. Tournier describes how men can be more authentic persons. This was the first of Tournier's books to be translated into English (in 1957). (Harper and Row 1957.)

Guilt and Grace (1958). A perceptive analysis of the causes of guilt and a description of how guilt can be reduced through the influences of psychology and faith. (Harper and Row 1962.)

The Seasons of Life (1961). The first of five very short books. This one deals with normal human development from birth to death. (John Knox 1963.)

The Meaning of Gifts (1961) A study of love and man's need to give and receive. Tournier points to the supreme gift of all time—God's loving gift of His Son Jesus Christ. (John Knox 1963.)

To Resist or To Surrender (1962). This little volume considers interpersonal conflict and grapples with the problem of when and whether we should resist others or surrender to them. (John Knox 1962.)

To Understand Each Other (1962). This is Tournier's best statement on marriage. It includes ten steps for improving interpersonal relations outside of the home as well as within. (John Knox 1967.)

Secrets (1963). Last of the five small books, this returns to the problem of human development and suggests how the keeping and revealing confidences can influence maturation, marital harmony and spiritual growth. (John Knox 1965.)

The Adventure of Living (1963). This is an analysis of man's inability to find meaning and fulfillment in life. The book points to the risk involved in living life to the fullest, but it also points to and demonstrates the benefits. (Harper and Row 1965.)

A Place for You (1966). A personal statement of Tournier's faith, and a series of guidelines for those who feel that life has no purpose. This is a reflection of Tournier's own struggles to find a "place in life" after a serious heart attack had forced him into retirement. (Harper and Row 1968.)

Learn To Grow Old (1971). A discussion of retirement and how people can prepare for it. The book contains a number of fascinating insights into Tournier's own life and faith. (Harper and Row 1973.)

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TRIBUTES TO TOURNIER

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Monroe Peaston . . . . . *Montreal, Quebec*
Hazel Goddard . . . . . *Warrenville, Illinois*
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Paul Tournier. How do I begin to write my feelings about a man whose presence and communication style I had been looking for all my life?

For ten years as a newly converted Christian I had realized that something was very unreal about the way communication was being taught in most Christian seminaries. The world had become depersonalized and people were terribly isolated from each other. Somehow the stance of the expert expounding abstract concepts or telling laymen how they should live was furthering the depersonalizing process. And besides, the message of God's healing love was not catching the attention of the modern world—even many of those already in the churches.

I knew that what *I* needed personally was a model, someone who was seriously committed to trying to be God's person but who also had the kinds of fears, problems, and failures I face. But this was evidently not a combination to be found in a single Christian communicator. If a person were seriously committed, he either did not have the kinds of struggles I had, or at least they were so insignificant that one never mentioned them. I had met some other strugglers like myself who were trying to slug it out with this paradox, but we were all nobodies. I had never run across a communicator with any authority in the church who admitted being in this strange predicament of honestly wanting and trying to be God's person, and yet being terribly and specifically human in his communication of his inability to be whole.

Then Dr. Paul Tournier came to Laity Lodge in the isolated hill country of southwest Texas for a conference in 1965. I was director of the conference center. And although I had heard of Paul Tournier, I had never read anything he had written.

The first evening he spoke, the "great hall" at the lodge was filled with psychiatrists, psychologists, all varieties of M.D.s, Christian ministers, and lay leaders from various professions. The air was almost electric with expectation, and I realized how much the conference guests were looking forward to hearing this man, whose books they had read. Many of the guests had come hundreds of miles for this weekend. We had turned down as many requests to attend as we had been able to accommodate. As the group gathered for the first session, I was wondering how well Tournier would be able to cross the language barrier from his French through an interpreter to us. And I had no idea what to expect with regard to content.

Then he began to speak. Five minutes later the room had disappeared, and we were in another world. A little boy was describing his struggle with loneliness and feelings of lack of self worth almost sixty years ago in a country several thousands of miles away. You could have heard a pin drop on the stone floor. I was sitting behind the speaker near the huge fireplace. I looked past Paul Tournier into the eyes of almost a hundred sophisticated American professionals. I could see inside those very open eyes a roomful of other lonely little boys reliving their own struggles for identity and worth.

