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

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Christianity and Medical Frontiers

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Utopian Outlooks

All utopian outlooks have a curious similarity. Whether they approach the human predicament in terms of scientism, communism or Consciousness III, they tend to assume that the given order of things – if indeed they recognize an "established" order – places no restrictive limits on human proposals to radically alter and master man and society. They assign no governing role to God in the external sphere of nature and history; they suppose that man's future is open to wholly new possibilities; and they consider man himself free to chart the future of the human species. Human nature is regarded as evolving and as open to a superman or superrace (which Nietzsche mapped one way and the Nazis another). Man is considered the Kingdom-maker and his condition is thought to be unflawed by original sin.

When scientism shares this utopian mood, as for example in the writings of the Cambridge anthropologist Edmund Leach, the empirical spirit approaches nature and man on premises not unlike those with which revolutionary theologians approach history. No divinely-given plan or purpose, no created order or structure, need get in the way; the road to a promising future is that of dramatic surgery or revolutionary change. More moderate and mediating alternatives are regarded as concessive and reactionary. As in history so also in the laboratory, eschatological transformation becomes a near-term ambition, and every next major breakthrough hopefully holds millennial possibilities.

The Biblical View

I mention this utopian mentality at the outset simply to bring the biblical view into early focus. The Bible too holds out the prospect of a future of man open to radically new possibilities. But it does so in the governing context not of human ingenuity and power but rather in terms of divine redemption from sin and the moral revival of man. God's new man, his new humanity, is conformed to the moral image of Jesus Christ, and will be "cloned" at last in a resurrection body beyond sin and death. In the biblical view God's revealed will and operative providence in the creation define the limits of human freedom; without God, man the creature would not and cannot be truly free, cannot be

good, and in fact would not even be.

In the obstacles that nature erects to unlimited scientific manipulation God is in fact saying something both about nature and about himself, even as he does in the restrictions that human history imposes upon utopian revolutionaries and their millennial programs. The scientist is constantly brought to terms with the given in nature. This is not the case only when evolutionists discover that primates they consider to be as closely related as the gorilla and man differ so much genetically that they cannot crossbreed. It is the case also at other frontiers, frontiers that the brilliant medical technology of our times is now bringing prominently into view.

Conquest of Suffering and Death

A key test of the scientific spirit is what modern man proposes to do with suffering and death. Contemporary medical technology seems increasingly devoted to its human conquest. In the Judeo-Christian view suffering and death, whatever may and ought to be done to relieve and postpone them, are part of the givenness of present human existence, inevitabilities complicated by sin, yet retaining for the person of faith both moral and spiritual lessons that contribute to the enrichment of life. Death is not for the Christian either a finality to be accepted with acquiesence or a foe that can be humanly destroyed; the only real dignity with which it can now be faced stems from God's gift of grace. Death has become an enemy whose sting is sin; only where grace wrests the moral victory from the foe does death become the transition to a greater good.[1]

Modern technology seems increasingly disposed to all-out war against suffering and dying as if these universal experiences were a needless human concession to a malign or indifferent cosmic order. It projects its assault upon them as if no limits exist to man's conquest of these hostile powers. Even the surgeon or family physician is now tempted to consider himself a failure if his patient dies. The secular modern is not ready to accept death either intellectually, volitionally or emotionally, except as a few stony intellectuals consider man to be a meaningless fragment of animated dust with no more future than the beasts of the field. The modern perspective in turn leaves secular man both unprepared to die and unprepared to live as he ought, that is, fully aware of the implications of finite and sinful existence and in view of the ministry of divine grace and the moral lessons that life holds for the spiritual man.

Only in the biblical view can suffering be purposive; in a non-Christian view it is only an enemy. In the biblical view the Suffering Servant is indispensable to human redemption, and the suffering of the righteous man is sanctified by his suffering, death and resurrection. To commit one's self to the biblical understanding of life and death and of the world to come carries for the secular spirit too high a price in the way of spiritual decision. Hence he expects the medical practitioner to bestow not only the gift of health and a welcome deliverance from affliction but something hopefully more than what the Christian recognizes as at best only a temporary delay of death. In this transferal of hope, death ceases also to be a delay of what the New Testament declares to be not only "better" but "far better" for the believer, that is, "to be with Christ" (Phil. 1:23).

The loss of spiritual frontiers in the modern probing of medical frontiers therefore risks the tantalizing but misleading implication that science holds potential for shaping a new creation. Finite man through a misdirected hope meanwhile loses his share in the new creation that God offers, and expects from his present state – for all that science can do to improve it – more than the limits of his being allow.

By no means, however, are these reflections to be taken as a questioning of the profound usefulness of scientific learning. Few people today would want to turn back the clock on the scientific revolution; even its counter-cultural critics today hitchhike on a technological civilization while airing their grievances. Technology in some respects is as ancient as civilization; without access to water, disposal of sewage, and ready transportation, human communities soon wither. The widespread relief of human suffering, the fostering of health and preservation of life, has yielded worldwide benefits.

Yet the tentative nature of all scientific hypotheses is becoming evident in ever costlier ways. The more sophisticated our solutions, the more devastating is their destructive potential. Not only the field of medicine, but all scientific endeavor, engages in a balancing of risks. The scientific method is unable to identify finalities and absolutes; its role is rather a gradual elimination of long-revered myths and the reduction of inferior alternatives. When he openly acknowledges these limitations the scientist is to be commended; if the theologian must say "now we know in part," much more must the empirically-dependent technician acknowledge the restrictions his methodology imposes.

Isolation of Knowledge from Ethical Use

The isolation of scientific knowledge, medical knowledge included, from the question of its ethical use is a crucial concern for contemporary civilization. The utility of science is primarily connected with human comfort and convenience, and these often become synonyms in contemporary culture for human betterment. The earlier vision of science as an instrument serviceable to the glory of God, by its extension of his moral purposes in the world and by the social implementation of the good, has faded away in recent generations. As secularism encroaches upon modern life, fewer and fewer influential spokesmen press the question: "What *ought* scientific knowledge to be used *for*?" Even the conviction that the medical profession has its goal solely in the preservation of human life is challenged. Abortion, euthanasia, and recombinant genetic research also in frontier modes that anticipate a deliberately altered human species, frame the role of medical science in a notably different way. The mere mention of such modern developments as nuclear warfare and ecological pollution reflect the correlation of scientific learning with technical advances that threaten human survival itself. As ethical connotation terms are secularized, moreover, concepts like "quality of life" are formulated in an amoral way: 44% of Americans think life's quality has worsened in the past decade, according to a Harris poll. What do they mean by *quality* of life? They point specially to air and water pollution, energy costs, inferior

product serviceability and safety, in short, to predominantly physical concerns and consequences, although a number do hold that a deterioration of education has contributed also to the depreciation of life quality. Of no less importance is the fact that the detachment of scientific utility from the question of moral norms strips the scientist himself of any firm basis for relating his scientific contribution to the good. Indeed, it leaves him without any firm basis for defending the value of science itself.

Because the scientist uses a restricted professional methodology, one that is ideally appropriate to identifying certain empirically observed sequences, has he no responsibility for distinguishing between moral and immoral uses of scientific knowledge? Anyone familiar with American Association for the Advancement of Science conventions in recent years, and with publications like *Science* magazine, cannot but be aware that many scientists now raise ethical issues with a zeal seemingly intended to compensate for long decades of neglect. This accelerating moral concern is to be fully commended, even if its tardy pursuit tends to grapple with many issues at the level only of mid-course correction.

Adam's eating of the Edenic tree of knowledge without moral sanction and ethical commitment cost him spiritual life. The temptation is now commonplace to devour the fruit of the tree of knowledge in order to become like gods. But knowledge pursued in moral alienation and indifferently to the good while it reaches for omniscience invites demonic manipulation and deployment of what we know. Our generation has passed beyond the end of the age of technological innocence, and antichrist seems ever eager to monopolize the results of scientific learning.

Because the scientist is a man like other men, he like others is answerable to the express will of God for his creation. That answerability extends to the purposes for which the scientist seeks knowledge, and the use for which he commends and approves it.

I am not here arguing that it is better not to have knowledge than to run the risk of its misuse. God himself does not conceal the revelation of himself because humans may distort and revolt against spiritual knowledge. By declaring all men to be sinners, the religion of the Bible emphasizes not only that humans are ignorant of much that they can know about God, but that humans in fact also possess revealed knowledge about God which rebellious man deploys. If man is divinely made for the knowledge of God, he need not balk at knowledge of God's universe. Ignorance may also be a sin, especially if one might have had knowledge that could have been used serviceably to the good. If, however, that knowledge is sought in rivalry with knowledge of God, or indifferently to God's claim upon man and the cosmos, we have a very different situation. Nor is our primary problem that of sharing scientific knowledge with developing countries that might misuse it; if the developed countries will moralize the use of knowledge, the developing countries will not be a major problem.

Knowledge and Its Use

Against those who insist that "knowledge is good (period)" the question needs to be pressed whether we can excusably draw an absolute line between knowledge and appropriation in this way. We are here faced again with the crisis of Eden: we want to touch the tree of knowledge quite indifferently to God's consent and purpose. To perpetuate a divorce of scientific learning from the knowledge of the good is a costly development, the more so as scientific learning multiplies and concern about the good deteriorates. It may precipitate the destruction of the very civilization and culture that some spokesmen for science had only a few generations ago hoped to lift to the brink of utopia.

The more sophisticated our solutions, the more devastating is their destructive potential.

In this judgment I wish to avoid blaming science for decisions that are taken individually by human beings and in which nonscientists no less than scientists are involved. Yet the fact is that scientific learning all too readily accommodates a game of roulette in which moral questions are postponed until it is too late to moralize the choices. Can one wholly escape culpability if he operates an escort service that enables one, in observing new frontiers, to walk so invitingly near the brink of perilous enjoyment that hazardous participation becomes well-nigh irresistible?

The breakup of the American home doubtless has many contributory causes, and there is no reason to think that even apart from certain recent scientific developments the society of the West might not have notably declined through alternative ways of expressing its spiritual vagabondage. But before the production of the birth control pill premarital intercourse by almost a third of all teenage girls between 15 and 19 years of age in the United States was unthinkable. The fact that as many teenage mothers now undergo abortions in the more risky second term of pregnancy, rather than in the first term, indicates that other than prudential considerations control their appropriation of modern technical information, and that scientific techniques are welcomed because they accommodate sexual permissiveness hopefully with impunity. We have felt only the first shock wave of social upheaval in a society that postpones moral judgment to a sunset interaction and gives to the questions "Is it physically safe?" or "Is it useful?" a priority over the question "Is it good?" When Jesus said "Ye shall know the truth and the truth shall make you free" (John 8:32) he did not mean "free of an unwanted fetus" or free of ethical answerability.

Nor am I saying that the Christian theologian has undiluted advance wisdom about every decision to be made in the application of scientific possibilities. The Bible does not give us quick answers to all questions. But it does provide clear divine information about some matters. It insistently raises the question of *why* we propose to do what we do. Over all that humans think and do it inscribes the words *what for*? It nowhere encourages us to postpone the moralizing of our interests while we touch the tree of knowledge inquisitively. The Bible does not speak directly concerning some proposals, yet it is not therefore without relevantly applicable principles. It strips away any justification for human decision solely on the basis of prag-

matic considerations. The Bible rejects human fear and pride as adequate motivations and declares the fear of God to be the beginning of wisdom in every human enterprise.

Atomic Power

The moral question confronts us with special urgency in respect to recombinant genetic research even as it has already confronted us in respect to atomic power. It is beyond the capacity of human wisdom to calculate and balance potential benefits and liabilities in these developments. The Bible underwrites no rationale for producing the atomic bomb because Nazi scientists might otherwise achieve it first, or for pursuing recombinant genetic research because Soviet scientists might beat us to a breakthrough.

Not simply by concentrating on physical consequences while minimizing questions of ethical appropriation, but also by reading its experimental verdicts in a maximally optimistic way scientism betrays its fascination with gnosis. The crisis in atomic energy today mirrors the terrible dilemma of a generation that detaches moral imperatives from its investigative genius. Atomic fission was heralded as carrying the prospect of an end to war and the promise of a new age of inexpensive energy. The outcome has been very different. And many now ask whether scientists who hailed their creation of the bomb as signaling the dawn of a luminous atomic age should not have known and said also that there is no known way to handle atomic waste. Touching this branch of the tree of knowledge has thrust us into an age in which atomic waste can be reprocessed into destructive nuclear bombs; and it has not significantly carried us forward toward a solution of the global energy crisis. If two things are to be added about the French government's recent announcement of the discovery of a new way to enrich uranium for power plants that eliminates the risk that the material could be used for nuclear weapons, the second is that, even if the process proves practical, it will also prove to have unforeseen side-effects.

Recombinant DNA Research

Can we presume that technological genius operating neutrally in a context of moral ambiguity and spiritual revolt decisively advances civilization? The problem

A Call to Faithfulness

This declaration is sponsored by John F. Alexander, Richard Barnet, Gordon Cosby, Richard Mouw, Wes Michaelson, Henri J. M. Nouwen, John Perkins, Clark Pinnock, Graham Pulkingham, Glen Stassen, William Stringfellow, Jim Wallis, and John Howard Yoder.

The time has come for Christians in the United States to stand upon our biblical convictions and act together in a clear and visible witness against the nuclear arms race. The spiralling momentum of nuclear weapons production has possessed our nation and placed the entire world in unprecedented danger.

The church bears the biblical responsibility for stewardship of the whole creation. However, Christians in America for the most part have stood by and watched as our nation has assembled the largest and most deadly military arsenal ever to imperil the earth.

Instead of fulfilling the prophetic hope of Isaiah to "plant justice in the earth," we in the church have remained largely passive for more than 30 years of nuclear arms buildup. Today our country devotes immense and increasing portions of its material, intellectual, and financial resources to war, thus threatening the world with catastrophic violence while guaranteeing continued neglect of the world's poor.

The victims of this callous arrangement cry out, and above their voices can be heard another voice: "As you have done to the least of these, so you have done unto me."

We have let the biggest myth go unchallenged: that all this military might is for a righteous purpose, for peace and self-defense. As military planners, political leaders, and industrial interests have relentlessly pushed us beyond the threshhold of overkill, the truth has become clear. These weapons are for winning, for maintaining superiority, for keeping control, for dictating our terms, for protecting our wealth and power in a global order that is fundamentally unjust.

Under the guise of national security, our true security and the security of the world is being severely jeopardized.

Jesus tells us that it is the peacemakers who are blessed. Yet the peacemakers among us have been few. Most Christians have ignored the strong biblical warnings against placing our trust in weapons of war.

We are soberly reminded of God's command, "You shall have no other gods before me." But we have fallen away from God by joining our fellow citizens in succumbing to the idolatry of military might and power. To plan for a nuclear war assumes that tens of millions will die, justifiably in the name of national security. This exalts the nation above all else, including the survival of humanity.

Our professed allegiance to Christ and his kingdom rings hollow when we accept military policies of indiscriminate mass destruction, placing us in direct opposition to Christ's unequivocal instruction to love our enemies, do good to those who hate us, bless those who curse us, and pray for those who persecute us.

Repentance means to stop, to turn around, and go in a different direction. This is what we must do. As Christians, we know too much and have seen too much; we can no longer quietly accept our perilous situation. We feel compelled by the words of Ezekiel:

> If you see the sword coming and blow the trumpet and warn the people, then if those hearing the trumpet do not take warning, their blood will be on their own hands. . . . If the sentry sees the danger coming and does not blow the trumpet and the people die, I will hold the sentry responsible. I have made you sentry for my people; whenever you hear a word from my mouth, you shall give them warning from me. (Ez. 33:3-7)

Nuclear war is becoming an increasingly likely event. Many leading scientists and arms control experts now call nuclear war "probable" and "inevitable" before the end of this century.

Our nation bases its security on demonic systems capable of turning the globe into an inferno. The simplest meaning of the nuclear arms race is that, in the name of national security, the world's most powerful nations are preparing to commit mass murder. To build weapons of such destruction and to be ready to use them are the marks of a people losing their minds and their souls.

The United States possesses more than 11,000 nuclear warheads, each one of which can burn the heart out of a city. This stockpile—the equivalent of 615,385 Hiroshima bombs—could destroy the entire population of the world 12 times over. Yet the United States continues to produce nuclear weapons at the rate of three each day.

The competitive momentum of the arms race has

now begins to face us urgently in the sphere of genetic experimentation, where all the motivations that underlay atomic experimentation are once again asserted. Some social critics affirm that recombinant genetic engineering could create more affliction than it relieves, that it may fashion a monster that will destroy us all; others claim it could cure cancer and other crippling diseases and lift the human species to new potentialities.

Recombinant genetic research cannot as such be considered an intrusion into nature, since the principles of mutation and species variation are already operative throughout the plant and animal kingdom. Yet the range of genetic exchange among living forms in most instances are very narrow. While the genetic code is universal, nature significantly restricts the exchange of genetic information between widely divergent species so that, heretofore at least, it has not been possible to cross major species barrier.

With the advent in the 1970s of recombinant molecular technology, however, geneticists engaged in the further manipulation of life. The test tube recombination of DNA molecules from organisms that do not usually exchange genetic information creates a new situation, one that is stirring wide debate over the ethics of genetic engineering, over the safety of such experimentation, and over the regulation and legislation appropriate to such research.

Atomic fission was heralded as carrying the prospect of an end to war and the promise of a new age of inexpensive energy. The outcome has been very different.

Yet the recombinations presently described have also already in principle occurred in nature, in the phenomenon of so-called "jumping genes" or transpositions of fragments of DNA from one organism to another. In 1974 the microbe that produces meningitis in infants acquired from an unknown source a plasmid carrying the gene that resists the antibiotic ampicillin. In 1976 it was noted that the organism responsible for gonorrhea acquired a plasmid also encoding for resistance to ampicillin. More recently plasmids have been recognized in *streptococci,* the organism productive of "strep sore throat," and this could hold profound medical

caused the Soviet Union, formerly far inferior to the U.S. in strategic nuclear weaponry, to build a correspondingly devastating arsenal. Despite the rhetoric of detente and the SALT talks, the nuclear arms race continues to accelerate. Since the SALT talks began, the United States has roughly doubled its stockpile of nuclear weapons.

The balance of terror between the United States and the Soviet Union—upon which the fate of the world precariously rests—is assumed to be natural, sane, normal.

The United States has set the pace in the arms race, and the recent direction of U.S. strategic nuclear policy has become especially grave. The United States is set to deploy a whole new generation of nuclear weapons systems on land, sea, and air—the MX missile system, the Trident submarines, and the cruise missile—in addition to having the capability to produce neutron bombs.

Strategies are being devised in which the United States would be the first to use nuclear weapons. Our nation has steadfastly refused to pledge that it would *not* be the first to use them.

The pace of the arms race has been accelerated to the point that 35 to 40 nations could possess nuclear weapons within a decade. The "peaceful" use of the atom for nuclear energy already has abetted the proliferation of the bomb. The risk of further proliferation increases as nuclear energy development is expanded and exported.

We call upon the church to make a decisive response to the nuclear arms race through prayer, preaching, and public witness. The church's prayers for peace must be offered ceaselessly, with a deepening fervor and intensity matching the escalating race to nuclear annihilation.

The church's preaching of the gospel in our day must make it clear that to turn to Christ is to turn from acceptance of nuclear weapons, so that converts become known as peacemakers. The church's public witness must be marked by costly action, following the leadership of the one who was willing to bear the burden of making peace in a hostile world. Nurtured by Christ's love, his church must bear all things, believe all things, hope all things, and endure all things.

Our primary allegiance to Jesus Christ and his kingdom commits us to the total abolition of nuclear weapons. There can be no qualifying or conditioning word. We, the signers of this declaration, commit ourselves to noncooperation with our country's preparations for nuclear war. On all levels—research, development, testing, production, development, and actual use of nuclear weapons —we commit ourselves to resist in the name of Jesus Christ.

We also call upon the church in this nation to set forth to the United States government its responsibility to take meaningful unilateral and multilateral initiatives toward the goal of complete nuclear disarmament. Other nations' desires for disarmament, peace, and survival could then be genuinely tested in the pressure to reciprocate.

Specifically, those steps should include the following:

(1) The suspension of all nuclear weapons tests and the flight testing of new vehicles for their delivery.

(2) The suspension of present plans to acquire new strategic weapons systems, including the MX missile system, the cruise missile, and the Trident submarine, as well as any future production of the neutron bomb.