Before twenty minutes had passed a strange thing began to happen. When Paul would speak in French, we found ourselves nodding in agreement and understanding—before his words were translated. I have never seen this happen before or since. But we trusted him so much and felt that he understood us so well that we knew at an unconscious level that we would be able to assimilate or at least identify with what he was saying. He had spoken of problems, doubts, joys, meanings, fears—many of which still existed for him. He spoke of all of these experiences with equal naturalness, as if they were the materials God normally worked with in his healing ministry among all people, Christians included.

Before us was this man who did not even speak our language. He was in his sixties, wore a wrinkled tweed suit, and was exhausted from a whirlwind trip across America. And yet as he spoke, fatigue, age, clothes, language difference—all faded into the background. All I was conscious of were his sparkling eyes, a kind of transparency, and a glow of genuine caring about his face.

I found myself having to fight back tears. There were tears of relief, gratitude, and release from the solitary wondering if I were alone in the feelings I had about what men need. Because of my own struggles, I had felt that what men and women must have to be healed is not primarily advice or even excellent religious education. We need presence, vulnerable, personal presence. I knew the Bible claimed that was what God gave us in Jesus Christ and the Holy Spirit—His own presence to heal and strengthen us. And I had felt that somehow we Christians were to be channels to allow that healing presence to be received personally in other people's lives through our own openness and vulnerability.

But there in Paul Tournier was a *living model* of the kind of communication I was trying in a stumbling, uncertain way to find. I made two decisions during that conference. I was going back to school to get some psychological training. The second decision was that as soon as I finished a manuscript I was working on, I was going to read some of Tournier's books.

The first thing I did when I sent my manuscript to the publisher was to read *The Meaning of Persons*. Again tears. For years I had been looking for books in which the authors were real and transparent so I could identify with their problems and move toward healing Christ. Since the nearest thing I had found was Augustine's *Confessions*, I had finally decided to write a book to tell people how it feels to struggle. But if I

had read Tournier first, I don't think I would have felt the need to write that manuscript, *The Taste of New Wine.*

Knowing that a man exists who loves God and yet who faces his own humanity and the realities of scientific investigation did something for me. And knowing that at least partially because of Christ this man could afford to be honest about his own struggles gave me a kind of hope and motivation which has already pushed me far beyond my small horizons of security and faith.

I remember turning to my wife, Mary-Allen, in the few seconds of silence following Paul Tournier's presentation that first night at Laity Lodge. I whispered through an overflowing heart (and eyes), "We've heard a lot of wonderful talks about healing love in this room, honey. But tonight, we have seen it walking around."

Keith Miller, who makes his home in Texas, is a a well-known speaker and author. He has written The Taste of New Wine, A Second Touch, *and* Habitation of Dragons.

I think that nothing can better characterize the fascinating person of Dr. Paul Tournier than the following experience. Prior to 1948 I was practicing pediatrics and living with my family in Roumania. Because of the Communist pressure and the conflict between my conviction as a committed Christian and the challenge of the Communist Party wanting me as a member, we tried hard to get out of the country. After a two-year struggle for freedom, we succeeded in a miraculous way to leave and move to Switzerland, my wife's home-country. Shortly after our arrival I contacted Dr. Tournier in Geneva, telling him that one of his books had given such a tremendous encouragement to our congregation that one of our members gave me a special message for him.

"You, Dr. Harnik, will see Dr. Tournier. I never will have such occasion on earth, but in Heaven he will be the first person I would like to see and thank."

Naturally Dr. Tournier was very much touched by this message, and invited me to a meeting of doctors held in the summer of 1948. We met in Bossey, on Lake Geneva and the group came to be known as "Group Bossey" or "Groupe Médecine de la personne." At the end of the week of that retreat I wanted to pay my contribution, but Dr. Tournier, knowing that I was a refugee, said, "No, Ben, you have to pay nothing."

"But I want to make a sacrifice," I answered.

He fixed his mild eyes on me and with much love he replied, "Well, then, sacrifice your pride."

This incident illustrates his philosophy of life: meet people on a functional level as long as necessary, but then turn to them in a very personal, loving way.

However, it is extremely difficult, if not impossible, to characterize Tournier's personality. Those who know him use different words to describe him, but one characteristic arises repeatedly: "He is charming!" The word "charm" draws our attention on "magic", "mystic", and I think that his influence upon thousands of people is due to the fact that he offers himself as a person in a mysterious sense, as an "ambulant image of God", and not as a personality that can be analyzed.

Again and again psychologists of different schools have challenged him to give a definition of his concept of man. He has never done so because, for him, man is not an object to be defined. Tournier is concerned about man as a person, on a subjective level. "Meet man as a person, and you will know my concept," could be his answer but in reality he gives no answer. He is helpless when "scientists" attack him on an objective level.

It would be wrong, however, to consider Tournier an opponent of science in theory or in practice. He is sophisticated scientifically, a good practitioner and one who enjoys life. Without any psychological training he understands people and helps them as if he were a completely trained psychiatrist. He is one of those whom Sigmund Freud (himself untrained) described as being gifted for psychotherapy even without training. Dr. Tournier has great insight. His theoretical studies and practical experience with people having every kind of physical and psychological disorder allow him to be a very responsible doctor and spiritual adviser.

Dr. Tournier has no desire or qualifications to fill the role of a High Priest of a new religion. Among his colleagues in Europe, he is considered as a friend. He accepts everybody and is thankful to be accepted. He does not want to be adored. As with every man, however, Tournier has human weakness, prejudices, and anxieties. Once I saw him in a rage but on this occasion I loved him more than when he was brilliant.

It is difficult to specify exactly how I have been influenced by Tournier. During the time of the first world war, my family and environment greatly influenced me and my work. Then, at the age of 28, I experienced a conversion from an agnostic, materialistic "Weltanschauung" to a very personal life as a committed Christian—between my medical and psychological training and my understanding of the Bible and Christian life. At that time I read *The Person Reborn* (the book that had so much impressed my fellow believers in Roumania) and I was amazed by the views and experience that Tournier expressed. Since 1948 he and I have had many contacts: in annual meetings, exchanging letters, sending each other patients for treatment. In recent years we have been on the program of the "Adventure of living" European workshops organized by WORD Travels International, Waco. My special joy is at meetings, where I can make the interpretation of his Bible-Studies and lectures from French into German or English. Many times he has asked me to interpret at private meetings with Americans. He is happy that I am an interpreter of his concept of "medicine of the person" in the United States, where I have traveled and lectured on several occasions. In November of 1972 I helped at the first American meeting of "Ministry and Medicine of the Whole Person" in North Carolina. Dr. Tournier wrote a very personal introduction to my first American book *Risk and Chance in Marriage.* More recently the European group of "Medicine of the Person" charged me to prepare a jubilee-book for the 75th anniversary of Dr. Tournier's birth.

This catalogue might show why it is difficult, if even possible, to characterize the impact of Dr. Tournier's person and his work on my life. However I would like to give one concluding example of his influence: Once I wrote a letter to Dr. Tournier indicating that my wife and I could not find a way out of some marital difficulties that were being caused by strong contrasts of temperament. He called and suggested that he would

visit us together with his wife, Nelly. Shortly thereafter he drove from Geneva to St. Gallen, where we were living at that time, a distance of 300 miles. After listening to what my wife and I told them, he said simply this, "You are very much afraid of each other." We did not argue with him about his interpretation, but kept in mind his remark. It proved very helpful. Perhaps it was another second remark that represented the very help we needed. "And naturally, Nelly and I will pray for you."

The reading of Dr. Tournier's books, his Bible studies at the meetings of our Bossey group and our discussions together have clarified much of my thinking and had a great influence on my life and work as a marriage counselor.

Dr. Bernard Harnik is a fellow-countryman and personal friend of Dr. Tournier. The author of Risk and Chance in Marriage, *Dr. Harnik is currently a marriage and family counselor who makes his home in Zurich, Switzerland. He is preparing a* Festschrift *in honor of Tournier's 75th birthday.*

I am honoured and happy to join a wide circle of friends in paying tribute to Paul Tournier on his 75th birthday.

The 75th birthday of a distinguished man is the day of the *Festschrift* when fellow practitioners, writers and scholars unite to write something which is appropriate to the occasion and to the man. Contributors to a *Festschrift* may choose to write about a topic which is of current interest to everyone in their particular field, they may expound a theme which is of special interest to them and to which they have devoted some significant research, or they may discuss a key concept in the thought of the man they wish to honour. Sometimes they may try to outline the man's main aim and achievement. I have attempted to do something like this in a book published last year and entitled, *Personal Living: An Introduction to Paul Tournier* (New York: Harper & Row, 1972).