(3) A decisive change in U.S. military doctrine, declaring that this nation will never be the first to use nuclear weapons, and that it recognizes that they are legitimate neither as political instruments nor as military weapons.

These initiatives are only minimal first steps toward the goal of eliminating nuclear weapons from the face of the earth. The urgency of such actions should be clear to all who share the biblical hope to beat swords into plowshares.

We admonish our brothers and sisters in Christ to take a bold posture of resistance to the nuclear arms race.

In the face of so grave a crisis, Christians must avoid the easy temptation to despair. Instead, we must draw on hope born of our trust in God's love and grace, in our lives and in the world.

May our hope in Christ's kingdom undergird our witness, nurture our worship, and compel our action.

Readers who wish to identify themselves as supporters of this Declaration should write to Nuclear Declaration, Sojourners, *1029 Vermont Ave, NW, Washington, D.C. 20005.*

Readers who wish to respond to this Declaration through the pages of this Journal *are invited to submit 250-word comments for publication by November 15, 1978 to the Editor.*

Revealed religion offers technological civilization its only persuasive means for overcoming the isolation of knowledge from ethical applications.

significance, perhaps reverting us to the pre-antibiotic era.

The dilemma now confronting us concerning the exchange of genetic information transcending normal species barriers is that of adequacy of containment and appropriateness of research. It should be noted that medical science has faced biohazards whenever it has investigated and treated infectious diseases; precisely in the face of such risks, the polio vaccine and other scientific advances were achieved. It may well be that criticisms of genetic engineering and scenarios of disaster are greatly exaggerated. Yet prudence calls for caution in the area of the unknown, and a few observations on what presently seems to some of us to be the wisest course may at least provoke counter-suggestion in the area where theologians and scientist alike must settle for some political compromise.

Most of us are almost as reluctant to see legislative controls on freedom of scientific research as we are on freedom of religion. The record of political omniscience is hardly more impressive than pretensions of scientific omniscience. Where research has a therapeutic objective, legislative controls should be avoided. Governmental licensing of researchers would multiply bureaucracy and introduce possibilities of political influence and intervention that a free society should resist. Guidelines issued by the National Institute of Health to safeguard public life and health already include both physical and biological containments that reduce biohazards from recombinant genetics to a minimum, and should be extended to include all recombinant molecular research regardless of the source of funding for such projects. Such guidelines, moreover, should be periodically revised as new information becomes available.

Scientists should be pressed to distinguish experimentation that probes new forms of life from experimentation that is ventured for therapeutic ends. Informed public debate should be invited on legal controls touching the former type of experimentation, so risks will be minimized by more stringent measures than the mere issuance of governmental guidelines. Any legislation should however be reviewed from time to time so it will be neither unnecessarily restrictive nor excessively tolerant.

We should doubtless clearly distinguish experiments that amplify or increase genes in the same organism, or in closely related organisms that naturally exchange genetic information, from experiments that propose an exchange of genetic information between unrelated bacteria and between more complex organisms with an organized nucleus. The latter kinds of experiment involve hazards beyond the risks attending current genetic procedures and should therefore be answerable to legislative regulation. Such regulation should guarantee at very least the existence of competent local review agencies. Whatever restrictions are placed on innovative research need not at all completely thwart such research, provided only that the sponsoring institutions are certified and held publicly responsible, and the nature and limits of liability are established.

Spiritual Reality

Legislative restriction or not, the scientist is answerable to God no less than to society, and here the biblical theologian pleads for conscious attention to that larger realm of spiritual realities that escapes sense perception and turns on God-in-his-revelation. Yet it is not to the scientist alone, but to contemporary man now widely given over to radically secular perspectives, that this call must be directed. The people doubtless have a right through the legislative process to set limits on the proposals of scientists no less than on those of the rest of us in respect to what they perceive to be life-and-death issues. Yet even scientists who earnestly raise the question of moral norms now find themselves dealing with large remnants of society not deeply interested in these issues, so widely does the dissociation of technical information from questions of morality pervade our culture. All the more imperative, therefore, is the forging of an intellectual front in which concerns of theology, ethics, science, and human history are once again focused in a comprehensively unified way.

Revealed religion does not directly answer questions that modern science addresses to the universe, but it nonetheless bears on the whole of that inquiry. Moreover, it answers some questions with finality (and that is more than empirical science can do), and it has fully as much to say to our technological age – and of no less importance – than does contemporary science.

Revealed religion can identify the good in terms of God's expressly disclosed will and moral commandments which scientific man neglects at great peril to himself and to all mankind. Revealed religion identifies the chief end of life ("to glorify God and to enjoy him forever"); a disregard of this imperative impoverishes human existence, and invites the decline of civilization even amid illustrious scientific genius.

Revealed religion proffers ethical renewal that renovates the fallen will of man to do the right, instead of condemning 20th century mankind to its deadly nuclear arms race in unending pursuit of superior retaliatory or destructive capability. It invites our scientific age East and West to share the regenerative and restorative grace of God that can subdue both the secular communist and secular capitalist spirit to participation in the eternal world.

Revealed religion offers ethical guidance precisely at those frontiers where medical technology has been exploited in the service of moral permissiveness to the great detriment of social stability. Some moral prescriptions are no more welcome than some medical prescriptions. But they are not on that account misguided. The Bible declares that intercourse before and outside of marriage is wrong in God's sight, even if all the world should practice it and do so with gleeful delight. Adultery within marriage is wrong even when it becomes the social norm, and even if that should become the case in the most powerful nation in the world. To defend the weak and helpless is right, and to take fetal life is wrong (moral exceptions being to spare the mother's life, offspring to victims of rape, and instances of exceptional deformity.) Abortion is not a biblically sanc-

tioned means of birth control, even if destruction of the life of unwanted girl infants in ancient Rome or destruction of the life of unwanted fetuses in modern America should become the social custom.

Revealed religion offers technological civilization its only persuasive means for overcoming the isolation of knowledge from ethical applications. Where evangelical religion is forfeited moral relativism soon takes its place. The Bible holds before us Jesus Christ the ideal man, neighbor love and social justice as moral imperatives, and the extension of God's ethical purposes throughout the cosmos as God's divinely-intended vocation for man. It promotes the moral use of knowledge in the service of man under God, rather than merely in the service of nature under man, or in the service of some political or scientific elite. The pursuit of knowledge in this context can do us no harm but can do us only a world of good. For all the technological brilliance and scientific innovativeness of our times, present-day civilization is doomed without a decisive alteration of the prevalent secular philosophy of life and of the norms of human behavior.

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Malnutrition and People

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The Experience of Malnutrition

> "No one in the hospital appeared to be unduly concerned when four-year-old Sonia Enamorado died of starvation. No mother waited tearfully by the cot. The doctor was busy attending to the rasping wailing from the other wasted bodies in the tiny ward. Only one nurse seemed interested: she laid a small muslin square over Sonia's once pretty face, to keep the flies back for her last few moments".[1]

> "I remember Jobeda who was sitting in the shade of a tattered lean-to in a refugee camp in Dacca. A small withered form lying close beside her whimpered and stirred. Instinctively, she reached down to brush away the flies. Her hand carefully wiped the fevered face of her child. At six years of age, acute malnutrition had crippled his legs, left him dumb, and robbed him of his hearing. All that was left was the shallow, labored breathing of life itself—that, too, would soon be gone".[2]

> "The other day a Zambian dropped dead not a hundred yards from my front door. The pathologist said he'd died of hunger. In his shrunken stomach were a few leaves and what appeared to be a ball of grass. And nothing else".[3]

I have just quoted the plights of three individuals, three of the many victims of malnutrition. All three instances occurred within the past few years, the first in Honduras, the second in Bangladesh and the third in Zambia. The three people involved were ordinary human beings, two were young children and one was a young adult. Apart from their malnutrition and certain cultural differences, they would have been just like you and me. And yet they were so very different from you and me—they were malnourished, and even had they been alive today their lives would have been hard, limited and tragically deprived.

How easy it is though to lose these three individuals in the midst of an array of accurate, objective and yet lifeless statistics. There are books galore on malnutrition, on its economic spectrum, its morbidity and its consequences in educational terms. How easy it is to write about the Third or even the Fourth World, the disadvantaged and the underdeveloped (or more acceptably the developing) nations. However much we need these studies, they are emasculated to the extent that we lose sight of the human face of malnutrition.

Malnutrition is personal; it affects individuals. The individuals are you and I; you who are reading the paper and I as the one who is writing it. They are also those who are hungry, those who are malnourished, and those who are on the verge of starvation. They are those children who are no longer curious; they are those 30-year-old women who look at least 50; they are our children who are healthy and fun-loving and they are we who have every opportunity in this life. We are all individuals and we are all affected by malnutrition, either as the well-nourished who prosper at the expense of the malnourished or as the malnourished

whose only hope depends upon the concerted efforts of the nutritionally privileged.

Whatever approach we adopt towards this issue therefore, we cannot afford to overlook the personal aspects of the malnutrition in today's world. Moberg[4] has expressed this point very succinctly: "all social problems are intensely personal to the individuals who are their victims." Neither can we afford to underestimate either the global or the historical dimensions of malnutrition.

Global Malnutrition

Famine is no new problem to the peoples of the world. One has only to read the Bible and other chronicles to realize how frequent and devastating were famines throughout the Middle East and Europe in ancient times.[5] Likewise, medieval Europe was repeatedly gripped by famines while even this century has seen people driven to cannibalism in the face of relentless hunger.

Famine is practically integral to the life of humanity, so much so that Jesus Christ in describing the signs which would usher in his return at the end of time foresaw famine as one of these.[6] In spite of such gloomy (and perhaps realistic) forecasts, the late 1940's were characterized by an upsurge of optimism—the battle against hunger was almost concluded. Bumper harvests in the United States and the development of "miracle seeds" would vanquish this dreaded foe and the densely-populated countries of the Third World would attain self-sufficiency in food stuffs.

Alas, history was not to be so easily overturned! The 1970's have been accompanied by malnutrition of plague proportions, as well as by an avalanche of cries of doom and despair. In 1972, for instance, the world's harvest was some 3% short of meeting demands, while by 1974 the world's reserves of grain reached their lowest level for 22 years. This corresponds to a 26 days' supply compared with one of 95 days in the early 1960's.[7] It is estimated that at the present time anything from half a billion to a billion and a half people are suffering from some form of hunger, and of these about 10,000 die of starvation each week in Africa, Asia and Latin America.

Such figures are well beyond our comprehension and tend to leave us numb and unmoved. Even worse perhaps is the plight of the children. At any given time there are approximately 10 million severely malnourished preschool children, with very many more suffering from moderate and mild forms of malnutrition. All told, about 3% of children under five in low-income countries suffer from severe protein-calorie malnutrition, their body weight being lower than 60% of the standard. Another 80 million preschool children are probably suffering from moderate malnutrition (60-75% of the standard) and 130-160 million from mild malnutrition (75-90% of the standard).[8]

The Context of Malnutrition

It is far more accurate to view malnutrition as part of a much larger constellation of deprivation.[9] Malnutrition itself is just one aspect of poverty, and it frequently accompanies other traits of poverty such as high infant mortality and prematurity rates and high levels of mental deficiencies.[10] Its severity appears to be related to differences among some of the following factors: total number of siblings, number of siblings under the age of 2 years, family income, food expenditure per person per month, schooling of mother and father, number of marital separations at the time of birth, and the likelihood of being the product of an unwanted pregnancy.[11] An additional factor is illiteracy, which merely serves to augment the more strictly biological aspects of malnutrition.

In more general terms, malnutrition has a number of dominant contexts. These include and revolve around poverty which itself may be a manifestation of a host of other contexts such as ignorance, adverse climatic conditions, dispossession, urbanization and the economic and commercial structure of the contemporary world.[12] These in turn constitute the interrelationship of perspectives in which population levels, food production and food consumption need to be viewed.

Poverty

But what of poverty which is so essential to any appreciation of the world of the malnourished? Mooneyham[13] has made the telling remark: "Poverty is relative but total poverty is absolute, and total poverty is the only term that adequately describes masses of people in the Fourth World". Unbelievably, this fourth world of absolute poverty applies to some 40% of the people living in the underdeveloped countries.

Poverty is the pivotal point of more than one vicious circle. In the words of Heilbroner:[14]

> It is not just a lack of capital, or just backward ways, or just a population problem or even just a political problem which weighs upon the poorer nations. It is a combination of all these, each aggravating the other. The troubles of underdevelopment feed upon themselves.

Although the impact of poverty is on the deepest aspirations and expectations of people as individual human beings, the easiest way of expressing poverty is in financial terms. While the average per capita income in developed Western nations is of the order of U.S. $2,400 (in North America it is well over U.S. $4,000), it is only U.S. $200 in the underdeveloped world. What is more, this differential is rapidly increasing. These figures tell us something about the inequality of wealth at the international level. This unfortunately is only the beginning of the inequality saga, as inequality is even more devastating at the national level. For instance, in Latin America as a whole 60% of the population have incomes of less than U.S. $50 a year, 40% earn up to U.S. $190, while of the remaining 10%, 9.9% earn over U.S. $500 leaving just 0.1% with incomes in excess of U.S. $27,000.[15] And the inequality in these countries is becoming more marked with the passing of each year.

The plight of many in the underdeveloped countries is appalling. And once poor, there appears little that can be done to break out of any one of the vicious poverty circles. There is growing disparity in the face of growing need, and one of the cogent reasons why this should concern us is that, as Alfred Marshall[16] put it many years ago, "the study of the causes of poverty is the study of the causes of degradation of a large part of mankind." If those words were true in 1890, they are just as true and many times more pressing today.

Poverty dominates the underdeveloped nations, what-

ever its cause; and poverty brings in its wake ill-health. Malnutrition, as we have already seen, is well nigh endemic in some countries. In some areas 30-50% of all children die before reaching their fifth birthday. Poverty also means that doctors are scarce, particularly in rural areas, while overall some countries cannot afford to spend more than 60 or 70 cents a year on the health care of each of its people.[17]

Malnutrition therefore, is an integral part of the lives of a majority of human beings today. It is one of the most potent forces in our world, and its presence will be increasingly felt in coming years. Indeed, it may be no exaggeration to suggest that it will prove the major factor in revolutionizing the life styles, social values and political systems of underdeveloped and developed nations in the not-too-distant future.

Definition of Malnutrition

A number of terms are pertinent to any discussion of nutritional deprivation: malnutrition, undernutrition, hunger and starvation.

Malnutrition has the broadest coverage, including as it does undernutrition and, at the other end of the scale, overnutrition and obesity. In general therefore, it is a manifestation of any form of nutrient imbalance. Undernutrition describes the more specific condition of an inadequate intake of food.

Hunger is simply a symptom expressing a craving for food and as such is an essential physiological phenomenon common to all human beings. It must not therefore, be equated with undernutrition, although it is obviously far more of a problem in areas of the world subject to undernutrition.

Starvation is the extreme of undernutrition and leads to a number of well recognized conditions on the road to death. Wasting of muscles, loss of body fat and wrinkling of skin are manifestations of a general deterioration in which the body, in a desperate attempt to find fuel, is burning up its own body fats, muscles and tissues. Inability to resist infection leads to disease, while a shortage of carbohydrates affects the brain and the person's ability to comprehend his plight. Alongside starvation is a whole host of deficiency diseases which are almost endemic in some of the developing countries. The main deficiencies involve proteins, vitamin D, thiamin and niacin, with rickets, beri-beri, pellagra and osteomalacia being the sad end-results.

The most common of the deficits is a lack of proteins and calories, leading to protein calorie malnutrition. Although it is unwise to isolate protein and calorie deficiencies two syndromes are recognized in severe malnutrition. These are *marasmus* and *kwashiorkor*. Marasmus is usually confined to children less than one year of age, the principal deficiency being one of inadequate calories. Kwashiorkor, by contrast, occurs more frequently in the second year of life and principally involves a protein deficiency. In spite of this apparently simple separation of the two conditions, there is considerable clinical overlap between them, marasmus describing a child without oedema and less than 60% of its weight for age and kwashiorkor referring to an oedematous child falling within the 60-80% range of weight for age.[18]

Many cases of malnutrition are undetected in the early stages. This is because they are subclinical, and it has led Brock[19] to propose his iceberg analogy. According to this, the tip of the iceberg represents the minority of obvious cases where malnutrition is readily apparent while the submerged portion corresponds to the majority of cases which are the subclinical ones.

Malnutrition is personal; it affects individuals. The individuals are you and I. They are also those who are hungry, those who are malnourished, and those who are on the verge of starvation.

Even if this analogy is only partially true, its relevance is all too apparent if it does emerge that relatively mild nutritional insults have irreparable consequences for brain and mental development. It also brings into perspective the potential importance of relatively mild malnutrition, as opposed to the dramatic and all too obviously tragic episodes of extreme malnutrition in its guise of starvation. This, in turn, illustrates a phenomenon that is being increasingly widely recognized in the contemporary world: the almost universal presence of malnutrition. The impact of malnutrition is not confined to the Third and Fourth Worlds. While it is, of course, seen in its direst forms in the underdeveloped regions of the world, its influence extends from Harlem to Ethiopia, from the inner areas of our big cities to the parched rural areas of India and Bangladesh.

Some Consequences of Malnutrition

Malnutrition affects people; malnutrition kills. For instance in Brazil, children under five form less than 20% of the population but account for 80% of all deaths. Beyond this, it converts otherwise minor ailments into killers while even more subtly it leads to prolonged illnesses, chronic infections and a variety of forms of permanent handicap with an accompanying irreversible loss of opportunity in life.[20]

The impact of the relationship between infection and malnutrition is to transform what would be incidental infections into chronic disabling diseases. Opportunities are lost, education is wasted and the mediocre product of one generation becomes the non-productive, dependent member of the next.[21] All too rapidly undernutrition assumes transgenerational proportions with the perpetuation of inefficiency, lack of productivity and enhanced impoverishment.[22]

Malnutrition interferes with a child's motivation as well as with his ability to concentrate and to learn. Such a child is apathetic and listless, and lacks the curiosity so essential to normal development. Not surprisingly he is unable to cope adequately with the demands of schooling, mental and physical fatigue as well as frequent bouts of nutrition-related illnesses together contributing to poor performance, limited aspirations and a high drop-out rate.

It is into this arena that discussions concerning the impact of malnutrition on behavior patterns, intelligence and the brain have intruded. While this is a difficult and in many respects a confused area, it is a pertinent one for all who are concerned with analyzing the possible effects of malnutrition on the individual's

capacity to develop optimally as a responsible and responsive person.

The basic data stem from the fact that approximately 80% of the growth of the human brain occurs between the end of the second trimester of pregnancy and the end of the second year of life. This period coincides with the growth spurt of the brain, during which time many brain parameters are undergoing rapid change. Hence any interruption to this growth spurt will, it is argued, affect a number of parameters including the establishment of synaptic connections between the nerve cells, the multiplication of the glia or supporting cells and the formation of myelin which is the insulating material of the nerve cells. From this it follows that, if physical growth processes occur at specified ages throughout development, any insult disrupting this chronological sequence of events during the brain growth spurt may be expected to result in long-term structural and neurological deficits.[23] These ideas are central to the concept of the growth spurt as the vulnerable period of brain development.[24] Comparatively mild nutritional restriction during the period of the brain's growth spurt may lead to permanent deficits of the adult brain, both in its physical configuration and in the resulting behavior patterns of the individual.[25]

This concept of vulnerability has a number of repercussions. In the first place it pinpoints the last trimester of pregnancy and the first two years of postnatal life as a critical time for human development. Second, even a minor insult applied at this time may have major consequences, which may prove to be permanent. The evidence on which this idea of vulnerability is based is derived from all the areas that have been used in malnutrition studies: structural, functional and behavioural fields. These, in turn, have been carried out on a range of experimental animals, while they also draw on observations of underprivileged human groups.

As an example of one of the human studies, consider those carried out by Cravioto and co-workers[26] in Mexico. They found that those school children who had suffered from severe protein-calorie malnutrition before their 30th month of life scored consistently lower in psychological tests compared with equivalent children who had not experienced malnutrition.

In another study Cravioto looked at the effect of early malnutrition on auditory-visual integration by comparing school children of shorter stature with their taller companions of the same age. The shorter children showed poorer intersensory development, a factor more closely connected with malnutrition than with environmental influences.

In animal investigations protein malnutrition inflicted during the growing period of the brain has been found to result in an apparently irreversible deficit in indices such as brain weight, the thickness of the cerebral cortex, the number of brain cells, and the amount of brain lipids and hence the degree of myelination.[27] In addition there is evidence to suggest that the development of some transmitter systems is delayed, while there is a decrease in synaptic connectivity and a retardation in the maturity of the synaptic junctions themselves.[28]

Even if these and related data are accepted as evidence in favour of the concept of brain vulnerability to nutritional deprivation, there is still the possibility that the deficits may not be permanent. It may be possible to subsequently rectify these deficits. Experimental evidence on the extent of possible rehabilitation is sparse and confused, suggesting that while a limited amount of "catch up" may take place, the distinction between retarded brain development and abnormal development is a tenuous one.[29]

Evidence favouring catch-up amongst human groups is, once again, of a conflicting nature. Cravioto and Robles,[30] in a study of twenty children undergoing nutritional rehabilitation after severe protein-calorie malnutrition, concluded that children over 15 months of age at the time of the malnutrition showed improvement over a 6 month period. By contrast, children less than 6 months of age may be permanently affected. Even here however, one must be careful, because the apathy and unresponsiveness of the severely protein malnourished child[31] itself leads to the critical stages of cognition being missed. Other environmental factors of potential significance include the effects of hospitalization and the decreased response of the mother to an unresponsive child.

Chase and Martin,[32] in a study of children suffering from undernutrition during the first 4 months of life and later nutritionally rehabilitated, came to the opposite conclusion. According to their data, these children 3 years later had developmental quotients equal to those of control children.

The overall confusion of these investigations is symptomatic of many others, with their pointers on the one hand to various permanent psychological deficits following early malnutrition and regardless of later efforts at rehabilitation,[33] and on the other to a marked degree of improvement in a number of physical and mental parameters. [34, 35]

What then can we conclude, at present, from these investigations? There can be little doubt that malnutrition is integrally involved with environmental and social factors in depressing the cognitive development of previously malnourished children. Perhaps only academics would be concerned with the relative contributions to this appalling state of affairs of malnutrition as distinct from environmental factors. Most academic commentators however, are forced to conclude—albeit tentatively—that malnutrition probably does play a role apart from factors related to social status.[36, 37] It must never be forgotten though, that almost invariably malnourished infants are exposed to poor housing, low levels of educational achievement, high infection rates and all sorts of taboos.

An interesting, if unproven, idea having a bearing on the interrelationship of malnutrition and general social deprivation is that of Dobbing.[38] According to him, permanent intellectual deficit occurs only in malnourished children where the non-nutritional environment is also poor. This has some support from animal investigations[39] and, whatever its validity, reiterates once again the overall interdependence of the components of human growth. Each is important and probably contributes to the optimal functioning of the others.[40]

The Inequality of Malnutrition

One thing is self-evident: we are no longer living in one world. We are living in at least two worlds, the worlds of the rich and the poor, the haves and the have nots. The world of need and the world of plenty. The hungry and the full.[41] And there is no doubt to which

one *we* belong.

Just consider a few comparisons. In England and Wales there is one doctor for 900 people; by contrast, the ratio in rural Kenya is 1 for 50,000. In rural Senegal in 1960 the death-rate of children aged 2-5 years was 40 times higher than in France. A teenager in Tanzania has about 1% of the educational opportunities of a teenager in North America. The G.N.P. per person in Malawi is approximately one-fiftieth that found in Sweden.[42] And so one could extend the list. The end result of these and similar statistics is best summed up perhaps in the life expectancy in different countries, varying as it does between more than 70 years in most rich countries to as little as 25 years in some poor countries.

This is the epitome of inequality, and this is the foundation on which the inequality of malnutrition has been built. This in turn has devastating effects upon life styles and aspirations, and indeed is central to determining what we are as human beings.

In the 1970's we in the Western world are repeatedly confronted by problems that are the making of our technological expertise. We have been given immense control over our lives and destinies as biological and spiritual beings. We are in the midst of a revolution that has its origin in what man is and in what he is going to be. It is a revolution with profound repercussions for each one of us, as it may well force us to revise our ideas of man and of his role and status on this planet.[43]

Part and parcel of this revolution are the many techniques implicit in genetic engineering, psychosurgery, drug induced control of moods, family planning and contraception. In other words, techniques aimed at controlling not only the quantity of life, but more significant perhaps its quality as well. We are in the realm of what Joseph Fletcher [44] refers to as quality control. While he uses this term with regard to genetic engineering, we need to remind ourselves that we in the Western world have been governed by this concern for many years under the aegis of our medical care, obstetric services, public health programmes and many other medical and paramedical services. We have been free to concentrate on quality, and have done so with spectacular success.

Our success in this direction has actually modified our view of the nature of man; it has certainly led us to stress the value of health over against ill-health and it has dramatically altered our expectations of what constitutes normal human experience. So radical has been this revolution that we must now very seriously ask the question whether we are not in danger of equating biological excellence with human fulfilment.[45]

This however, is a question which has meaning only for modern, scientific man. It is only he who is able to ask such questions, because it is only he who has experienced the transforming power of technological expertise. Modern, scientific man is rich; he has the means and the leisure to indulge in scientific experimentation and the development of scientific ideas. He has the financial resources to bring concepts to fruition and then apply them to his own life as a human being.

Man is an enquiring animal; he is creative and inventive, and his ever-increasing technological prowess has brought the environment within the realm of his creative talents.[46] This is true to any significant degree however, only where man is rich and where he has the leisure and the opportunities to develop these abilities.

One thing is self-evident: we are no longer living in one world. We are living in at least two worlds, the worlds of the rich and the poor, the haves and the have nots.

Poor man is not just poor; he is impoverished as a human being, and in this sense poverty can be defined as that condition which restricts the development of man's creativity and resourcefulness. Here again then, we meet the two worlds—the poor world with its cultural impoverishment and the rich world with its opportunities for cultural enrichment and control of the environment. These worlds are made up of different kinds of human beings, differences which are man-made rather than God ordained.

Mooneyham[47] asked a 7 year old boy in the Sahel what he wished for more than anything in the world. His answer was striking and stunning: "For today, I would like a meal, and for the future, an education". Alas, there are many in the poor world for whom such simple aspirations are mere fantasies.

Colin Morris[48] made the pungent observation that "only the well-fed play at Church. The rest are too busy raking dustbins and garbage heaps for a morsel to feed their children." In similar vein, we may say that only the well-fed play at science and quality control and the ethical dilemmas that are currently emerging because of these frontiers. This is not to decry quality control any more than Morris was decrying the church in its essence. Nevertheless, it does highlight the inequality of the rich and the poor, the well-fed and the malnourished.

Our two worlds are worlds of unequal human beings; those with hope as human beings and those with little or no hope. Those capable of living life to the full, and those whose horizons are limited by the need to acquire food and stave off the next death in the family. To the one world, quality control is a reality; to the other, it is a mocking charade.

Well-nourished Christians in a Malnourished World

It is tragically easy to approach the world food crisis in an unduly objective and observer-like fashion. With little difficulty, we illustrate the reality of our two worlds—we, the rich, sitting in gastronomic splendour as we describe in minute detail the impoverishment and squalor of the other world out there, the poor world. The ease with which we do this is not diminished simply because we are Christians. Indeed, there is some evidence to suggest that theologically conservative Christians may be more inclined to act in this manner, upholding the *status quo*, than those with a more liberal theological position or with no specific Christian presuppositions at all.[49] While this position has been energetically challenged and substantially modified by others,[50] the *status quo* has a peculiar attraction for Christians in the rich world.

Moberg,[51] in writing of the relationship of Christians

to social issues in their widest perspective, has this to say:

> In regard to most social issues of this century, evangelicals are known for their negative positions. . . . They have worked for changed lives of individuals but not for changes in society . . . they have described social conditions as going from bad to worse without recognizing that their own lack of social action to correct the structural evils of society . . . were major factors contributing to the deterioration of social conditions.

Their ready acceptance of the social *status quo* and their inability to understand the relationship between evangelism and social action[52] have been two major contributing factors to the supposed "neutrality" of Christians on social issues.

As a consequence of this trend, an increasing number of forthright criticisms are being made of the Church at large, criticisms that are desperately relevant for evangelicals. Mooneyham,[53] writing from an evangelical standpoint, is forced to exclaim:

> The church which bears the name of the Man who lived for others is more and more living for itself. In 1971-72, sixty-three church denominations in the United States and Canada reported contributions in excess of $4.5 billion. About $1 billion of that was spent on new church buidings. . . . There is no way to know how little of that went into programs that would relieve the sufferings of humanity. . . . There is something unbelievably immoral about Christians who still demand to be convinced of the biblical mandate for . . . active involvement in the world hunger crisis.

Morris,[54] in his fervent polemic *Include Me Out!*, states quite emphatically that: "we are a rich Church in a hungry world". "But", he argues, "you cannot have a rich Church in a hungry world. And wealth in this context is a single penny more than it costs us to keep body and soul alive".

Bonhoeffer[55] expresses similar sentiments in more directly theological language; "To allow the hungry man to remain hungry would be blasphemy against God and one's neighbour. . . It is for the love of Christ, which belongs as much to the hungry man as to myself, that I share my dwelling with the homeless."

A church satisfied with the *status quo* of riches implicitly denies the radicalness of Jesus Christ. It denies his concern for the poor and the outcasts, for the dispossessed and the downtrodden, in both spiritual and material realms. A complacent church in a rich world cannot be sufficiently concerned for the poor and the needy. At the basis of so much New Testament teaching is the call to love others, to put others first, to bear the burdens of others, to live for others and to give ourselves for them. But what do these injunctions imply for a rich church and rich Christians in a world of poverty and destitution?

Why Should Christians be Concerned for the Malnourished?

This question is one facet of a much broader one: Why should Christians be concerned for the social welfare of others?

An adequate answer to this question would take us into the relationship between social concern and evangelism, and thus into the tension often felt between the great commission on the one hand and the great commandment on the other. Such an examination is outside the scope of the present paper and has been forcefully tackled in recent years by Carl F. H. Henry,[56] David O. Moberg,[57] Sherwood Eliot Wirt,[58] John R. W. Stott[59] and Klaus Runia[60] among others.

The Lausanne Covenant[61] expresses the Christian's social responsibility in these terms:

> We affirm that God is both the Creator and the Judge of all men. We therefore should share his concern for justice and reconciliation throughout human society and for the liberation of men from every kind of oppression. Because mankind is made in the image of God, every person . . . has an intrinsic dignity because of which he should be respected and served, not exploited. . . . We affirm that evangelism and socio-political involvement are both part of our Christian duty. For both are necessary expressions of our doctrines of God and man, our love for our neighbor and our obedience to Jesus Christ.

What is evident in this statement is that the Christian's responsibility for the social well-being of his fellow man stems from the relationship of God to those he has created, and from the nature of man as a being-created-in-the-image-of-God. All men are of equal worth in the sight of God, all men have an intrinsic dignity because of who they are and therefore, those who are Christians are to view them in the same way as God views them.

We can go further than this, however, and state that God is concerned with justice and compassion in human society, a concern so eloquently and movingly brought out by Amos[62] when he stresses the importance of human rights, freedom, obligations, compassion and the integrity of the individual. And insofar as God emphasizes these traits, we are to follow and emphasize them also.

Man's relationship to God in creation implies, therefore, that each man has a responsibility to his neighbour. In other words, intrapersonal relationships are important; man lives in community and the manner in which he lives out these relationships is important in the sight of God. This, in turn, points to the importance of relationships between groups of individuals, a point which is amply illustrated in the Old Testament[63] by the repeated denunciations of the perversion of legal structures to the detriment of underprivileged groups in the community.[64]

None of this, of course, in any way belittles the importance of evangelism. It simply stresses the wholeness of man. As John Stott[65] so eloquently phrases it: "God created man, who is my neighbour, a body-soul-in-community." He continues, "if we love our neighbour as God made him, we must inevitably be concerned for his total welfare, the good of his soul, his body and his community." And the reason why we should be concerned for the social welfare of others is quite simply compassion, the compassion of Christ himself.

As Christians, we are to respect others as people and are never to use them as things.[66] Put in biblical language, we are to love our neighbours;[67] and everyone else—friends, enemies, those close to us, those unknown to us—are our neighbours.[68] We have therefore, a social responsibility for other people and a responsibility for the whole person.

Applying these principles to malnourished people is

all too obvious. They are our responsibility, because not only are they our neighbours but they are underprivileged. We are, therefore, doubly responsible for them. If we are still unconvinced about this, we should remind ourselves of God's concern for the hungry. For instance, in Isaiah 58:6-10 we read:

> Is not this what I require of you as a fast. . . . Is it not sharing your food with the hungry, taking the homeless poor into your house . . .? If you feed the hungry from your own plenty and satisfy the needs of the wretched, then your light will rise like dawn out of darkness . . .

Then again, in Psalm 146:7 we are reminded that "The Lord feeds the hungry and sets the prisoner free." Moreover, in Proverbs 25:21 we are exhorted to give bread to our enemy when he is hungry and water when he is thirsty, while in Ezekiel 18:7 one of the marks of the righteous man is that he gives bread to the hungry. In the New Testament, quite apart from the many injunctions relating to the poor, the needy and the hungry, Mary[69] in extolling the wonderful works of God exclaims: "the hungry he has satisfied with good things, and the rich (he has) sent away empty."

It is little wonder that today there are some to whom hunger is an obscenity. For Larry Ward[70] hunger is "an ugly, six-letter obscenity". For Colin Morris[71] "obscenity is the deadly ease with which I and all ecclesiastical word-mongers can write of hungry little men when our hands ought to tremble and refuse to do our bidding". Perhaps this is an emotional response; it may however, be a prophetic one and one also in tune with many of the biblical writers.

Rationale for Action

Christians should be concerned for the plight of the malnourished. Given this basic premise, what follows? Where do we go from here? What specific principles do we need to help us put into practice these very general principles?

(a) *The love principle*

Concern for the malnourished must start from the great commandment. We are to love our neighbours as ourselves. Jesus linked this obligation with our duty to love God will all our heart, soul, mind and strength.[72] Love therefore, is the essence of the moral law.[73] What is more, Christ taught that we are always to treat others as we would like them to treat us.[74]

In no sense was this a departure from Old Testament teaching, as we read in Leviticus 19:18: "You shall not seek revenge, or cherish anger towards your kinsfolk; you shall love your neighbour as a man like yourself." It was this that served as the starting point for Christ's own position. Note at this juncture that our neighbour is a human being, a created man, a being in the image of God, in exactly the same way as we are beings in God's image. There is no distinction between us in God's sight; the malnourished and the well nourished are on equal footing as beings of concern to God.

But what of our reaction as individuals to the malnourished and the underprivileged? It is all too easy to look upon our own social group with favour and other groups with disdain. Christ however, allows for no such distinction. Love of those to whom we are naturally drawn, that is, our neighbours in the narrow, parochial sense, and hatred of our enemies, has no place in the ministry of Jesus.[75] According to him, we are to "love our enemies, do good to those who hate us, bless those who curse us, pray for those who treat us spitefully. . . We are to treat others as we would like them to treat us."[76]

God is concerned for social justice, and he is concerned that his own people put justice above everything else within society.

There can be no escape from this principle of self-effacing love. And if this is the governing principle in our response to our enemies, the extreme situation at the individual level, this must also be the principle by which Christians respond to groups of individuals with whom they have no natural affinity.

It is hardly surprising that self-giving of this degree is the essence of Christ's standards, as Christ himself gave without expecting any reward. This is precisely the nature of the love demanded of Christians. We are to give of ourselves for the malnourished; we are to give so that we lose and they gain, thereby restoring the balance of opportunity that should exist between human beings. This is love as exemplified repeatedly in the life of Christ and as underlined by the leaders of the early church.

To John it was axiomatic that the Christian exemplified the love of Christ in his relations with those around him. And so, if a man has enough to live on he must, because he is a follower of Christ, help his brother who is in need. Otherwise, "how can it be said that the divine love dwells in him?" After all, John continues, "love must not be a matter of words or talk; it must be genuine and show itself in action."[77]

To ignore the plight of needy fellow human beings is to withhold from them the love of God. It is to refuse to do good, and in Christian terms this is sin.[78] This responsibility of love is a fundamental requirement of Christian service even when the emphasis is placed on the alleviation of material need. It is equally applicable to the need for evangelism, but this is not a more pressing cause when there is genuine material need. Love should compel us as Christians to feed the malnourished and so restore them to their full dignity as human beings.

Love, as we have seen, is inseparably linked to action and hence is the only satisfactory starting-point for an approach to the malnourished of the world. Mooneyham[79] has expressed a similar thought with regard to caring. He writes:

> Caring is the crux of the matter. Knowledge will not produce change. It won't make any difference for you to know that ten thousand people die every day from starvation and diseases related to malnourishment unless you care . . . action is born out of caring.

(b) *The 'our neighbour' concept*

In his letter[80] James rebukes those who would pay especial attention to a rich man attending their church but scant attention to a poor man. Such discrepancy,

argues James, demonstrates their own inconsistencies and the falseness of the standards by which they regard the rich and the poor. It is an insult to the poor man, and it flies in the face of the realities of their society, as it is the poor who are rich in faith and the rich who are the oppressors.

Beyond these inconsistencies however, lies the basic one. By elevating the rich at the expense of the poor, these people were abrogating what James calls the sovereign law of God: "love your neighbour as yourself." Their snobbery was just the opposite of this; it was a transgression of God's law, because it was showing partiality by valuing a person according to his possessions and not according to his intrinsic worth as a human being.

This illustration brings into focus the importance of our attitudes towards the rich and the poor, the well nourished and the malnourished. Our attitudes quite simply demonstrate the degree to which we are conforming to the "our neighbour" concept. It is far too easy to respect the successful business man or the influential academic and yet ignore the starving peasant or the underfed ghetto mother. Here, just as elsewhere, however, the standard set by Christ starts with attitudes and motives; it is never content with superficial conformity to accepted social mores.[81] It is far too radical to equate our neighbour with those who are the rich and respectable in the eyes of society.

Whatever our attitudes to the poor may be, they will manifest themselves in actions. This is the burden of so much of the letter of James and also of the first letter of John, and it is equally the burden of Our Lord's parable of the good Samaritan.[82] "Who is my neighbour?", asked a lawyer, to which Christ replied by way of this parable "anyone you see who is in need." In this, Christ made explicit what was implicit in all his teaching on the "our neighbour" concept. Our neighbour is anyone anywhere, everyone everywhere; the only criterion is his need of help. There are no geographical, religious or racial boundaries.

It is also instructive to note that Jesus did not answer the question "*Who* is my neighbour?" By contrast, he implied that a more appropriate question would have been "Do *I behave* as a neighbour?" As Marshall[83] has commented: "Jesus does not supply information as to whom one should help, for failure to keep the commandment does not spring from lack of information but from lack of love." Perhaps this is a relevant comment for the Christian Church confronted as it is by deprivation on an unprecedented scale. Georg Borgstrom,[84] author of the book *The Hungry Planet,* came to a similar conclusion when he wrote; "In order to bring health and restore vitality to the whole human species, *nothing less* is required than a global will to act . . ."

The "our neighbour" concept brings us back to the importance of the welfare of all people everywhere and of their *total* welfare. Paul[85] reminded the Christian congregations at Galatia that, as opportunity offered, they were to work for the good of all, a sentiment echoed by Columbus Salley and Ronald Behm[86] in their book on Christianity and race in America. They write:

> Christians should therefore be taught to *do* those actions which promote the good of all men. . . . The example of Christ means that Christians must be involved in ministering to the whole man. It is totally inconceivable for a Christian to say that he loves men if he does not attack those forces which destroy men themselves.

Our neighbours are being destroyed daily by lack of adequate nutrition. The destruction may be total; it may be partial, ennervating and demoralizing. No matter what the *extent* of its severity, it remains and will continue a *reality*. The overall welfare of our neighbours is at stake each day, but does the Church (do we) behave as a neighbour?

(c) *The demand for justice and righteousness*

Writing about social needs in general, Paul Schrotenboer[87] has written: "The gospel will dispense healing only when the harmonious biblical norms of love and righteousness are built into . . . societal structures. . . . Christ works through his people in bringing balm to festering societal structures." Justice and righteousness are foundational, therefore, for the health of society and must constitute the goals to which Christians aspire in their work within society.