Here I should like to attempt something much simpler and more personal. I wish to comment on something Tournier once said to me in personal conversation.

At a second meeting with him in Geneva he pulled from his pocket a small, loose-leaf notebook, opened it at the point where the last entry had been made and said, "This morning in my meditation I thought about you."

I can think of no remark more characteristic of Paul Tournier.

In a contribution to a recent symposium edited by Paul E. Johnson and entitled, *Healers of the Mind* (Nashville: Abingdon Press, 1972), Tournier has explained how impressed he was by the example of a Dutch financier who once "spoke of his experience of morning meditation where he committed himself to God, kept silence before Him, and listened attentively in order to let himself be guided by Him" (p. 247). Rather falteringly and with some misgiving Tournier began the same practice himself. As part of this daily exercise he has schooled himself to reflect on Biblical passages, to engage in self-examination by looking honestly and carefully within, and to open his life resolutely before the Eternal Mystery who is ever present and ever responsive and who may therefore be called the God who speaks. In concluding his remarks on his religious vocation as a physician in the symposium just mentioned Tournier observed: "I am still listening-in to God, to what He has to say to me today, and tomorrow and the day after all the tomorrows, until the final and total revelation of the resurrection" (p. 264).

And in at least one such act of meditation Tournier thought about me. That was a natural thing for him to do since persons and the relationships between persons are all important to him. Indeed, this is the underlying assumption behind that movement which will always be associated with Tournier's name—"the medicine of the person." The medicine of the person stands for a distinctive combination of medical science, psychotherapy and religious insight but, for the practice of it, the personal relationship between physician and patient is all important. I find it impressive to read again a letter which Tournier wrote to his patients in August 1937 in which he explained that his ensuing work was to carry him beyond the diagnosis and treatment of physical complaints to the deeper problems within the personalities of his patients and to the study of human personality as a whole. The knowledge of persons, he knew, could never be reached merely by objective study but only by personal dialogue. Tournier's aim has been to reach such a true personal contact with his patients that a new spark of life may be kindled between them. "Le facteur le plus décisif de la médecine de la personne" he wrote in his latest book, *Appendre à vieillir* (Neuchâtel: Delachaux et Niestlé 1971). "c'est établir avec notre malade un contact si personnel qu'une sorte d'étincelle de vie jallit d'elle-même. . . ." p. 57)

It would be unfortunate if, with this emphasis on openness to God and the primacy of the personal, it was assumed that all this is utterly remote from science. It should never be forgotten that Tournier was trained in medical science and that he has spent a lifetime learning how to apply its techniques to the needs of his patients. That is why the relationship between science and faith has always been an important one to him. He devoted an early book, *The Person Reborn* to this very problem. The medicine of the person was an attempt to unite scientific observation of the body and of the mind with a spiritual understanding of man in his relationship with God and his neighbour. Tournier came to think of medical technology as a means of preparing the way for a man to respond freely to the call of religious faith. Yet neither medical science nor psychological technique can provide answers to the mystery of life's meaning. As I have said elsewhere, "Faith is needed to complete the work of technology, while technology may often be a preliminary to the possibility of faith" *(Personal Living p. 75).*

As a theoretical synthesis of science and faith in the area of personal study this is satisfactory as far as it goes. But it has never gone far enough for Tournier. He has discovered that the only way to unite science and faith is in the clinical setting where objective study and personal encounter are combined. When he talks about soul healing he recognizes that it all depends on this kind of synthesis. I think of Tournier not so much as an expositor of the relation between science and faith as an embodiment of it, and that is why I regard his achievement as so significant.

Dr. Monroe Peaston is Associate Professor of Pastoral Psychology at McGill University and author of Personal Living: An Introduction to Paul Tournier.

Several months ago I was asked to participate in a written tribute to commemorate Dr. Paul Tournier's seventy-fifth birthday. As I contemplated that awesome task I asked myself just how one wrote about such a man who is a gifted author and expresses himself so simply and profoundly. It became clear to me that although Paul Tournier had become a close, personal friend over the years, it was what he had accomplished in the lives of my patients who had never met him, that also held deep meaning to me.

As I write this second tribute, I am wondering what I can say about Paul Tournier that would have the most meaning for you. What would you wish to know about this man? His books are well-known. His concepts and beliefs have been described and discussed by many authors. This spring the most comprehensive study to date of his life and work, *(The Christian Psychology of Paul Tournier,* by Gary Collins) came off the press. What more can I add?

Many of the troubled people in whose hands I place Tournier's books ask me the question, "What is he really like?" Beyond the roles of physician, counselor, lecturer and author, what about the man himself?

Vivid, personal experiences come to mind as I endeavor to answer that question.

I will never forget the first time we met. It was during his first visit to the United States. Some time before I had discovered his book, *The Meaning of Persons,* and after reading it several times I gave it to Dr. Mary Breme with whom I am associated in a Doctor-Counselor team. I urged her to read it, saying, "This man believes in treating the person as we do." One evening Dr. Mary picked up the book and did not put it down until it was finished. She told me, "These are the concepts I have used in my medical practice for twenty years. Some day, we will meet that man."

And meet we did. Dr. Tournier and his wife, Nelly, were guests of friends and neighbors in our hometown. When we heard he was so close we wondered if there might be an opportunity for us to meet him.

"But he's an important man. Why should he see us?" Dr. Mary asked.

"I don't know," I replied. "I only know we are on the same wave length and we must meet."

He did not consider himself "too important" for us and he graciously accepted our invitation. After a brief time in our home in Wheaton, I drove Paul and Nelly Tournier through town, along back country roads to visit the clinic, then on to meet in Dr. Mary's home with close friends. I did not know it then, but this was a ride Nelly Tournier would never forget.

As we arrived at Dr. Mary's house I reminded myself that Dr. Tournier did not know what to expect in this meeting. But any fear I had was groundless. A friendship and meeting of minds and spirits was born that night.

There were theologians, medical doctors, counselors and interpreters present in that meeting. Questions about theology, medicine, psychology and how they were related were asked. Concepts and treatment of the whole person were discussed. There was mental and spiritual stimulation such as I have never felt in any other group. I will always remember Paul Tournier's expression as he turned to his wife as we were leaving: "Nelly, to think we find this in America!"

There were other meetings in Switzerland, Spain and Italy, and always the deep communication about psychology, faith and the treatment of patients. I could neither speak nor understand French and he could understand and speak only a little English. And yet there were times when we did not need an interpreter because we understood the "language of the person."

You cannot know this man without sensing the kindness, compassion, humility and love which make up his person. Many treasured experiences come to mind as I think of ways in which he manifested these qualities, but one stands out above the rest.

Dr. Breme and her daughter and I were travelling in Europe. On our schedule were plans for a meeting with the Tourniers in Geneva, Switzerland. When Dr. Tournier realized that our trip included a long drive down the Yougoslavian coast he felt we would be traveling out of our way to go to Geneva and so offered to meet us in Beatenberg. He and Nelly had to travel one hundred miles by train and change trains twice in order to do so, but then that is the kind of people they are.

Our meeting at the Beatenberg Seminary looking out through the Alps to the Jungfrau, was another unforgettable day. We spent hours of sharing ideas and beliefs about the Scriptures and psychology. Because both Dr. Gertrude Wasserzug, director of the seminary, and Dr. Tournier spoke French fluently we depended largely on expression and body language. We found when we asked the interpreter however, that we understood the meaning of their conversation and occasional friendly sparring.

At the end of the day we suggested that our friends drive with us as far as Berne where they could take the trip to Geneva. They gently declined, however. Failing to understand why, we urged them to go with us. Finally, with a twinkle in his eyes, Dr. Tournier took the interpreter and me aside and explained that Nelly was fearful of driving through the mountains with me. She still remembered the winding country drive in Illinois! I promised to drive slowly and we had a delightful ride to Berne. Nelly's parting words to me were, "Magnifique!"

Not long after our first meeting, Dr. Tournier learned of an unfinished manuscript I had in my desk drawer. He urged me to finish it and convinced me I had something to say to needy people. The manuscript came out of the drawer and I resumed work on it.