Time and again throughout the Old Testament we are brought face to face with the lack of justice within society, and God's forthright condemnation of this state of affairs. In Amos' time, for instance, the injustice within Israelite society was an essential ingredient of the people's rebellion against God. Bribery, inequitable real estate deals, oppression, dishonesty, crime and violence were all characteristics of that society.[88] Evil and injustice were so deeply rooted in the society and were so characteristic of the actions of the people, that nothing less than a moral reformation of the whole society was required. "Seek good and not evil, that you may live . . . hate evil and love good; enthrone justice in the courts" was Amos' plea to them.

In commenting on this Motyer [89] writes:

> Can God do other than stand aloof from people who claim to know His name but refuse to imitate in life the very things the name stands for—human and humanitarian concern, good social order, even-handed justice, the dignity and well-being of men and women?

Our treatment of our fellow human beings in society is vital, because they are human beings like ourselves. The Israelites among whom Amos was living were very religious, even if their religion was far from pure, and yet it made little difference to their social attitudes. And it is significant, I think, that their social misdemeanors were the first reason quoted by Amos for God's condemnation of them.[90]

God is concerned for social justice, and he is concerned that his own people put justice above everything else within society. The Israelites, by turning justice upside down, brought righteousness to the ground.[91] The two are inseparably linked, demonstrating the interrelatedness of social and religious ideals.

Much earlier in the history of the Jews the concept of social justice was unequivocally written into their way of life. In Leviticus,[92] among the rules about conduct, they were instructed thus: "You shall not pervert justice, either by favouring the poor or by subservience to the great. You shall judge your fellow-countryman with strict justice." Interestingly this was closely linked to the "our neighbour" concept. A man must be treated

as a man and this entails scrupulous justice.

It may seem as though I have strayed some distance from the theme of malnutrition. Justice however, is not an abstract concept to be viewed idealistically. It is a basic ingredient of equitable societies and of an equitable world; if societies are not equitable, justice is at a premium because lack of justice is closely associated with greed.

This association surfaces repeatedly in the Old Testament. In Jeremiah,[92] for example, we read:

> Think of your father: he ate and drank, dealt justly and fairly, all went well with him. He dispensed justice to the lowly and poor; did not this show he knew me? says the Lord. But you have no eyes, no thought for anything but gain.

The gain referred to here is "greedy wrongdoing." It is unjust gain, as is brought out in other passages.[93] John Taylor,[94] in discussing this greed, expresses the idea that at the heart of it is "a narrow-minded obsession with one's personal desire and ambition." Where such exists, there can be no justice, no righteousness and no social stability.

Social justice is not therefore, a matter of legal ordinances, although it inevitably involves these. It is just as much a matter of personal life-style. Where individuals at large live self-indulgent, greedy, unjust lives, there will be other individuals who will lose out and will be unjustly treated. Where injustice serves the greed of some individuals, it leads to the deprivation of others. Where injustice leads to excessive overdevelopment of some nations, it leads to the gross underdevelopment of others. Injustice is central to the well-nourished–malnourished paradigm, and at the heart of injustice is the excessive covetousness of individuals.

Injustice should be anathema to Christians, not only because of the human suffering that follows in its wake, but also because Christ came to demonstrate the reality and nature of justice. This is the evocative picture painted by Jeremiah[95] with these words: "The days are now coming, says the Lord when I will make a righteous Branch spring from David's line, a king who shall rule wisely, maintaining law and justice in the land." And this is, to use Jeremiah's phrase, "the Lord is our Righteousness."

The "our neighbour" concept demands standards of justice and righteousness. Nothing less is consonant with the dignity of man and the character of God. And implicit within this framework is the equal worthwhileness of all human beings, and the right of all people to be treated as individuals of value. This, in turn, should lead to the realization that individuals are of greater value than possessions, people are more important than things. And this is where the crunch so often comes.

The Christian, however, must cling to those words from Isaiah so deliberately quoted by Jesus[96] himself: "He has sent me to announce good news to the poor . . . to let the broken victims go free, to proclaim the year of the Lord's favour." Wide as the orbit of this task was, it included the alleviation of socio-political injustices. Carl Henry[97] is insistent on this point,

> The Christian is morally bound to challenge all beliefs and ideologies that trample man's personal dignity as a bearer of the divine image, all forms of political and economic practice that undercut the worth of human beings . . .

Social injustice, and hence malnutrition, are more than legitimate concerns for the Christian. They are integral to his standing as a Christian. They are marks of his Christian character.

(d) *The danger of riches*

The dangers associated with amassing wealth are brought out on many occasions in the New Testament, where riches are seen more often than not as the consequence of greed. We may consider this another aspect of the greed-justice dichotomy stressed by so many of the Old Testament writers.

Jesus,[98] when discussing greed, introduces the idea of "enough", a concept developed in theological and social terms by Taylor[99] in his book *Enough is Enough*. According to Jesus, anything in excess of enough fails to provide satisfaction or depth to life. In all probability it is a symptom of self-destroying greed, in which the individual's own selfish desires are elevated at the expense of an understanding either of God or of the needs of other people.

Each of these possibilities is taken up by Jesus. On the one hand he demonstrates[100] that a love of *things* simply demonstrates that our fundamental concerns are confined to that realm. In other words, materialism is the outward expression of an inward secularism. In Christ's own words: "For where your treasure is, there will your heart be also." The emphasis here is once again on storing up treasure on earth. It is the active attempt to amass possessions and wealth, with the aim of providing for oneself, one's own enjoyment and pleasure and one's own satisfaction. The wealth in these illustrations is misused; rather than serving others by enhancing their well-being, its inward direction destroys its rich owner and ensures its own sterility.

The other consequence of greed brought to the fore by Jesus[101] is this neglect of other people's needs. The rich man in Christ's parable of the rich man and Lazarus is condemned for his total neglect of Lazarus' basic nutritional requirements. Indeed Lazarus is the epitome of the "little man with the shrunken belly" of Colin Morris' saga. He was hungry, he lived with the dogs, and he died in penury. The rich man, meanwhile, ignored him.

The danger of excessive wealth lies here. It is not so much what can be acquired or built with the money; such *things* are neutral. The danger exists in the transformation wrought in the attitudes of the rich. The greed underlying these attitudes leads to neglect of God and neglect of his fellow men. Both results however, are aspects of the same problem–neglect of the world outside the rich individual himself. Concern for the poor, the hungry, the diseased, the deprived, the malnourished has no place in the limited world of the rich individual. They lie outside his self-indulgent frame of reference.

This is the antithesis of the epic promulgated by Jesus. It has nothing to do with the compassion of Jesus, or with the "our neighbour" concept, or with the justice and righteousness so actively put forward by the Old Testament prophets. Perhaps James[102] in his New Testament letter best sums up the fate of the

greedy rich. In sarcastic terms he concludes: "You have lived on earth in wanton luxury, fattening yourselves like cattle—and the day of slaughter has come."

The Christian stance amounts to concern for the poor, the despised and the malnourished. Anything in excess of *enough* is to be available for distribution as appropriate.[103] Those who are rich in material goods are also to be rich in good deeds.[104] They, after all, are the ones who have this privilege. They are the ones able to mobilize financial and personnel resources. It is therefore, their responsibility. And so we find Moberg[105] writing,

> I have concluded after years of reflection upon this subject that the weight of Christians usually should be thrown behind the poor, dispossessed, outcast, strangers, and minorities of society.

Our concern is to be directed towards those unable to protect and fend for themselves, and poverty replete with its undesirable social overtones must feature large in any such concern.[106]

Another biblical justification for this stance is found in Christ's parable of the sheep and the goats,[107] where the righteous are equated with those who have provided food, drink and hospitality for people in need. Moreover, the righteous in acting in these ways directly minister to Christ himself. This reinforces the importance of social concern, although whether or not this parable has the extremely wide application sometimes given to it is a matter for debate. Nevertheless, we can readily say that ministering to human need has a direct bearing on our service of Christ.

(e) *The perspective of Christian responsibility*

It is important that the responsibility that Christians have for the malnourished should be seen in a Christian perspective. This is provided by some words of Jesus himself,[108] words of remarkable aptness for this topic. After dealing with some of man's chief causes of anxiety, such as his daily requirements of food and his need for essential material provisions such as clothes, Jesus reminds his disciples that God is aware of these needs and will provide for them. He then continues with this general principle: "Set your mind on God's kingdom and his justice before everything else, and all the rest will come to you as well."

Eller,[109] in his book *The Simple Life,* argues that this is the "essential premise upon which thought, faith and practice must build if the result is to qualify as the simple life in any *Christian* sense. There is a "first", and there is an "all the rest." He goes on to argue that a person is living the simple life when his ultimate loyalty is directed solely to God, with every other concern following on and flowing out from this central loyalty.[110] Hence, concern for food, clothing, pleasures, satisfactions—whatever "all the rest" may encompass—are good only "if they are used to support man's relationship to God rather than compete with it."[111]

This gives us some clues about the perspectives for the rich, well nourished Christian, who has the freedom to consider and make such choices. What help does it give to the poor, malnourished Christian, who cannot choose but can ask only whether there actually is life *before* death?[112]

The poor Christian can be assured of his essential food and clothing requirements, only insofar as the rich Christian shares with him his riches. It is precisely at this point that Mooneyham,[113] finds what he terms a "food ethic" in the Bible. According to him this food ethic is encompassed by the "all the rest." Rich Christians should realize that a fundamental obligation placed upon them, in their brother's keeper role, is to give of their resources in compassion and in respect for the dignity and worth of man.

Christians everywhere pray the Lord's prayer: "Give *us* today *our* daily bread."[114] This is a communal prayer by God's people world-wide. It is a recognition by Christians of their oneness in Christ and of their mutual obligations to serve each other. No Christian can be satisfied with his supply of food, while a brother in Christ lacks food. Indeed, on a broader front, no Christian can be content as long as anyone, anywhere lacks food.

Both poor and rich Christians are confronted by the same principle of primary dependence upon God, with the expectation that the essential requirements of life will be forthcoming. The poor Christian may well find himself thrust upon the former, with all too little knowledge of the latter. The rich Christian, by contrast, living in a world of super-abundance may find it all too difficult to appreciate that dependence upon God for his material needs is a reality.

The relationship therefore, between our dependence upon God and the provision of our material requirements is an intimate one, and this relationship holds for all Christians wherever they are placed on the wealth-nutrition scale. The nature of our response to this relationship will depend on our position on the scale, the criteria for action being our acknowledgement of the primacy of God in our lives and our desire in the light of this that our resources be used to serve both him and others.

Realization of his dependence upon God should lead the rich Christian not only to gratitude for the food and clothes he enjoys, but also to a way of life satisfied with "enough". This is the beginning of Christian social concern, a beginning that enables the well nourished to take seriously and respond enthusiastically to the world of malnourished individuals.

Actions Required by the Well-Nourished

In this paper my emphasis has been on the principles underlying the response of Christians to the malnourished world, emphasizing that it is individual people who are suffering and not simply anonymous societies. My stress therefore, has been on the *attitudes* essential to a Christian response, rather than on the particular programmes rich governments should adopt towards the underdeveloped nations. We are individuals who have to make our own response to the deprivation of our world. Individual initiative must come first; individuals must be motivated by the plight of other individuals, because it is only in this way that meaningful cooperative action will emerge.

As I turn to look more specifically at *actions*, my emphasis will still be on the responsibilities of individuals. Furthermore, it will soon become obvious that the actions urged on Christians by the biblical writers are implicit in the principles previously outlined. There is no rigid distinction between our attitudes and ac-

tions; the latter are merely the external aspect of the former.

Before I turn to the specific areas themselves however, one general point should be mentioned. This concerns the readiness with which Christians conform to the political *status quo* of the society of which they form a part. Moberg,[115] in discussing the American situation, comments:

> Americans selfishly assume that whatever is best for their own subculture, their own occupational group, their own neighbourhood, city, state, or county, will obviously be best for the entire nation—indeed, for the entire world.

This is not the place to enter either into the reasons behind this assertion or into their general validity. Suffice it to say, that this description of Americans and of American Christians could be applied to many other groups of Western Christians.

Working outwards from this assertion, Moberg[116] proceeds to elaborate a concept of *collective* or *social sin*. In his own words:

> (Many Christians) are conformed to their culture and this world age, participating in its unrighteousness, condoning its social evils, and cooperating in its collective sin. . . . Such sins may be individual acts, or they may be acts indulged in by . . . a nation, or even a church.

This condition Moberg terms "fractional conversion."

What this means in practice is that Christians who, as individuals in their normal environments, may be loving, honest and kind people, may at the same time be implicated in evil through their roles as citizens or employees. More than this however, they appear to see no evil in the actions of their nation or employer and hence are willing participants in the evil. This is a major issue demanding rigorous debate and discussion. Nevertheless, Moberg's examples of social sin, including slavery, child labour, maltreatment of the mentally retarded, and exploitation of the poor and racial inequalities, have much to say about the nature of Western societies and raise poignant questions for Christians.

Another example of social sin is the scant attention paid by the rich nations to the poor nations. This may well be a conglomeration of social sins, of which our lack of concern for the malnourished of the world is just one component. Illustrations of these social sins are many, including the way in which so much aid is "tied" and the feeble attempts made by most rich countries to give even 0.7% of their gross national products annually as overseas grants and concessional loans to developing countries.[117]

The question confronting us as individuals is whether we readily concur with such official attitudes or whether we believe a radical reversal of policies is desirable, given the political implications of such radical action. Are our attitudes—personal and political—radical in this area, or are we content to be a part of the prevalent social evils of our societies?

(a) *Spurn excess*

This is the corollary of the principle of "enough." Taylor,[118] in working out a theology of enough, finds repeated instances of it in the Old Testament. In particular, he looks to the laws of gleaning,[119] limited cropping[120] and tithing,[121] each in its different way being a device for setting limits to selfish excess. The goal of these laws was the establishment of what Taylor calls an *equipoise* society, one characterized by right relationships and in which there was a balance between interdependence and responsibility. For the individual there was moderation, a readiness to fit his needs to the needs of others.

Realization of his dependence upon God should lead the rich Christian not only to gratitude for the food and clothes he enjoys, but also to a way of life satisfied with "enough."

Implicit in this idea is the rejection of individualism and stark independence. So too is there a rejection of striving for excess, excess in one's own life at the expense of sufficient in another person's. The needs of a balanced community are brought into focus, a community in which each person receives and is satisfied with enough.

The imbalance of our world stands out in sharp relief against this picture of harmony and equality. The rich nations are overdeveloped; they are immersed in excess. The poor nations, by contrast, are just sufficiently developed or alarmingly underdeveloped; their resources are insufficient to meet the demands of a healthy, vigorous community.

The situation looks so hopeless that despair is frequently the order of the day. The principle of spurning excess is not however, a call either to pessimism or reluctant poverty. It is a matter of willingly sharing our abundance. This is brought out in relation to tithing, and is repeatedly met in the New Testament both in the teaching of Jesus[122] and in Paul's letters. For instance, Paul[123] on one occasion synthesized excess and equality with these words:

> There is no question of relieving others at the cost of hardship to yourselves; it is a question of equality. At the moment your surplus meets their need, but one day your need may be met from their surplus. The aim is equality.

Here is the balance we need today. It is however, a balance that can be achieved only by the ready distribution of excess. Sharing is the indispensable fulcrum of a balanced society.

(b) *Share riches*

Of the many reasons that could be elicited for sharing the resources we have, perhaps the foundational one for the Christian, stems from the fact that everything created by God is good and is not to be rejected when used within a God-structured frame of reference.[124] Riches fall within this framework when viewed positively. Paul's advice [125] to the rich is therefore: "Tell them to do good and to grow rich in noble actions, to be ready to give away and to share, and so acquire a treasure which will form a good foundation for the future."

Sharing is repeatedly recognized as the prerequisite for a life of value, simply because the one who shares

recognizes his dependence upon God, his creator, the worthwhileness of other human beings and his intimate relationship to them. Excess, on the other hand, emphasizes the converse—one's own autonomy in a closed universe, the lesser value of other human beings and one's independence of them.

Sharing of one's abundance is as much a religious necessity as a social or economic one. The task of justifying it in a malnourished world is a double one for Christians—the necessity of sharing at a national level and its possibility at an individual level through the example of their own lives. It was Jesus himself[126] who advocated that the man with two shirts must share with him who has no shirt. In exactly the same way, a person with excess food must share his excess with the person who is hungry. What greater justification could a Christian want than that?

(c) *Support the needy*

This pinpoints those who are to be recipients of the sharing of the rich. For those in the early church the needy in their midst were orphans and widows,[127] and considerable emphasis was placed on their support. In spite of this, help was not indiscriminate, care being taken to ascertain that there were no family sources of support and that the support was not likely to result in idleness and irresponsibility.

Material support was however, indispensable in certain instances and indeed was evidence of genuine Christianity. So it is today, although the needy from a Western standpoint may be largely outside Western churches and may also be largely outside the rich developed nations. The principle of support still holds; its application however, has to take different forms.

A Radical Response to a Revolutionary Situation

Were the Church of Jesus Christ to adopt the teachings of Christ and the teachings of the Scriptures relating to social justice, it would be far more radical than any extant political organization. While I have purposely confined myself in this paper to the level of individuals, even individual action along the lines I have suggested would have far-reaching social repercussions.

In the end the plight of the malnourished can be alleviated on a massive scale only by a major redistribution of power and wealth, between nations and also within nations.[128] Whether this is feasible politically and economically, or whether it is the pipe-dream of idealists is a question beyond my competence to answer. Neither am I in a position to judge whether such a redistribution of resources will be brought about by violent means. Suffice it to say that this is a possibility which should not be lightly dismissed.

That such questions are even being discussed highlights the gravity of the malnutrition issue, and it is essential for all of us to ask just where we begin. What should have emerged from this paper is that "the people of God have a radical and unique contribution to make toward the restructuring of the old systems and the creation of new ones."[129] This follows from the Christian view of man as a creation of God's and as a person imaged after God's likeness. This is the basis of respect and concern for all men everywhere, regardless of their beliefs, colour, social status or aspirations. This is God's world and all people are God's people. Such is the dynamic of the Christian ethic, and yet unfortunately it is far easier to conform to the sub-Christian social ethic of the societies of which we form a part than launch out with a radical, truly Christian social ethic. In spite of this, the potential is there and the challenge of the malnourished world is an ever-present reality for the church today—in the rich and the poor nations alike.

A revolutionary situation demands a radical response. Such appears to have been provided in a few countries. Of all the preindustrial nations, three have eliminated malnutrition—North Vietnam, Cuba and the Peoples' Republic of China.[130] In these instances, revolutionary measures have achieved marked gains in this area. Whether these gains outweigh losses in other areas of life, such as the loss of personal freedom, is an issue worth pondering.

If Jesus was the revolutionary he is frequently said to be, Christians should be in the vanguard of social change working for the sort of social equality which will lead to the diminution of malnutrition. If malnutrition is a man-made disorder, such a goal is feasible.

Christians however, must never forget that Jesus was principally neither a social reformer nor a political activist. While his teaching led to radical social changes, his message also warned of apocalyptic judgment on the world in the wake of man's rebellion against God.[131] Man therefore, is not only in need of social healing; he also needs the forgiveness of God and newness of life in Jesus Christ. Hence Christians have the task of presenting Christ as Saviour, as well as *being* salt and light in the present world, thereby bringing hope to society. This is the two-fold, radical element of Christianity, and both aspects are required if the malnourished are to be helped back to wholeness of life.

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The Coming Revolution in Health Care

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We are in the midst of a revolution in the assumptions, goals, and methods of health care. Assumptions seriously being questioned include: (1) that scientific medicine is largely responsible for our current level of health, (2) that scientific medicine will markedly extend our life expectancy beyond current levels, (3) that the biomedical model is a satisfactory guide to medical practice and research, (4) and that most health care is provided by professionals. There is increasing concern that the current approach to health care is causing physical, social, and cultural harm and that the current directions cannot continue for cost reasons alone.

The Scriptures inform our current dilemma by emphasizing (1) that health is the result of a way of life and not a product that can be purchased from healers, (2) that we must be as concerned with improving the quality of life as with extending its length, and (3) that health care is best when provided in the context of the family and immediate community.

In 1962 Thomas Kuhn published his now famous book, *The Structure of Scientific Revolutions*, in which he debated the logical positivist idea that science progresses gradually from one stage to the next strictly on the basis of reason.[1] Kuhn argued that science progresses from one stage to another through intellectually and emotionally turbulent periods of conceptual revolution, and these revolutions are followed by extended eras of relative quiet, during which the scientific field seeks to reexamine its subject matter from the new perspectives and assumptions acquired during the revolution. Kuhn called the new synthesis a "paradigm." One quiet period continues until the assumptions and methods of the reigning paradigm prove insufficient to answer the new questions that appear. Thus, according to Kuhn, the progress of a science is more like climbing uneven stairs than riding up a smooth ramp.

It is my thesis that we are now entering a period of conceptual revolution in the area of health care which bears similarity to those described by Kuhn. The assumptions and methods of current medical research and care are increasingly being subjected to intense debate, which will lead to a different synthesis or "paradigm," probably within the next decade. However, the current biomedical paradigm's assumptions and methods are deeply entrenched at every level of our society, and the forces fighting for this paradigm are extremely powerful in terms of scientific, economic, and political influence. Moreover, the health care system is now the nation's largest employer, with representatives in almost every community in the country, which means that there is a large constituency available to fight for the status quo.

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The Past and Present Contributions of Medicine

The current medical paradigm is not as sharply delineated as, for example, were the geocentric view of the universe or Newtonian physics. Nevertheless, many of its assumptions may be summarized. First, it assumes that our current level of health is due mainly to our public health/medical care system, which began with the discovery of the germ theory in the late 1800's. It is a popular idea (even among medical professionals) that the control of communicable disease is largely the achievement of medical science (through immunization, antibiotics, etc.) However, historians have increasingly come to understand that medicine as it has been practiced during the past century has had *little* impact in producing the level of health we enjoy today. The sanitary revolution in Europe, particularly in England, was well under way, and its impact in reducing infant mortality, was already being seen before the development of the germ theory. The sanitary revolution came about from the personal convictions of many people, which were partly biblical in origin, that it was better for society's health and morals to live in cleanliness rather than in filth. The germ theory reinforced that movement, of course, and strengthened its theoretical foundations, but it was not its cause. Yet it was the sanitary revolution which, as much as any other thing, has restored society to today's levels of health. The term "restored" is probably correct here, because many of the infectious diseases, including the leading killers, tuberculosis and infant diarrhea, were made the severe problems they became by the processes of urbanization and industrialization. Their resolution over the past century has been primarily a process of learning to live in industrial cities without opening the floodgate to disease.

Tuberculosis, for example, was the leading killer in the industrial West in the mid-1800's, with death rates that sometimes exceeded 500/100,000 per year. The death rates of tuberculosis have been declining steadily since about 1850, and by 1949 it had become only a shadow of its former self. However, medicine had no effective cure (none that could significantly affect the death rate) before 1949, when streptomycin was discovered. Tuberculosis had declined, not because of scientific medicine, but because of a number of related social and technical changes that were largely outside the purview of medicine: improvement in society's (1) nutrition, (2) socioeconomic status, and (3) living and working conditions (especially the reduction of crowding), and (4) the elimination of the spread of tuberculosis through milk by Pasteurization and by the elimination of infected herds, and (5) increased genetic resistance of the population to the disease. Most of the epidemic infectious diseases were also declining rapidly during the late 1800's and early 1900's, before medicine had either immunization (except for smallpox) or antibiotics. Today, few evaluative studies of the effectiveness of modern medicine show striking results, and most of the current screening programs are considered to be of dubious value. The world-renowned bacteriologist from the Rockefeller Foundation, Rene Dubos, has put it this way:

> Clearly, modern medical science has helped to clean up the mess created by urban and industrial civilization. However, by the time laboratory medicine came effectively into the picture the job had been carried far toward completion by the humanitarians and social reformers of the nineteenth century. Their romantic doctrine that nature is holy and healthful was scientifically naive but proved highly effective in dealing with the most important health problems of their age. When the tide is receding from the beach it is easy to have the illusion that one can empty the ocean by removing water with a pail. The tide of infectious and nutritional diseases was rapidly receding when the laboratory scientist moved into action at the end of the past century.[2]

Medicine as it has been practiced during the past century has had little *impact in producing the level of health we enjoy today.*

The past President of the Blue Cross Association, Walter J. McNerney, listed as the first health myth to be debunked the idea that "Most health services make a big difference in the health of a population, thus, with enough money, health can be purchased."[3] Even an apologist for modern biomedical technology, Dr. Lewis Thomas, put it his way:

> In any case, we do not really owe much of today's population problems to the technology of medicine. . . . Modern medical science is a recent arrival, and the world population had already been set on what seems to be its irreversible course by the civilizing technologies of agriculture, engineering, and sanitation,—most especially the latter.[4]

Life Expectancy

A second incorrect assumption of many persons is the promise of medical science for the future. Since our life expectancy *at birth* has increased approximately 30 years over the past century, it is assumed that biomedical technology will continue this progress into the future, so that in another century or so, our life expectancy may be 100 or so. This overlooks the fact that during the same past century, the life expectancy of white males at *retirement age* (65) has increased but 2 to 3 years! Life expectancy at birth has improved greatly due to the reduction of infant mortality, childhood diseases, tuberculosis, etc.; what it means is that most infants can now expect to reach retirement age. What has *not* happened is a major change in the *maximum* length of life, since modern medical science has little capacity to alter significantly the course of the chronic degenerative diseases. Indeed, it is as true now as when Moses wrote the 90th Psalm (approximately 1400 years B.C.) that ". . . the days of our years are threescore years and ten; and if by reason of strength they be fourscore . . ."[5] Again, as Dr. Thomas says:

> If we are not struck down prematurely by one or another of today's diseases, we live a certain length of time and then we die, and I doubt that medicine will ever gain a capacity to do anything much to modify this. I can see no reason for trying and no hope of success anyway. At a certain age, it is in our nature to wear out, to come unhinged and to die, and that is that.[6]

He does add a very salutary emphasis on the quality, rather than the quantity, of life, which is certainly

consistent with the biblical perspective:

> My point here is that I very much doubt that the age at which this happens will be very drastically changed, for most of us, when we have learned more about how to control disease. The main difference will be that many of us will die in relatively good health. . . .[7]

The Bible, as well as the more astute of medical scientists, cautions us not to look to scientific medicine to bring us eternal life.

The Biomedical Model

Another problematic assumption of modern medicine and health care is what many have called the "biomedical model." This model assumes that our lack of health is primarily due to *disease*, that most of our diseases produce anatomic and physiologic changes, and that diseases can be cured if these alterations are restored to their normal state.[8] Disease is seen fundamentally as alterations in body biochemistry, usually in predictable patterns. The task of the scientist and physician are to identify the abnormalities associated with the disease and discover methods of restoring these to "normal", which is seen as being equivalent to a "cure."

The largest institution built in honor of this assumption is the National Institutes of Health, which was started in 1948 and which has guided the direction of American medical research and (hence) medical education and practice since the early 1950's. There have been great achievements in some dimensions of our knowledge of disease, but great problems have also been produced. Medicine has rapidly become more complex and dependent upon expensive diagnostic and therapeutic technology. This has, in turn, forced specialization and other expensive changes. Legal and ethical problems are created faster than they are solved. The human dimension is being lost from the medical care process.[9] Medical education has almost lost sight of the increasingly well documented fact that the origins of most of our diseases lie predominantly in our nutrition, our environment, and our behavior. As Engel has put it:

> . . . in modern Western society biomedicine not only has provided a basis for the scientific study of disease, it has also become our own culturally specific perspective about disease, that is, *our folk model* (italics mine). Indeed, the biochemical model is now the dominant folk model of disease in the Western World.[10]

Engel suggests the new paradigm should be based on a "biopsychosocial model", in which the role of social and psychological factors is adequately emphasized. I would like to add the spiritual dimension to his list, for I believe that we will sooner or later discover that we cannot adequately deal with the subject of health without considering the issue of the meaning and purpose of life, and man's relationship to his Creator. One modern area of interest where this is gradually being appreciated is the field of thanatology.

One of the glaring weaknesses of the biomedical model is its lack of understanding of, or ability to deal with, *health*. There are more than one hundred schools of *disease* in this country, but, to my knowledge, not one school of health. Medical schools notoriously focus most of their effort on teaching about disease, including its diagnosis and treatment. Schools of public health emphasize the origin of disease and the organization of care, rather than how to promote health. But, as the World Health Organization's preamble states: "Health is . . . not merely the absence of disease or infirmity." We must face realistically the fact that we do not have a "health care system. . . ." We have a "disease care system," and very little that its does is done to promote health in a positive sense.

The Definition of Health

One of the difficulties we have in setting national health goals and measuring our progress (or lack of it) is our inability to define health. The WHO statement just quoted defines health as ". . . a state of complete physical, mental, and social well being . . .", which, in addition to being unattainable in this life, is not very helpful. Dubos has clearly pointed to one weakness of the biomedical model:

> . . . health and disease cannot be defined merely in terms of anatomical, physiological, or mental attributes. Their real measure is the ability of the individual to function in a manner acceptable to himself and to the group of which he is a part.[11]

Thus, social functioning, not biochemical state, may be closer to a useful concept of health, and it also may be easier to measure. It is not as widely accepted to date, partly because it also has ambiguities and partly because to agree on such a definition would be to open the flood gates to a reallocation of resources away from what are now considered health activities. Dubos and others have also emphasized that health is not so much freedom from stress (which is unattainable in our sinful world) as it is the ability to adapt to the stresses to which we are subject:

> . . . the states of health or disease are the expressions of the success or failure experienced by the organism in its efforts to respond adaptively to environmental challenges.[12]

Rates of death and illness are clearly insufficient to measure health; at most they measure some of the deviations from it. In the last analysis, one must agree with Duncan Clark that: "As for health . . ., no fully acceptable concept exists".[13] Here is certainly a fruitful field of research for those with a biblical perspective.

Iatrogenesis

In my first contact with our Professor of Surgery, Carl Moyer, he began the lecture with the Latin phrase: *primum non nocere*, which, I understand, can be translated: "first, do no harm." It is a principle that made sense at that time (1958) and makes even more sense today. The first obligation of a physician should be not to harm the patient. If that is so, it would seem reasonable that the first obligation of the health care *system* also should be to do no harm. Yet there is evidence that the medical care system does a great deal of harm to individuals through unnecessary surgery, inappropriate or unnecessary medications, and pointing to pharmacologic or surgical solutions when changes in environment, life style, or human relationships are the only remedies that offer hope for real improvement. Much of the unnecessary surgery that is done comes

from economic pressures in cities where we have more surgeons than are needed, and it is reinforced by the population's tendency to look to surgeons as modern miracle workers. Overmedication may arise from a sense of despair on the physician's part ("I don't know what else to do") or from the need to get on to the next patient (one study showed that physicians often write prescriptions for medication as a ritualistic way of terminating a patient visit, even in the absence of a clear indication for the medication.)

Less studied, but perhaps more important sources of harm from our medical care approach are the social and cultural effects of a strongly institutionalized biomedical model of health and healing. Illich calls these "social and cultural iatrogenesis," and these consist in the social and cultural distortions that occur by strict adherence to the biomedical model of disease.[14] Zola also points to the social dangers inherent in the increasing medicalization of life.[15] We are turning less to religion or law for the final decision to social problems and more to medicine. Therefore, behavior (e.g., murder) which centuries ago might have been dealt with as a problem of sin, and more recently as lawlessness, is now first subjected to a medical test: if the perpetrator was somehow "ill" at the time of the act, he becomes "not guilty by reason of insanity." The point here is not to argue whether this is good or bad, but to emphasize that the final tribunal and the first agent of attempted change, in this, as in countless other areas of life, is coming to be medical authority.

The medicalization of life also increases the *social control* which a small group of persons (health "professionals") exercise over others. Thus we have, as a society, given to the physician the ultimate right to decide who does and does not have the right to large amounts of society's resources. A decision to give someone a heart transplant, or to put someone on renal dialysis, may cost society $50,000 or more. The decision to give one person these resources means that others will not have access to them, because our resources as a society are limited. Second, society has given the physician the power to give to some, and to exclude from others, the right to a socially acceptable form of deviance known as sickness. Talcott Parsons first clearly defined the social contract of Western Society known as the "sick role," in which the society gives certain benefits to the person who is defined by a "competent professional" to be ill, and in turn requires certain behavior from that person. Society *offers:* (1) lack of blame for his/her condition and (2) to excuse him/her from normal role obligations during this period, in return for which society *requires* the individual (1) to want to recover and to seek out competent medical help and (2) to cooperate with those who are prescribing the therapy. Sociologists are increasingly concerned over the power given to the medical profession.

Costs

It is the *costs* of our current direction in medical care, however, which will untimately force major changes in the way we approach health care. The society will no longer tolerate an inflation in the cost of medical care that is twice the national average when we

What has not *happened is a major change in the* maximum *length of life, since modern medical science has little capacity to alter significantly the course of the chronic degenerative diseases.*

are already spending about 9% of the gross national product on medical care. We hear stories such as that General Motors now pays more to Blue Cross and Blue Shield than to U.S. Steel in a given year. That might be all right if we were getting a proportional benefit, but increasingly the population is becoming restless and is questioning whether it is receiving its money's worth. Certainly, the marvels continue for many forms of acute medical problem and accident. But as the population now is mostly living past retirement age, a higher and higher proportion of all care is for chronic problems, where the biomedical approach has the least effect. Dr. Thomas admits that the application of inadequate technology is costly:

> Offhand, I cannot think of any important human disease for which medicine possesses the capacity to prevent or cure outright where the cost of the technology is itself a major problem. The price is never as high as the cost of managing the same diseases during the earlier stages of ineffective technology.[16]

He admits that "halfway technology" is inordinately costly, and the central question is whether biomedical technology will ever be able to become cost-effective technology in the chronic degenerative diseases, or will we become saddled with increasingly costly (but ineffective) halfway technology that also compounds ethical and legal questions? For example, will biomedical technology ever be able to restore a smashed brain—caused by highway carelessness? Or a cirrhotic liver, almost destroyed by alcoholism and malnutrition? Or an emphysematous lung that has been destroyed by decades of smoking and infection? Most, if not all, of the examples of "effective technology" relate either to infectious disease or to acute medical and surgical emergencies. We should not deny the individual contributions of modern medicine in these areas; indeed we should be grateful. What concerns me is that modern medicine, which can be so effective in restoring individuals with certain kinds of problems to productive life, is now becoming so saddled with ineffective technology in other areas that its real contributions are becoming less available to the average peson. It is even less likely that our expensive western medical technology, complete with its folk model of disease, can benefit the developing nations, even though we are exporting it at this time.

A new approach to health and health care is clearly needed. What insights do the Scriptures provide as to what changes should be made in our assumptions, concepts, and approaches?

Prevention as the Way to Health

There are many biblical insights which could be brought to a consideration of health; foremost among them is that health is the result of a way of life and

not the product of nostrums. The broad commands of Scripture portray God's will for His people: "Ye shall be holy, for I the Lord your God am holy." (Lev. 19:2). The holy walk with God emphasized not defiling oneself (Lev. 11:44); this required, among other things, that man distinguish "between holy and unholy, and between unclean and clean." (Lev. 10:10) The Scriptures provided the guidelines for the Israelites to keep a holy walk with God, and obedience had the promise of physical blessings (health) as well as spiritual blessings:

> If you will diligently hearken to the voice of the Lord your God, and will do that which is right in his sight, and will listen to his commandments, and keep all his statutes, I will not put any of the diseases upon you which I brought upon the Egyptians, for I am the Lord who heals you. (Ex. 15:26)

At the pool of Bethesda, Jesus healed the man who had been ill for 38 years and told him "Sin no more so that nothing worse befall you." In Leviticus 18:5, God tells His people through Moses, "Therefore keep my statutes and judgments, which, if a man does, he shall live by means of them." Other Scriptures could be quoted, but the main point is that the biblical view of health is something that was a result of one's entire way of life, *not a commodity that could be purchased from healers.* Health was something that included the idea of wholeness, soundness, safety, and peace. Our world desperately needs to get away from the idea of health as a commodity, a product, and see it as an organic part of one's way of life.

The specific elements that are most clearly related to good health can be identified by means of epidemiology, the science of determining why disease (or health) occur when they do and in whom they do. Fundamental to good health is nutrition.

Nutrition. Malnutrition can be either undernutrition or overnutrition. By and large, undernutrition is the plight of the poor wherever they are in the world, and overnutrition is the companion of the well-to-do. Undernutrition not only robs one of the vigor to be creative and productive; protein undernutrition, in particular, also combines synergistically with the infectious diseases to produce high mortality rates among children, particularly following the period of weaning. Measles is a serious but seldom fatal illness among unimmunized but well nourished children, but it has case-fatality rates as high as 20 to 25% among malnourished children, a death rate hundreds of times as high as among well nourished children.[17] On the other hand, overnutrition, particularly when combined with a sedentary life style, contributes to a variety of degenerative disorders in adults, such as coronary artery disease, strokes, and diabetes. For example, the dietary intake of refined sugar (sucrose) in this country in 1850 was about 40 pounds per person per year; now it is over 100 pounds per person per year.

The Environment. A second foundation of health is a clean environment. This includes cleanliness from the many microbes capable of causing severe disease in man (although it does not imply a sterile existence.) The importance of this was demonstrated during the sanitary revolution. It includes clean water, food, and living environment. More recently we have become more aware of the problem of toxic substances in water, food, and the air, but at present we have only hints as to how this pollution may affect human health.

Behavior. Central to a way of life is one's behavior. Every aspect of our behavior has health implications, although we often do not realize this. Most Americans who smoke are aware of the potential risks that smoking brings for cancer of the bronchus, throat, nose, and mouth. Less well known is that cigarette smoking also increases the risk for heart attacks. Still less well known to those involved is that the Islamic custom of "purdah", by reducing the amount of sunlight acting on ergosterol in the skin (and hence reducing the available vitamin D) leads to osteomalacia in adolescent women. This, in turn, frequently produces deformed pelvises and difficult labor and delivery causing infant and maternal mortality.

In many of the developing nations, women seek to wean the children early and convert to bottle feeding, in order to imitate the wealthy. Because of the lack of refrigeration, the milk is likely to be swarming with bacteria, and due to the low purchasing power of many who do this, the "milk" may be only water colored with a small amount of powdered milk.[17] It is not known how much malnutrition among young children is due to early weaning from the breast to the bottle, but the toll is undoubtedly heavy. Moreover, by shortening the nursing period, women reach peak fecundity sooner following the delivery of a child than they would if they nursed over a longer time, and thus this behavior pattern also contributes to increased worldwide fertility.[18]

One of the commonest types of infectious disease in the West are the venereal diseases. Estimates of the number of new cases of gonorrhea last year go over two million. Syphilis, although not rampant, remains steady at approximately 100,000 per year in the United States. A newly appreciated venereal threat is from herpes viruses, especially HVH II. Antiobiotics have proved *impotent* to eradicate these diseases; control of behavior could!

The above three factors, nutrition, environment, and behavior, are the primary factors influencing the level of health any population enjoys. Medical care is at most the "fine tuning" of our health level; it is these factors that determine the "channel." It is instructive to review the biblical concern for human nutrition, sanitation, and behavior. The concern for proper and pure food is seen in many biblical references (Table I). The concern for personal cleanliness, for pure water, for sewage disposal, for rapid burial of the dead, and for isolation from contamination by discharges, are quite specific. Behavior was carefully prescribed both as to justice and as to cleanliness, and venereal disease was effectively prevented by the code of sexual morality (Ex. 20:14, Lev. 18:20, etc.). Moreover, the priest served as the health officer, to oversee that the community was holy and clean, to diagnose and treat problems, and to pronounce healed persons clean.[19]

In summary, the biblical insight that health derives from a holy and clean way of life, and not from pur-

chasing the services of healers, is a perspective that must be recovered by our society if we are to achieve the measure of health we desire at a price we can afford. But who can influence human behavior? Suffice it to say that how we behave derives from what we ultimately believe is of greatest value, and it is here, in determining the priorities of individuals, families, and communities, that religion has its most crucial impact on health.

Quantity or Quality of Life?

It is only in recent years that any serious challenge has been raised to the priorities of medical care; heretofore the first priority has been to save (or prolong) life, regardless of the cost in money and suffering. Death rates are the best developed and most used measure of the success or failure of our medical care system. The development of the technology of medicine to include organ transplants, artificial life support systems, etc. has forced reconsideration of the limits of medicine with respect to prolonging life. For a while there was a lot of talk of "cryogenics", in which it was the hope to freeze bodies immediately upon the point of death and keep the body in deep freeze, along with all of the medical records, until medical science discovered a way to thaw the body and revive it and simultaneously, cure that disease.