Some time later as we were discussing the manuscript again, I shared my feeling about the way hurting people are over-whelmed with books, articles, and TV talks on problems and sterile "how to" advice. I wanted to somehow help my readers to hope. Dr. Tournier responded enthusiastically:

"Ah, yes! Hope! That is it—but it will be difficult."

It was difficult and I seemed to reach an impasse. I met with Paul and Nelly Tournier in Majorca and confided in him that I felt I had a block.

"I don't understand it," I told him. "It's never happened to me before."

We arranged a working session in my hotel room.

As the interpreter read, I watched Dr. Tournier closely. He was sitting, slightly hunched forward, with his hands between his knees, his eyes and facial ex-

pression reflecting his interest in what was being read. Now and then he would nod his head. After much thoughtful listening, he stopped the reader. Before he even spoke I somehow knew what he was going to say, his silent expressions had been so positive and reassuring.

He began to gesticulate with his hands. "You could not write like that if you had a block. You think you have a block? You have no block." His kind voice was full of confidence as he added simply, "Finish the book!"

This assurance was all that was needed. The book, *Hope for Tomorrow* was published, with a sixteen page forward by Paul Tournier.

What are you really like, Paul Tournier?

You are a friend—to me, to others who have had the privilege of personal contact, and the many thousands of readers who know you through your books.

You are a friend who understands. You have keen and unusual insights into the suffering of the person, born out of your sensitivity to the shadows of loneliness and suffering in your own life.

Paul Tournier, your life, and your willingness to share it with others, is a tribute; a tribute which we now give back to you.

Hazel Goddard is on the counseling staff of Warrenville Clinic in northern Illinois. A personal friend of Tournier, she is also the author of Hope for Tomorrow, *a book for which Tournier wrote the foreword.*

Since I have never met or personally heard Paul Tournier, it is with considerable fear and trepidation that I contribute this article in salute to him. Yet I am thankful for this opportunity to express my gratitude to one who has greatly affected my life. Of the four individuals who have most influenced my life for good, he is the only one with whom I was not closely involved in a personal relationship.

My most serious and lengthy exposure to Tournier came through rather devious means during my last two years at Dallas Seminary. I remember well sitting in the coffee shop at the Seminary discussing the "relevance" of theology with the head of the theology department and striking upon an ideal subject for my master's thesis. Most theology majors seemed to write on subjects that I was bored even to hear about. The thought of spending hundreds of hours in a dusty corner of the library searching scores of books for occasional references to obscure topics did not strike me as something I could do, much less enjoy. The coffee shop inspiration was to study the writings of Tournier in the light of Biblical theology.

I had already read three or four of his books and was eager to read more. With Tournier's concern for the whole man, it was a natural to study his theology of man. What a great relief it was when the subject was cleared with my advisor and I could look forward to over a year of reading and study of Tournier's writings.

As a result of our time spent together on the written page during this period, Tournier molded my thinking and action in a number of areas. The most important thinking change came in beginning to see man (and myself) as a whole. The concepts of man created in the image of God, man as a fallen sinner and man as a redeemed creature, began to come together into an understandable unity. Man was not just a sinner, not just a physical being, not just a bundle of psychological mechanisms—he was all of these and more. Tournier introduced me to the "theology of the person" and molded a framework that still endures.

The most important change came in how I learned to cope better with guilt. Tournier freed me from the burden of viewing all guilt feelings as the result of some moral blunder. Although of course, I do commit many moral blunders and thus experience the just burden of true guilt, many guilt feelings were founded on mechanisms set up by culture, society and self apart from any real moral sin.

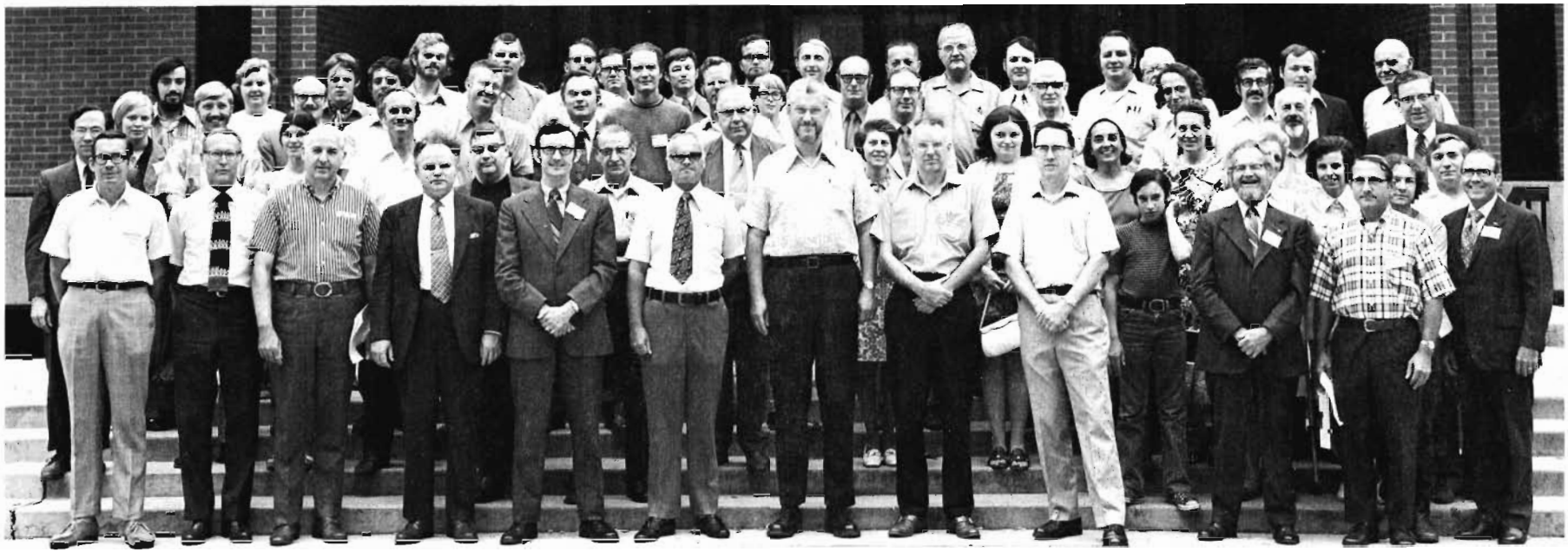
I can best illustrate this change by an experience I had during the writing of my thesis when this concept of false guilt first became a reality. It was on one of those rich spring days when you feel great and everything is going your way. I had enjoyed a good morning of classes and was spending the early afternoon in some Bible Study and prayer. A phone call interrupted my "quiet time" and when I returned I found that a vague and uneasy sense of guilt had settled on my person. Pray as I might or search for some sin leading to this feeling of guilt, nothing seemed to help. Suddenly I remembered what Tournier said about false guilt. I reflected on the events of the afternoon and soon realized that the phone call had precipitated my guilt. An insurance salesman who had been after me for several weeks had called and "succeeded" in producing the kind of false guilt that certain salesmen are especially good at. He made me feel that I had failed him by not buying his insurance, even though I had more than I needed. The conflict between good judgment and projected guilt resulted in depressed feelings. The pinpointing of the cause in this way relieved the pressure of the false guilt and left me able to enjoy the rest of that marvelous spring day.

To the reader of this article who has read little or none of Tournier's writings I would give a warning. While you have a great feast of reading before you, you will probably find Tournier's style of writing a bit tedious. It is something like reading a lengthy one-sided conversation with numerous excursions of examples. I confess that I often found it easy to set his books aside for awhile even in the middle of them. This is one of the reasons I am thankful for the discipline of the thesis that got me through all of them. Of course, this weakness is actually part of the strength of his writings since I felt that I was relating to him as a person in his books, rather than just reading great thought abstractions.

Thus I cannot help but feel that I truly know Paul Tournier even though we have never been together. Indeed we have spent many hours together although all the benefit has been one-sided. I do hope that heaven is like many have suggested and that we will be able to meet and fellowship with all the saints of history. One of the first that I will look up will be Paul Tournier.

William D. Sisterson is Executive Secretary of the American Scientific Affiliation. A graduate of Southern Methodist University and Dallas Theological Seminary, he wrote his Master's thesis on "Paul Tournier's Concept of Man."

ANNUAL ASA MEETING 1972, YORK UNIVERSITY, TORONTO, CANADA



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