Increasingly there is an appreciation for the fact that saving lives is an appropriate first priority in acute disease, but that improving the *quality* of life is a more appropriate and realistic goal than extreme efforts to prolong life when it comes to the chronic, degenerative diseases. Even a leading proponent of biomedical technology seems to be saying the same thing.[7] The problem is that although there is increasing lip service paid to the idea of retooling the delivery of care to emphasize the quality of life, these priorities are seldom reflected in the objectives of current medical research and education. Just as nutrition is a neglected subject in our schools of medicine and public health so is the subject of rehabilitation; "cure" is taught much better than "care". But for economic reasons, among others, new kinds of primary care professionals are being trained (e.g., nurse-practitioners and physicians' assistants) who often have a better grasp of the meaning of "care" than do many physicians. The cost of hospital care is forcing the expansion of home care programs. People are finding that alternatives such as Hospice are better for persons dying of cancer than the typical acute hospital.[20] The coming revolution in medical care will move the "quality of life" to a new place

One of the glaring weaknesses of the biomedical model is its lack of understanding of, or ability to deal with, health.

Table I

Representative Selections from the Old Testament Sanitary Code

Key texts: Leviticus 19:2; 10:10

1. *Personal Cleanliness*
   a. Hand washing, esp. before meals—Mark 7:1-3
   b. Whole body after contamination—Lev. 15:5
   c. Wash clothes after contamination—Lev. 11:28; 15:5
2. *Pure Water Supply*
   a. Avoid water contaminated by dead animal—Lev. 11:32-36
3. *Sewage Disposal*
   a. Bury it outside the camp—Deut. 23:12-14
4. *Bury Dead Soon*
   a. Before nightfall—Deut. 21:23; Acts 5:6
5. *Pure Foods*
   a. Fruits & vegetables not prohibited
   b. Meats—Lev. 11:1-8; 29-31
   c. Fish—Lev. 11:9-12
   d. Don't eat dead animals—Deut. 14:21
   e. Don't eat old food—Lev. 19:5-8
6. *Isolation*
   a. If one touches the dead—Lev. 5:2; 22:4
   b. If one touches unclean discharges—Lev. 5:3
   c. For those who have a discharge—Lev. 15:1-13
   d. For those who have skin diseases—Lev. 13
   e. Of a woman following childbirth—Lev. 12:1-8 (prevents epidemic "childbed fever")
   f. Terminal disinfection—Lev. 15:1-13; 14:34-48
7. *Control of Venereal Disease*
   a. Morality—Ex. 20:14; Lev. 18:20
8. *Priest is the Health Officer*
   Leviticus 13, 14

Nutrition, environment and behavior are the primary factors influencing the level of health any population enjoys. Medical care is at most the "fine tuning" of our health level.

of prominence in the priorities of medical care.

The biblical message is concerned for both the quantity and quality of human life, but these are not primary goals. Rather they are the result of obedience to God as revealed in the Scriptures. The biblical concern for faith, obedience, holiness, and justice clearly place those who stand in the Hebrew-Christian tradition in the position of supporting a balance between the two, and we should vigorously support efforts to restore concern for the quality of life to its rightful position in medical care. Moreover, as one considers the nature of "health", it is important to see that the healthy person is one for whom life, and all of its activities, has deep personal meaning. At the level of tactics, Viktor Frankel has demonstrated how important it is for life to have meaning.[21] He gives one example of how an elderly man was restored to mental health when he saw that his widowhood and its resultant loneliness meant that his beloved wife did not have to suffer the same; his suffering then had meaning for him and became a last sacrifice for her. Only then was it tolerable, because it had meaning. Going further, it yet remains for someone to demonstrate that human wholeness, health if you will, must include our ability to stand before God as justified sinners; there are suggestions that those who wholeheartedly embrace the full theological meaning of the Bible are better able to live, and to die, in health. The area needs far more demonstration as well as research.

Care Must be in the Context of the Family

One of the current myths about medical care is that most medical care is given by health professionals. Levin and others have emphasized that, in fact, perhaps 75% of all health care in this country is given by individuals to themselves or to members of their families.[22] It is just as foolish to see this as bad as it is to consider all professional care good. There is currently a powerful movement, often called the "self-care" movement, to increase the competence of nonprofessionals to care for themselves and others. This is not to imply that "kitchen surgery" will return, but rather that all efforts should be made to give the individual person and family as much responsibility over their own lives and health as possible. This implies that the role of the physician will increasingly become (1) to do the highly technical advanced diagnosis and treatment, and (2) to serve as consultants—yes, consultants—to those giving most of the health care: families and non-physician primary care persons. We cannot afford to restore physicians to their past prominent role as givers of primary care; they are too costly, and they are not trained well for that task, anyway.

Norman Cousins gave a dazzling account of his determination to treat himself for a condition considered medically hopeless, and of his success.[23] The prominent sociologist Lois Pratt points out that "the more numerous and vital the functions the family performs successfully for its members, the stronger is the family system; the fewer the important functions performed, the weaker the system."[24] From this she goes on to conclude:

> The family is a social unit with considerable potential for performing health care, since families are held legally responsible for sustaining their members' health, they maintain a physical plant which is suitable for health care practice, and the members live together in relationships of mutual care and support.[24]

In contrast to the potential of the family to perform health care, she reminds us of the current trends, and in this she is absolutely correct:

> The emerging medical care system is based on specialization of work, centralization of activity in large complex units, bureaucraticization of the work unit, control by management over work and personnel, corporate involvement in and exploitation of all aspects of the health market, and extension of profit-making to all sectors of health care.[24]

One of the byproducts of these large health institutions we are creating is a tendency to impersonality of care.[25] How can costs be reduced and care be as personal as possible? By restoring it to the context of a loving family. The medical care system should be, in the last analysis, a family support system, or so it seems to me. However, at the present, families do a better job of supporting the health system (most persons in health care are doing well economically) than the system is doing of supporting the family (office and clinic hours are for the convenience of the provider rather than the patient, as are appointments, etc.)! The emergency room has gained immense popularity not because it is the best place to receive care, but because it is the only place people know will be open 24 hours per day with someone there to see them.

Whether self-care as a movement will be sustained, its existence has shown that there are options available to the family. Whether the family will play an increased role in the future in "selecting, coordinating, and supervising professional care; determining the forms and conditions of medical intervention; evaluating the outcomes of all these interventions; maintaining health records on the family; and planning a healthy lifestyle, including the choice of community residency, employment, leisure activity, diet, and other health maintenance practices"[24] remains to be seen. Certainly not all families or individuals now either want this role or are capable of it. But in this direction may lie our best hope for both economy and effectiveness of health care.

The Bible does not appear, at first glance, to inject itself into this debate, but on further consideration it would seem to suggest that healing is, in fact, the proper role for the family, including the larger family composed by a religious congregation. The Fifth Commandment (Honor thy father and thy mother) is often interpreted only in terms of young children and their parents. However, Jesus interpreted it in terms of caring for one's aged parents (Mark 7:10-13). If interpreted also, or primarily, in this way, the promise (long life) has special meaning. In Acts 6 and James 1 there

are evidences that the early church received and acted upon the command to care for each other, and James 5:14 shows that this includes a healing ministry. The oil in this passage should probably be seen as giving a medication that was conceived as having medicinal value, rather than primarily spiritual significance (for example, note the use of oil in Luke 10:34). The pattern of individuals giving health care to each other in a family context would appear to have solid scriptural support.

Haggerty is one of many whose studies have shown that persons under stress have a higher risk of disease. He suggests that clinicians may become more effective in preventing the harmful potentials of stress by involving supportive institutions beyond the primary family: the extended family, peer groups, religious groups. The assumption behind such a proposal is that man is a social creature who needs complex and supportive interaction with groups. Without it, he gets sick, just as an infant deprived of love tends to die.[26]

I would like to conclude with two quotations from Canon Max Warren's book entitled *The Christian Imperative*:[27]

> The fundamental sicknesses of men have always been sicknesses of the spirit and the mind. Never, perhaps, was this more obviously so than today. . . . Only a healing which makes a man whole and integrates him with his fellows in a true community, living in a right relationship with God and with the good earth which God has given man, only such a healing is adequate to the imperative 'go heal.' For this reason the Church must not imagine that it can relegate the responsibilities of its healing mission to a representative company of physicians and nurses, surgeons and anesthetists, pathologists and dispensers. . . .

> The . . . hospital must be seen as an integral part of a common task in which Church and school and farm are seen, not as the possibly attractive agencies for the employment of those with no skill in healing, but as the actual points at which most of the healing is done, the front line of the attack on human need. To these, the real centers of healing, the hospital will be related as a source of inspiration, a school of technical knowledge, a resort for such cases as demand specialized skill, but not as being itself the center of healing.

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The attitude of the magic and occult movement in our culture, therefore, is not to deny the results of science, but rather to downplay and devalue their intellectual and philosophical significance in relation to reality. *The style of its expression is to pour scorn on the tradition of science as mere child's play in comparison with the real secrets of power known only to the initiated. . . . It is just here that a powerful temptation exists for the Christian. . . . He is liable to accept the* magical view of the world . . . *and thereby devalue and discard the image of the world as a consistent, orderly reality—the great treasure of the scientific enterprise. . . . This is a terrible and tragic error, not only for the future of science but for the health of mankind.*

Walter R. Thorson

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Psychotherapy, Ethics and Faith

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Psychotherapy is potentially a strong force, intimate and demanding, capable of influencing the beliefs and actions of other persons. Therefore, the use of psychotherapy must be examined from the same ethical, evaluative stance as other forms of behavioral control—physical, mental or spiritual. Standards of ethics and religious beliefs are significantly involved in the use and ends of psychotherapeutic techniques.

Psychotherapy can result in the freeing of a person from the unrealistic neurotic or psychotic internalized demands of his conditioning experiences, allowing him freer choice for future behavior. On the other hand, it can be used as a tool by which the therapist subtly forces the client into new patterns of behavior acceptable to society or the therapist's own frame of reference. The latter procedure may substitute one type of bondage for another.

Confidentiality

Foremost, ethics of psychotherapy involves the rights of the individual, but it also includes the rights of society for protection from the person who directs aggression against himself, against another, or against social institutions. For example, recent Court decisions indicate that if the therapist knows of a client's plans to harm another, the therapist has an obligation to inform the "other" of that threat. This sharing of information violates the long-standing concept of confidentiality of the therapeutic session material—a concept which is gradually undergoing a metamorphosis in terms of professional behavior but which has important ethical implications. The American Psychological Association's statement of the ethics of confidentiality suggest revelation, "when there is clear and imminent danger to an individual and society." Further, it states, "The client should be *informed* of the limits of confidentiality." Ordinarily, with the above-noted exception, *confidentiality of shared information is paramount.*

Client Manipulation

There are several other ethical conditions that can be briefly described. For example, when a client has revealed himself intimately, there may be a tendency for him or her to want to become more involved in a physical relationship with the therapist, who appears to possess many of the desirable traits of the "true" human often lacking in others. During this period, the vulnerability of the client must be protected by the therapist.

The ethics of *giving advice* must also be recognized. What right does the therapist have to intervene directly in the belief system of the client, changing or even destroying it? What right does he have to intervene in the life-style of the client, drastically altering patterns of action, even if the client at the moment wants that direction?

The *beliefs* of the psychotherapist are very much present in therapy. To try to hide them would be foolish. Making one's *beliefs clear enough* to allow the client to make his own independent choice of allowing those beliefs to affect a behavioral change or not is important. The only statement from the Ethical Standards of the American Psychological Association that seems to bear on this point is, "Psychologists clarify the nature and direction of their loyalties and responsibilities and keep all parties aware of their commitments." This aspect is crucial for the Christian therapist. What place does "witnessing" have in therapy? Is it ethical? If so, what are the limits? Does the therapist force his views on the client without allowing free choice?

A most important aspect of the ethics of psychotherapy is the *use* or *ends* of that therapy. What is the purpose? How will that purpose be served? What will the end result be?

In brief, any purpose of psychotherapy which is manipulative, i.e., serving someone else's or purely societal ends, may be considered unethical. On the other hand, that therapy which clarifies the choice

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points and the potential effect that choices may have on the individual and society, allowing the individual to make more rational decisions, may be considered to be ethical.

The above statement may be clear and acceptable. In practice, the way clarification takes place and the procedures used are full of ethical implications. Can the psychotherapist be a dispassionate clarifier who never influences the decision-making?

Obviously the answer is, "No!" Therefore, a partial answer to the ethical question is related to how clear and honest the therapist is in recognizing how his own viewpoints and biases may affect choice. It also relates to how well he communicates these influences, thereby allowing the client to take these factors into consideration as he evaluates his choice of specific behavior patterns, and weighs the future implications and results of that decision.

The Client's Stance

There are, in addition, several factors which relate to the client's stance in entering the therapeutic relationship. Four classes of situations may be considered: 1) Does the client come willingly for help with his problem? 2) Does he come under the duress of the pain of his anxiety or depression, or is he motivated by disagreeable pain of his anxiety or depression, or is he motivated by disagreeable effects of his past maladaptive behavioral patterns? 3) Is he coerced by another—spouse, parent, lover or business associate? 4) Is he forced to come by Court or other social institutions?

In each case, the ethical implications are somewhat different. Long-term psychotherapeutic treatment, because it works slowly, may give the client more time to contemplate and conceptualize any proposed change, and thus evaluate such changes more carefully than with the more sudden intervention of chemotherapy or psychosurgery. However, behavior modification techniques also allow more rapid behavior change. If these skills can be utilized to help, they can conceivably be used to implant other behavior changes as well.

With this discussion as a background, we can now look at the four situations where treatment is indicated.

The Willing Client

The first condition is that in which the person consents to receive or even seeks out the help. While in some ways this category of clients presents the least problem, in other ways this condition may present the most subtle and complex ethical questions.

Alleviation of immediate psychological distress (short-range goal) may compromise the ultimate end (long-range goal). This statement assumes the functional value of a presenting problem or symptom.

The classical example is illustrated by the parable of the ugly duckling who was therapized, accepted himself as an ugly duckling and never became aware that he had become a beautiful swan. His solution for a short-range goal resulted in the loss of his long-range potential.

Treating the depressed client with mood elevating drugs without discovering the etiology of the depression, or use of drugs in anxiety states to help the client tolerate difficult situations, may be thought of as similar problems. In each case, there is less likelihood that the person involved will be motivated to change his problem presenting behavior constructively. Therefore, the ethical question facing the psychotherapist is to determine how alleviating the *immediate symptom* will affect the client's *long-term motivation* to change behaviors which may need changing. If the therapist reduces or alleviates the effects of those signals of depression or anxiety, he may neutralize the client's attempt to work out a more comprehensive change in his behavior. Another example is the client who has "sinned." He is aware of that sin, feels guilty about it and is impelled to make the necessary changes in his life. Psychotherapy can alleviate the guilt feelings, which may reduce the motivation to change and the client may continue in the "sinful condition." The ethical issue relates to making the client aware of the *significance* or implication of his symptoms.

Any purpose of psychotherapy which is manipulative, i.e., serving someone else's or purely societal ends, may be considered unethical.

Another ethical factor relates to the potential imposition of the therapist's value judgments on the client. When the client accepts the therapist's value judgments, he is relieved from becoming the responsible person he needs to become (Glasser 2, p. 300-1). When the therapist does the client's work, he may erode that client's acceptance of responsibility, not just for the immediate situation, but for other situations as well.

The psychotherapist aids the client to evaluate his *own set of values* to discover the effects that holding those values have on his decision making, how he perceives himself, and his attitudes toward his own past. When this is clarified, the client can then take appropriate action, supported by the psychotherapist, to assume personal responsibility. If the client is unable to do so, due to his emotional problems, the therapist continues to strengthen him until he is ready to do so. Helping the client gain information about himself in every aspect of life including his religious goals can give him the tools by which he then can responsibly and effectively act on his problems.

The general principle has been stated by Halleck (5 p. 385), "I am convinced that the usefulness and reasonableness of the patient's choice will be positively correlated with the amount of accurate information he has about himself and about the stressful factors in his environment."

The Willing "Hurting" Client

When the client, under the duress of pain, anxiety, depression or feelings of failure, comes into the psychotherapeutic relationship, his freedom of choice is restricted. He looks to the therapist as a healer, and expects him to act as such, implying, "I have pain. You know how to help me. Do so as quickly as possible."

Often, due to the pressures of the moment, such clients are not willing to explore the meanings of their reasons for coming to therapy. They want relief, and anything that postpones that relief is looked upon with disfavor,

regardless of the short or long-range effects. Most people, at this stage, are not particularly interested in learning lessons from the immediate situation which could influence the future. They want relief, and want it now.

The therapist may be seduced into doing what the active client wants. He also may yield to the subtle temptation of trying to alleviate suffering, of playing benefactor, of trying to be the powerful, healing person the client wants and short-circuit the treatment plan. This situation is difficult to cope with ethically. Should one immediately rush in with the band-aid of symptom reduction, or should one withhold treatment (if it is available) because it is better in the long run to do so?

There can creep in an element of sadistic pleasure in withholding treatment, when it is "for the client's ultimate good." Most psychotherapists cannot give medication or provide surgical intervention, so to them, this aspect is not a question. However, all of us can provide sympathy, allow ventilation of feelings, and offer reassurance which can give immediate, partial relief to the client. While we cannot forgive "sin," we can effectively remove the distress of the guilt feelings created by the sin. Should we or should we not?

One solution is analogous to that of providing a crutch to the person with a broken leg. The crutch allows mobility, and helps the person to do what needs to be done. The crutch gives immediate relief, but also aids in the *continuing growth* of the person by helping him accept responsibility to help himself, so that he may eventually abandon the crutch when it is no longer necessary.

Similarly, in psychotherapy one can ethically help the person remove the immediate crippling effects of the problem, so that he can deal with the long-range implications more effectively. The pain continues to motivate the client to do something about rearranging his life style and behavioral pattern so that such pain will not continue to occur or recur.

In the theological sense, confession of the sin and acceptance of forgiveness allows the person to deal with the causes of the sin, and to make restitution for the sin if it involves another person. If the treatment encourages or allows the client to withdraw or become overly dependent, or if it removes the effects of the maladaptive behavior without constructive direction, the therapist may be considered in an unethical position. Each treatment procedure should be aimed at making the client as self directing and problem solving as possible.

The Coerced Client

The coerced client is motivated to come to the therapist by someone external to himself. Separation of the differing clinical situations does not imply that the categories are discrete. Each category has most of the elements of the previous ones, plus some additional, which add a different dimension to be considered.

The ethical question in this case becomes one of deciding whether you should work with the person at all, or how do you do so without becoming the "cat's paw" for the one who sent him to you? Obviously, there has to be some motivation on the part of the coerced client to come for help. The most common incentive is to maintain a relationship with the person who originally persuaded the client to come into therapy. Therefore, there can be value in the therapeutic relationship, provided this feeling of coercion is replaced or reinforced with his own desire to grow.

The first step is to explore how he feels about being there—the negative aspects. Usually, ventilation of feeling allows the client to look at his anger at being coerced, his relationship with the significant "other" and why it may be important to change in some way to improve that relationship.

Another step is to look at the nature of the external pressure on the client. Threats of loss of love or the relationship itself are common. If the client feels that his main hope in life is the continuation of the relationship of the one who coerced him, he may fear the potential loss and be forced into unacceptable adjustments as a result.

Coercion may come from a referring source, physician, minister, or friend. The fear that, "If you don't do something about the problem now, you will get worse and eventually lose control totally," may be the threat used.

In any case, ethical considerations require that the client be informed of the procedures of counseling as is noted in the APA Code of Ethics. For psychotherapy, the statement of the methods and goals should be adequate. The potential effects of psychotherapy should be described, along with alternative methods that can be used if the practitioner is skilled in them.

The "Forced" Client

The "forced" client differs from the "coerced" client in that he is not necessarily motivated to maintain a relationship with the one who has persuaded him into therapy, but comes under the threat of severe consequences if he does not cooperate. Usually it is a judge who applies these pressures with jail as the only alternative. For the mental patient, whose "jail" is less tangible but nonetheless threatening, the alternative is continuing in his negative state, being chided by other patients and staff for not cooperating.

Halleck (5, p. 382) suggests some other conditions which might call for forcible intervention: 1) The client is judged *dangerous* to himself or others—usually sufficient reason for commitment. 2) The treatment is of *potential benefit*. 3) The client is *incompetent* to evaluate the treatment.

Decisions about each criterion relate to societal and personal values, and are often arbitrary. In the first case, the diagnostician is limited in determining the dangerousness of the client. In a relatively recent case the Court decision, based on expert testimony, freed a person who then went out and killed seven additional persons. One must face his limitations honestly.

The second consideration, "potential benefit," may center only on making the client calmer or more tractable for the home or hospital without taking into account that client's own long-range goals. Ethical consideration in such cases, emphasizes that the goals and ends of therapy should be as similar as possible to those the client would have chosen had he made the decision himself. The ones who disapproved of his

initial behavior must not be the only people whose desires are considered.

When one assesses the third condition of incompetency, one faces a tendency on the part of all psychotherapists to overdiagnose. The "doctor knows best" idea is pervasive, becoming a subtle pressure on both the therapist himself and the client.

When all three conditions are present, psychotherapeutic treatment would appear to be ethically acceptable regardless of the client's permission. However, a peer therapist group may be the most effective ethical decision-maker for treating the "forced" client when fewer than the three criteria are met.

Summary

A brief review of some of the ethical implications in psychotherapy indicate the complexity of the subject. The Christian psychotherapist is involved in unusual ethical considerations, viewed from the framework of responsibility to himself and his client, possible manipulation of the client through machinations of therapeutic devices, and his dedication to a cause, a belief and a way of life. There are no easy answers. Each decision and procedure can be evaluated by our professions' ethics, our own internalized frame of reference and by God's Spirit dwelling in us.

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Goal Setting in a Christian Congregation

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Goal setting can contribute importantly to the carrying-out of God's purposes for our churches. Goal setting in the church is consistent with Scripture if the goals (a) are directed at fulfilling God's purposes for his church and (b) are prayerfully developed in the light of divine wisdom and pertinent information from a number of sources. A number of principles are developed and discussed which can be helpful in formulating goals for a particular church which address the comprehensive array of purposes God has for his body. A practical approach to goal setting is discussed which involves: (a) study of various congregational needs, (b) study of various needs and characteristics of the church's neighborhood and community, (c) study of the membership and financial trends of the congregation, (d) tentative draft of a goals statement by a broadly constituted goals committee, (e) intensive interaction with the church board and congregation and most importantly (f) extensive and specific prayer at each stage in the process.

In the secular world of business, industry, and government, goal setting has become an important tool in enhancing organization effectiveness. If properly used it can also be an exciting way of serving God effectively in his church. A natural inclination is to take the secular methods and apply them directly to our Lord's work. This of course we cannot do as Christians if it means "locking God out" of key de-

cisions which shape the directions we take as his people.

This paper seeks to present an approach to goal setting for the church which both makes use of modern tools and ideas and is consistent with our faith in a God who is a guiding and empowering Presence in our midst. While we do not directly touch on the important matter of goal setting for the individual Christian, a number of the principles discussed apply at a personal level as well.

The Biblical Basis

In the secular use of the term, a goal is an aim or objective intended to guide action toward a desired end. Interestingly enough, the Bible makes little or no mention of this concept. It is therefore important for us as Christians to harmonize this secular notion with our biblical theology before we accept it.

While the Bible has little or nothing to say about goals, it speaks at length about a closely related concept—wisdom. Wisdom is a special kind of knowledge that leads to "good" or "right" actions. *Wisdom is therefore the "stuff" of which good goals are made.* Therefore, to be on sound ground as Christians we must base our goal setting methodology upon biblical teachings on *wisdom.*

The Bible clearly speaks of two kinds of wisdom: human wisdom (James 3:15 and I Corinthians 1) which at its worst is rooted in selfish ambition, and Godly or *divine* wisdom (James 3:17, I Corinthians 2:7, I Corinthians 12:8). This latter wisdom, which is a gift from God (e.g. I Cor. 12:8) is the basis for goal setting in the church of Jesus Christ and the focus of our inquiry here.

The book of Proverbs is a rich source of practical teaching on wisdom but the theme runs through the New Testament as well. Proverbs 2:1-10 eloquently tells us that we must seek this wisdom and pray for it. Other relevant passages follow.

> If you want favor with both God and man, and a reputation for good judgment and common sense, then trust the Lord completely; don't ever trust yourself. In everything you do *put God first.* And he will direct you and crown your efforts with success. Proverbs 3:5-6 (Living Bible)

> A wise man's words express *deep streams of thought.* Proverbs 18:4 (Living Bible)

> Don't go ahead with your plans without the advice of others. Proverbs 20:18 (Living Bible)

> *Get the facts* at any price and hold on tightly to all the good sense you can get. Proverbs 28:23 (Living Bible)

> Any enterprise is built by wise planning, becomes strong through common sense, and profits wonderfully from keeping abreast of the facts. Proverbs 24:3, 4 (Living Bible)

> . . . there is safety in many counselors. Proverbs 24:6 (Living Bible)

> A sensible man watches for problems ahead and prepares to meet them. Proverbs 27:12 (Living Bible)

> Paul prayed that the Colossians would be ". . . filled with the knowledge of his will in all spiritual wisdom and understanding; to lead a life worthy of the Lord, fully pleasing to him, *bearing fruit in every good work* . . ." Colossians 1:9, 10 (RSV)

> If any of you lacks wisdom, let him ask God who gives to all men generously and without reproaching, and it will be given him. But *let him ask in faith,* with no doubting, for he who doubts is like a wave of the sea. . . . For that person must not suppose that a double minded man, unstable in all his ways will receive anything from the Lord. James 1:5-8 (RSV)

While these passages are by no means exhaustive, they give us useful guidelines for determining proper courses of action in our churches (determining goals that reflect God's will for us). We are told that divine not human wisdom is to be the basis for our service in Christ's name—we are to rely upon God to direct us. A paradox exists in that we are also told to think deep thoughts, plan carefully, gather facts, look ahead and seek counsel of others (fallible humans). The inconsistency is apparent not real, however, if the results of our human efforts lead to understanding of issues and the specification of alternative courses of action which we bring before God for illumination by *divine* wisdom. Finally, these passages offer us great hope and encouragement. God promises to give us the divine wisdom we need to do his work!

Thus we see that goals for the church result from a blending of human and divine activity under the sovereignity of God. In the next paragraphs we seek to determine the *kinds of human activities* that will bear fruit in this enterprize. In so doing it will be helpful to examine how, specifically, goals relate to God's purposes for his church.

The Nature of Goals and Their Role in Fulfilling God's Purposes

A church is part of a larger setting that we must consider when we seek to know *what* God wants us to do and *how* he wants us to do it, as indicated in Figure 1. This is a holistic or "systems" viewpoint[6] which can be a helpful way of constructing a total picture of our mission as long as we subject it to the norms of Scripture.

By "our church" in Figure 1 we mean our people, staff, programs, activities and facilities as an integrated whole working towards God's purposes for us.

"Our neighborhood" includes the people to whom we are *primarily* called to minister spiritually and in other ways. It may include the people in the vicinity of the church building and people who live and work in proximity to our members. Most of the people we introduce to our Lord will come from "our neighborhood". *In goal setting we must prayerfully determine precisely what "our neighborhood" is.*

Our church is also called to serve "our world" (the world beyond our neighborhood)—but on a less personal basis than our neighborhood. Our support of world missions, world famine relief, United Good Neighbor, etc. are several examples of this wider ministry. The world influences our church in many ways and we must be prepared to deal with these as we plan and function as God's people. Some important examples are (1) the national economy as it affects the income and employment of our people and the prices of goods and services we need as individuals and as a church, (2) tax laws, (3) changes in values and attitudes in the population, and (4) social and economic change as they affect the movements of

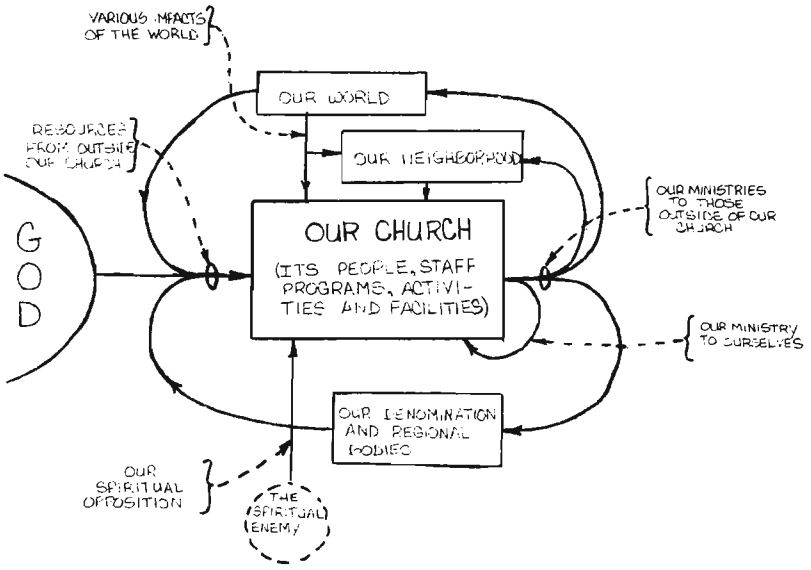

Figure 1. Our Church in it's larger setting.

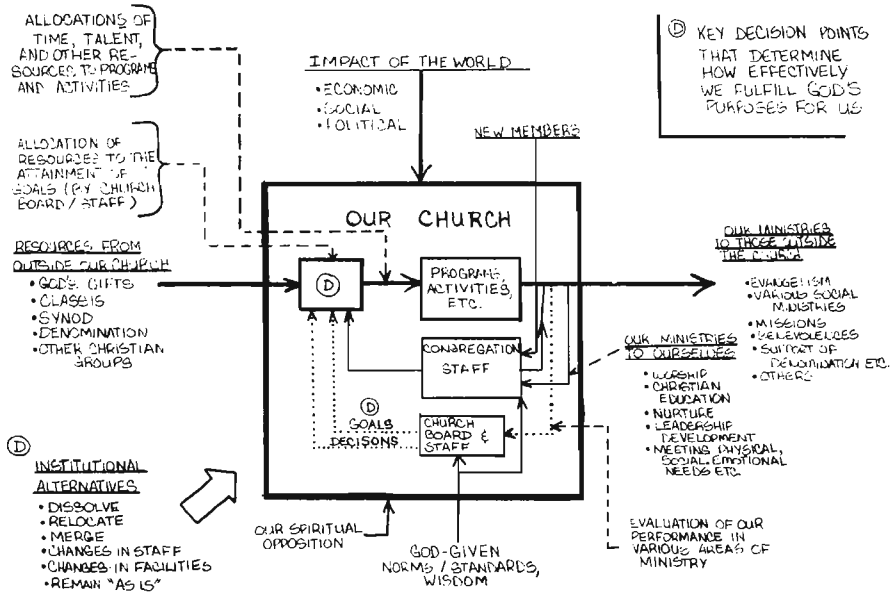

Figure 2. Our Church as an integrated whole serving God's purposes.

people.

Our church may also be related to a denomination and its regional bodies. We have some responsibilities to support these but they may also have important talents and resources we can draw on as we serve God. "Our world" also includes other Christian groups with whom we need to cooperate. *These important external resources and responsibilities should be considered explicitly in goal setting.*

Finally, our church is influenced by *awesome spiritual forces.* Not only does God provide the guiding wisdom for our work, he also provides, through other gifts, the power to carry out his work effectively. On the other hand, Scripture tells us (and most of us know from experience), that a cunning and powerful enemy is seeking to confuse us and turn us away from God's purposes. Since goal setting is our attempt to find the center of God's will for our church we can expect heavy attack from this enemy. *It follows that goal setting must include a great deal of specific prayer at key points in the process.*

In order to better understand the nature and role of goals, we take a closer look at a church as it functions within the whole described above. (See Figure 2). Think of this diagram as representing a church as it functions from week to week and month to month in carrying out God's work. The following points emerge from thinking along these lines:

1. A church develops ministries to carry out the purposes of God. Since God has given us a diversity of tasks we need a diversity of ministries in order to be faithful.
   (a) Ministries to our neighborhood and the world include evangelism, ministries to the physical, social, and emotional needs of those around us, support of missions, denominational and regional bodies, etc., and others as appropriate.
   (b) Ministries to ourselves include worship, nurture of new Christians, other Christian Education, leadership development, family life, meeting various physical, social, emotional needs, and others as appropriate.
2. Ministries are carried out formally by the programs and activities of the church and informally by people living the Christian life from day to day. Our programs and activities, in addition to directly carrying out ministries, *can be means of equipping our people to carry out God's work on a day-to-day basis.*
3. We have resources (time, talent, facilities, etc.) to allocate for the furthering of these ministries. These include internal resources from our own people and staff, and external resources from denomination, other Christian groups, etc.
4. Our goals define concrete steps that we choose to take in furthering our various ministries. (The furthering of a ministry may require that we pursue more than one goal simultaneously.)
5. Goals must be assigned priorities – all are not of equal importance. Some goals will take precedence over others.
6. To provide a basis for scheduling, goals should have at least a general time of completion assigned to them; also, the completion of some goals logically precedes others. (Our scheduling must be open to modification, however—a servant and not a master.)
7. Taken together, decisions which define goals and specify *priorities* perform the important function of *allocating resources to the ministries God has given us to undertake.*
8. These decisions should be made periodically by comparing our *performance* in our various areas of ministry with God-given *norms or standards. Goal setting is therefore an on-going process.*
9. These important decisions are logically the responsibility of the staff and church board.
10. These decisions on goals and priorities involve difficult choices—we probably will find many more worthwhile things to do than can be accomplished simultaneously with available time and talent.
11. These decisions require much prayer and interaction among staff, board members, church committee chairmen, etc.
12. Good decisions on goals and priorities cannot be made without quality information regarding Scriptural norms, the various needs of our people for ministry, the talents of our people and their callings to various areas of ministry, the time, talent, and other resources available inside and outside the church, the various needs of people in "our neighborhood," specific opportunities for evangelism in "our neighborhood," the various needs of "our world," and important economic, social, political, etc. impacts of the world upon our church and neighborhood.
13. Finally, every church faces a number of *institutional alternatives* which include dissolution, relocation, merger with another congregation, changes in staff, changes in facilities, or to remain "as is" vis-a-vis these options. (Another objective of the goal setting process is to determine which of these alternatives God wills for us as a church.)

Some Basic Principles for Goal Setting

Extensions of the foregoing analysis and examination of some of the available literature[3,4,7,8] lead to the following set of principles for goal setting.

1. God has purposes for his church. Our ministries to the world and ourselves are the means whereby we fulfill these purposes. Goals define the specific things we must do to carry out these ministries.
2. A goal is tangible and specific enough to provide a basis for action. *We should be able to determine whether or not a goal has been attained.*
3. Since all tasks are not of equal immediate importance and since there is sometimes a logical time sequence in the way we implement goals, we must attach *priorities* to goals.
4. Implementing goals *affects the future.* We will have a different set of opportunities and problems facing us because we have taken overt action in implementing our goals. We can therefore shape the future in ways that are pleasing to God.

5. Because goals affect future opportunities and challenges and because we live in a rapidly changing world, goal setting must be an ongoing process through time—we must periodically establish new goals and, in some cases, modify and/or retire old ones.
6. The organizational structure of our church should be set up to provide for *periodic evaluation of progress in various areas of ministry and re-definition of goals for the immediate future.*
7. We can't expect to "cast long range goals in concrete". God promises us only enough light for the next few steps. This does not mean, however, that we don't do any long-run goal setting.
8. We are called to many ministries—evangelism, education, nurture, and meeting physical needs. Each of these ministries may require several goals for their implementation at any given time. It follows then that we as a church will have *sets* of goals serving our various areas of ministry.
9. To be operationally useful these sets of goals must be mutually consistent—that is they must not seriously work at cross-purposes.
10. In many cases we can and should develop our goal sets so they are mutually supportive. (i.e. a goal to provide spiritual nurture may enhance goals in evangelism, Christian education and family life.)
11. To be operationally useful, goals must be feasible. They must be attainable with available time, talent, and other resources. They must be consistent with the "nature of things", "where people are at", etc. (This is another important specific area for prayer in the goal setting process. With God's strength we can do some amazing things, but it is also easy to be unrealistic in our expectations.)
12. We shouldn't be surprised if we make some mistakes. This is another reason why we need to periodically review and update goals.
13. The alternative to completely avoiding mistakes is to remain immobile.
14. Goals for a church are, in part, an extension of goals of the people in the church.
15. It follows that *the people of the church must be directly involved in the goal-setting process.*
16. The goal setting process should be organized to provide for this involvement. (This can be done through appropriate questionnaires, congregational meetings and broad representation in the group responsible for drafting a goals statement.)
17. Goal setting also requires appropriate information describing the needs and challenges of our neighborhood and world. The goal setting process must be organized to define and acquire this needed information.
18. Goal setting is not an easy thing to do for a number of reasons. It may require us to give up some things that are safe and comfortable and venture in faith into what is untried and unknown. It is also very easy to get lost in the forest. The need for dedication to follow where God leads is patently obvious. (It's particularly easy to get lost when that is what we *really want*!) Also the need for a broad undergirding in prayer cannot be overemphasized—particularly at the key decision points in the goal setting process. We *are* engaged in spiritual warfare against ". . . principalities, against the powers, against the world rulers of this present darkness, against the spiritual hosts of wickedness in the heavenly places".
19. However, we can trust that God is the victor in the spiritual battle and that if we are faithful He will guide us with his gift of wisdom and empower us to carry out his work!

While the Bible has little or nothing to say about goals, it speaks at length about a closely related concept—wisdom.

How is Goal Setting Done?

We now present an approach to goal setting that is based upon the foregoing principles and discussion. This is more or less the approach that has been followed at the University Reformed Church at East Lansing, Michigan. (For more on practical aspects of goal setting see References 3 and 10.) While most of the work on this particular goals study was accomplished in a three month period from September to December 1975 due to unusual time constraints, the process may well take 6-12 months to accomplish under more normal conditions.

Major phases of the process as implemented are as follows:

1. A study to determine congregational needs for ministry, and needs for nurture to equip people in the congregation to play an active role in carrying out God's work.
2. A study of the characteristics of our church's neighborhood and community to determine such things as population trends, needs for social ministries and further opportunities for evangelism.
3. A study of the congregation's membership and financial trends.
4. A tentative draft of the goals statement by a broadly constituted goals committee (based on the information acquired in 1, 2, and 3 above.)
5. Intensive interaction with the church board and chairmen of congregational committees to refine the tentative goals statement.
6. Review of the refined goals statement with the congregation as a whole and further refinement based on this interaction.

Significantly, the planning and execution of each of these phases was supported by the prayers of many people. Members of the goals committee kept individuals and groups in the church informed about the current prayer needs of various phases of the goals study. The goals statement that resulted from the six phases above is currently being implemented by the board, committees, and individual members of the church.

The Survey of Congregation Needs

The purposes of this survey were to determine *specific* needs within our congregation for ministry, and to determine specific areas in which we as individuals or as a congregation need help or nurture in order to be more effective in carrying out God's work in various areas of ministry.

A questionnaire was designed to provide this information by age, sex, and family status. Clearly a balanced questionnaire should address all the areas of human need God is interested in meeting through his church. (For every one of these needs there should be an area of ministry in Figure 2.) A list of these needs might include personal salvation, meaningful worship, spiritual growth, need for love and acceptance, various physical needs, need for development of gifts and talents, good interpersonal relationships, and sound and relevant Christian Education.

Similarly the questionnaire should also deal with specific areas in which people may need *equipping* in order to serve others, such as training for sharing faith effectively, training for effective Christian Education (teacher training), training for effective parenting, training for Christian counseling, training for nurturing newer Christians, development of personal gifts, and help in determining Christian lifestyle in an era of crises.

The questionnaire included about 40 of these kinds of items and three open-ended questions designed to elicit suggestions on priority goals and programs. Our people responded to the questionnaire using a coded sheet that could be read by machine (except for the open-ended questions.) This permitted rapid tabulation by computer by various age/sex/family status categories at low cost. For us the total cost of forms and computer processing was less than $0.10 per person.

The Study of the Neighborhood and Community

The three main purposes of this study were (1) to determine further opportunities for evangelism, (2) to determine physical and social needs God would have us meet, and (3) to identify population and other trends that have significant impact upon the work of our church.

Since population and other trends often affect opportunities for evangelism and needs for other ministries, it is often wise to study this area first. U. S. Census data (1970), while somewhat dated, can provide much detailed information by census tract: populations by age and ethnic group, information on income and employment, etc.[13] We found that city and regional planning agencies can provide valuable population *projections* which provide estimates of future populations by age categories. This information can be useful in indicating population age groups that may need more or less attention in the future. These same agencies may also be able to provide information on zoning, changing ethnic composition and other factors that may affect opportunities and needs for ministry. *Members of the congregation* should not be overlooked as sources of information. Other useful sources of information might include school districts and real estate agents.

Important sources of information on the physical and social needs of our neighborhood and community include the *private and public agencies involved in meeting these needs* in the area. Some good questions to ask these agencies are: What is your agency doing? What are high priority needs that are not being adequately met? How can our church best help in meeting important needs? Again, *people in the congregation* are a good source of information. Other churches can also be a good source of information on unmet needs and possible ongoing programs which can be tied into. (In our church we have received much valuable information on potential social ministries from a nearby church which had a comprehensive social action program for a number of years.)

The information acquired above should prove useful in evaluating opportunities for evangelism. A detailed look into other evangelical Christian churches and organizations and their work in the area is a must. A key question here is: *What groups are not being adequately reached with the gospel?* (We found that a large group of young married students was in this category. This, in part, motivated a goal to expand our outreach to these people.) It is also important to ask ourselves what groups it is most natural for us to relate to in evangelism—we had a number of active young couples who could relate well to this inadequately evangelized group. Again, people in our own congregation can provide useful information based on their knowledge of the neighborhood and their neighborhood and work relationships.

Study of the Congregation's Membership and Financial Trends

Congregational statistics over a period of several years can provide useful information for goal setting. Several pieces of information can be particularly useful if plotted as graphs over a number of years. These include total baptized membership, total received on confession of faith per year, total new converts from outside the church per year, transfers in and out by letter per year, total communicant membership, total inactive membership, total baptisms and adult baptisms per year, Sunday School enrollment, total annual giving per year, and total giving to benevolences per year.

Graphs of membership-related quantities over time can help in quickly identifying trends we may want to counteract or further support. Graphs of total giving and benevolences can also be useful; however, we need to adjust congregational data to eliminate inflation effects that obscure the real picture. This can be done by multiplying annual data by the adjustment factors given in Table I.

Table I
Adjustment Factors for Removing Inflation Effects in Graphs of Congregational Giving

Year	*Adjustment factor*[11]
1967	1.00
1968	.96
1969	.91
1970	.86
1971	.82
1972	.80
1973	.75
1974	.68
1975	.62
1976	.59
1977	.55
1978 (est.)	.51

This factor converts dollars for any given year into equivalent 1967 dollars. This is done by multiplying the financial data in any given year by the appropriate adjustment factor. *If we graph all our annual giving in terms of 1967 dollars we see what's happening to the real buying power of our contributions from year to year.*

Another item we haven't mentioned so far is the trend in age distribution of our congregation. It may be difficult to graph this exactly, but we should try to assess what's happening to our congregation. For example, Is the number of elderly increasing or decreasing? Is the number of children and teen-agers increasing or decreasing?

With additional work we can get some *projections* of membership, giving, and anticipated expenses under several alternative outreach strategies we may wish to investigate. We did this and the results were useful in helping arrive at several key outreach and finance goals.

Tentative Draft of the Goals Statement

After the information from the prior phases has been acquired, disseminated, and prayerfully assimilated, important congregational goals should begin to come into focus. Our initial step was for a Goals Committee to develop a set of *goal areas* roughly corresponding to the areas of ministry in Figure 2. These were based on the information above. The Goals Committee then in a lengthy "brainstorming" session suggested specific goals for each of the goal areas. Again, many of these were suggested by information from the prior phases discussed. The finalized goal areas were spiritual life, community, outreach, Christian education, worship, family life, social ministries, finances. and miscellaneous.

The rough goals suggested by the brainstorming session were written up in more polished form by members of the Goals Committee. This draft of the goals statement then became the basis for intensive interaction with the church board and chairmen of congregational committees. Three lengthy meetings were devoted to this process which resulted in further refinements and a (still tentative) draft to be reviewed with the congregation.

Interaction with Church Board and Congregation

This interaction is clearly of the highest importance. The goals statement of the church must represent the goals of the staff, board, and *congregation* and not just the goals of a few at the top. While it is important for a committee to provide leadership and lay groundwork, the board and congregation must be allowed freedom to mold and shape the goals as God leads *them* in light of available facts and information. In order for the board and congregation to play a meaningful role they must, of course, have pertinent information from the congregational study, neighborhood-community study, etc.

At East Lansing the congregation was directly involved in the goal setting process through the congregational survey and through representation on the goals committee. They were kept abreast of the progress of the goals study and were encouraged to pray specifically for the key steps in the process as they approached. Finally, the congregation reviewed the final draft of the goals statement prepared by the board and goals committee. At that meeting additional changes and refinements to the statement were suggested but, importantly, there was also a consensus that the goals statement represented, generally, God's direction for the church in the months and in some cases, years ahead.

More on the Writing of the Goals Statement

A few more words are in order on the actual drafting of a goals statement. As mentioned it is appropriate to write a set of goals for each of the areas of ministry central to the calling of the church. It is always a challenge to state goals explicitly enough to lead to meaningful action.

Mager in his readable book *Goal Analysis*[5] provides a valuable guide to stating goals in a clear and workable form.

The establishment of priorities is valuable in providing guidance for implementation in the face of always present limitations of time and talent. A three level priority system is one possibility that has proven workable:

> *Priority A*: Time, talent, and other resources will be made available to ensure goal attainment.
>
> *Priority B*: These goals will be pursued as vigorously as possible in light of available time, talent, and other resources. However, in some cases Priority B goals may require some minimum level of effort. They should also be periodically reviewed for possible re-classification.
>
> *Priority C*: In light of higher priorities, these goals may receive little or no attention. Priority C goals should be periodically reviewed for possible upgrading to B or A.

Goals are of course dropped from the agenda when attained or no longer relevant. Factors to consider in assigning goal priorities are centrality to the ministry of the church, the logical need for some goals to be completed before others can be started, and resources available to attain particular goals.

Experience has shown that setting priorities is a very challenging task. After much discussion and prayer we found ourselves with more than 20 "A" priority goals. This seemed unrealistic but in the months since the drafting of the goals statement it has been exciting to see a number of groups and people in the congregation adopt various goals as their own and begin working toward their attainment. God's plan for us is comprehensive and we shouldn't be surprised when we find our goals statement challenging!

A final word: since periodic evaluation and updating of goals is necessary to remain open to God's continuing leading, one goal in the goals statement should provide for this. We established as a goal, "To review goals and priorities at least bi-annually to determine progress toward goals and appropriate adjustments in goals, priorities, and emphasis in attaining goals."

Conclusion

Space does not permit us to pursue the next logical topic: implementation of goals in the church. While considerable work has been done in this area[3,4,7-10] there appears to be need to consolidate and expand

what has been done and make it available to more churches in usable form. This is particularly true in the case of helpful management techniques such as PERT[3] and appropriate uses of modern computers.

There is much more to be said (and undoubtedly learned) about this subject. In retrospect, it would have been helpful for us to study available congregational and outside resources more intensively. It also would have been useful to have had more congregational involvement along the way. Further, there are particular *classes of churches,* for example those in rapidly changing neighborhoods, that present special challenges in goal setting.[9] Goal setting can be an effective tool in our Lord's service and it behooves us to dig deeper and to share our insights and experiences widely. There is perhaps a need for more interaction among Christians who have common interests in developing and applying this means of service. This author is willing to act as a contact person for those who would like to explore this further.[12]

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[11]These factors are derived from the consumer price index and are published by the U.S. Bureau of Labor Statistics and the U.S. Bureau of Economic Analysis, "Survey of Current Business". The *American Almanac* (latest edition) often lists the consumer price index also.

[12]The author would also be happy to share upon request questionnaires and other material used in the particular goal setting application discussed here.

[13]A good source of census data particularly selected for use by churches in planning is available by census tract for nominal costs from: Census Access for Planning in the Church (CAPC), 7400 Augusta St., River Forest, Ill. 60305.

Notes on "Science and the Whole Person"—
A Personal Integration of Scientific and Biblical Perspectives

Part 8

Ethical Guidelines

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In several of the following installments, we consider a number of different practical issues in which science and Christian faith both come into focus. Before considering these specific issues, however, we take the opportunity in this installment to survey a few basic ethical guidelines of a more general nature. As in the last chapter we pointed out some of the insights into "man come of age" provided by Dietrich Bonhoeffer, so in this chapter we continue this investigation of the thought of Bonhoeffer somewhat further into the matter of Christian ethics.

Christian theology comes to life in Christian living. In this context abstract principles must be translated into concrete action. Of the various possible frameworks for describing Christian doctrine and ethics: that of "either-or", "both-and," or "neither-nor," all

can be interpreted in both a positive and a negative sense, depending on the application made. Bonhoeffer's *Ethics*[1] provides a large number of striking examples of the power of a positive use of the "neither-nor" formulation. Although this book is part of an uncompleted text more than 30 years old, its message is prophetic and relevant for us today.

Frameworks for Describing Ethics

Discussions of Christian doctrine or ethics are frequently cast into the form of one of three types of comparisons: "either-or," "both-and," and "neither-nor." The "either-or" approach is essentially one of antithesis. A modern writer with whose style such an approach is commonly associated is Francis Schaeffer. Schaeffer's emphasis on antithesis as opposed to synthesis, and his argument that the loss of antithesis via Hegel is the beginning of the road to modern despair,[2] strengthen this association. He is explicit about this and identifies a "both-and" approach as part of the structure of disintegration, "Truth as truth is gone, and synthesis (the both-and), with its relativism, reigns."[3] Schaeffer seeks to defend the reality of *certain* antitheses, e.g., either a man is a Christian or he is not, just as on a purely human level either a woman is pregnant or she is not, but in setting forth this defense he perhaps argues more broadly than intended. In the Appendix to *The Church Before the Watching World*[4], Schaeffer uses a "neither-nor" formulation with a concept of "freedom within circles" of doctrine, as long as one does not proceed to extremes in one direction or the other. Here he comes close to a "both-and" approach in such topics as the person of Christ: Christ is neither only man nor only God; Christ is both man and God.

With these kinds of comparison in mind, it is interesting to read the words of D. Elton Trueblood,

> Always the great Christian word is *and*. In a number of situations the Christian insight is that *either-or* produces a heresy while *and* can bring us close to reality. . . . It is part of the Christian understanding of reality that all simplistic answers to basic questions are bound to be false. Over and over, the answer is *both-and* rather than *either-or*.[5]

Here the emphasis is on *false* dichotomies, between arguing for either the love of God or the love of man, rather than on both; between arguing for preaching the Gospel or serving the neighbor, rather than on both; between arguing for the sovereignty of God or the responsibility of man, rather than on both.

A few pages further on in the same book as that containing Trueblood's words, the following remarks by Douglas D. Feaver bring out another facet,

Ethics is not a matter for intellectual debate; ethics is a matter for living the life of Christ.

> Trueblood vividly reminded us of the "gutters" on either side of the Narrow Way--the one of personal piety, the other of social concern. He rightly emphasized the holy conjunctions *both-and*, over against the heretical *either-or*. But I fear the situation today is neither holy nor heretical; instead we have the demonic *neither-nor—neither* personal piety *nor* genuine communal relevance.[6]

Thus we come full circle with a negative use of "neither-nor" to compare with Schaeffer's positive use described above. It is evident that there is nothing intrinsic in any of these formulations that guarantees one to be more faithful to truth than another, but rather the objects of each set of conjunction pairs determine the type of usage and interpretation. We say Yes to "either a Christian or not a Christian," but No to "either personally pious or socially concerned." We say Yes to "both true God and true Man" for the person of Christ, but No to "both sin and expression of love." We say Yes to "neither one God without diversity nor three Gods," and No to "neither a sovereign God nor a responsible man."[7]

Of all these forms, that of "neither-nor" has a particular crispness in helping the Christian avoid the extremes. As human beings we tend to oscillate between extremes, finding it difficult to come to dynamic equilibrium at a balanced position. Few examples of the effectiveness of the "neither-nor" approach are more illuminating than those presented in *Ethics* by Dietrich Bonhoeffer. One of the advantages of the "neither-nor" approach is that it allows us to define errors clearly even in situations where we cannot define truth clearly.

What Christian Ethics Is

In normal discourse, the term ethics means to know good, to do good, and perhaps to be good. Bonhoeffer stresses the radically different view of ethics appropriate for Christians. To speak of ethics is not to speak of rules of right and wrong, of knowing or seeking to know right from wrong, or of any kind of abstract consideration of principles, laws, or knowledge—but it is to speak only of the way in which "Jesus Christ takes form in our world."[8] Ethics is not a matter for intellectual debate; ethics is a matter for living the life of Christ.

The form of Christ does not take form in us by our own efforts but it is a work of God in our lives (Galatians 4:19) in keeping with the biblical description of our sanctification as our transformation into Christ's image.

> For those whom he knew he also predestined to be conformed to the image of his Son. (Romans 8:29)
> Do not be conformed to this world but be transformed by the renewal of your mind. (Romans 12:2)
> And we all, with unveiled face, beholding the glory of the Lord, are being changed into his likeness from one degree of glory to another. (II Corinthians 3:18)
> that I may know him and the power of his resurrection, and may share his sufferings, becoming like him in his death. (Philippians 3:10)

This continuing series of articles is based on courses given at Stanford University, Fuller Theological Seminary, Regent College, and Menlo Park Presbyterian Church. Previous articles were published as follows. 1. "Science Isn't Everything," March (1976), pp. 33-37. 2. "Science Isn't Nothing," June (1976), pp. 82-87. 3. "The Philosophy and Practice of Science," September (1976), pp. 127-132. 4. "Pseudo-Science and Pseudo-Theology. (A) Cult and Occult," March (1977), pp. 22-28. 5. "Pseudo-Science and Pseudo-Theology. (B) Scientific Theology," September (1977), pp. 124-129. 6. "Pseudo-Science and Pseudo-Theology. (C) Cosmic Consciousness," December (1977), pp. 165-174. 7. "Man Come of Age?" June (1978), pp. 81-87.

To be conformed to Christ, is first of all to be conformed to the Incarnate One, God incarnate in man—and hence to be a real man. To be conformed to Christ is secondly to be conformed to the Crucified One—and hence to be a man sentenced by God for sin. To be conformed to Christ is finally to be conformed to the Risen One—and hence to be a new man before God (Colossians 3:3).

One starting out to consider ethics from a specifically Christian perspective must discard both the question, "How can I be good?" and "How can I do good?" and must ask instead only, "What is the will of God?"[9] To concentrate on being good or doing good presupposes that one's self and the world are the ultimate reality, rather than that the ultimate reality can be only God, Creator, Reconciler and Redeemer. To inquire about the goodness of self or the world is possible only after inquiry about the goodness of God, and this "question of good can find its answer only in Christ."[10] Abstract goodness apart from the reality of life in the world has no meaning; there is no possible separation between man and his acts, as Jesus said, "Every sound tree bears good fruit, but the bad tree bears evil fruit." (Matthew 7:17)

> The knowledge of good and evil seems to be the aim of all ethical reflection. The first task of Christian ethics is to invalidate this knowledge. . . . Man at his origin knows only one thing: God. . . . The knowledge of good and evil shows that he is no longer at one with his origin.[11]

God can be truly known, only if only God is known. To know good and evil is to confirm separation from God (Genesis 2:17); man's knowledge of good and evil can only stand against God. Ethics, therefore, in its uniquely Christian perspective must be directed toward knowing God and in the formation of the form of Christ in us and in the world through us.

Victory in Christian ethics can be won neither by the reasonable man, nor by the fanatic, nor by conscience, nor by duty, nor by freedom, nor by concentrating on private virtue, but only by the man who can combine simplicity with wisdom. The reasonable man fails because he considers that a little reason is sufficient and therefore strives to save through education; he does not recognize the spiritual dimension of the human condition. The fanatic fails because he believes that purity of the will is sufficient to oppose evil; he fails to take account of reality and cannot handle the frustration of real circumstances. The man who trusts in conscience is all too willing to trade a peaceful conscience for a clear one, and fails to realize that a bad conscience can be healthier than a deceived one. The man who trusts in duty fails because he places his responsibility on an authority figure, but all too often he find that that authority figure has played the part of the Devil himself. The man who values freedom above all else is willing to act without regard to principle,

> He will easily consent to the bad, knowing full well that it is bad, in order to ward off what is worse, and in doing this he will no longer be able to see that precisely the worse which he is trying to avoid may still be the better.[12]

The man who prizes his private virtue above all lives scrupulously within himself, but fails to be sensitive to the needs around him; what he fails to do will finally leave him no peace.

Only the man who can combine simplicity with wisdom can gain the victory in Christian living. Unlike the double-minded person of James 1:8, he is not hampered by abstractions but is bound by love for God. Since his simplicity looks only to God, it is able to look at the reality of the world without failing. In this way simplicity becomes wisdom, and the only man who is wise is the man who sees reality in God.

> There is a place at which God and the cosmic reality are reconciled, a place at which God and man have become one. . . . This place does not lie somewhere out beyond reality in the realm of ideas. It lies in the midst of history as a divine miracle. It lies in Jesus Christ, the Reconciler of the world. . . . Whoever sees Jesus Christ does indeed see God and the world in one. He can henceforward no longer see God without the world or the world without God.[13]

To the biblical, "The fear of the Lord is the beginning of Wisdom" (Psalm 111:10), Bonhoeffer adds, "To recognize the significant in the factual is wisdom."[14]

Man

Man is to be regarded neither with contempt nor with idolization.

Out of love for man, God Himself became man. It is not toward ideals that God's love is directed, but toward real men in a real world. In the Incarnation, God becomes a real man. The realization of the significance of the Incarnation leads one to regard man neither with contempt nor with idolization.

The tyrannical despiser of men exploits the worst aspects of human nature for his own purposes; the greater his contempt for men, the greater his tendency to exalt himself for deification or idolization. But the good man is also guilty of despising men if he sees what is going on and still withdraws to leave his neighbor to his fate. Even an honest kind of philanthropism is guilty of despising man if it leads to indulgence for evil, overlooking of baseness, and the excusing of the reprehensible; once again it is the real man who is despised because the real man is denied.

> It is only through God's being made man that it is possible to know the real man and not to despise him. . . . the reason why we can live as real men and can love the real man at our side is to be found solely in the incarnation of God, in the unfathomable love of God for man.[15]

Contempt for the real man and the idolization of man go hand in hand. Wherever one is found the other will follow. Neither the one nor the other is possible for the man who sees Jesus Christ.

Success

Success is neither to be simply identified with good, nor are we to hold that the good alone is successful, nor that all success is the product of wickedness.

For life in the world apart from Christ, success is often the only and sufficient justification for any action or program. In this framework the crucified Christ, sentenced for the sins of men, remains an enigma.

As we see him, however, we recognize that success can never be taken as the standard for the Christian.

To claim that success defines what is good is possible only in the complete absence of moral sensitivity. To claim that only the good is successful leads to a false optimism that must ultimately require the falsification of historical facts. To claim that all success comes from wickedness leads to unproductive criticism of the past and a failure to act in the present. "Christ confronts all thinking in terms of success or failure with the man who is under God's sentence, no matter whether he be successful or unsuccessful."[16]

Death

Earthly life is to be seen neither as all nor as nothing.

The crucified Christ is also the risen Christ, and Christ's resurrection does away with all idolization of death. If death is the last thing, then life must be either all or nothing. To believe fanatically in the finality of death forces one either to clutch madly at everything in life, or to reject everything in life. The idolization of death is evident in a time when talk is everywhere about building for eternity, but in which life itself has no value.

Time

Neither the past nor the future are to command our total devotion.

Those actions that stem from attention to only the past or to only the future are in fact rejections of both past and future. The real past is rejected in favor of a mystical glorification of days that never really were. The real future is rejected in favor of a transcendent preoccupation which enables one to evade the responsibility of tomorrow.

When both the real past and the real future are rejected, it is as if man hovered over the "void," attempting to snatch the moment. Under such conditions it is impossible to sustain periods of tension or necessary periods of waiting; all must be resolved at once with the simplest solution conceivable. Slow pain is more feared than death; there are only two viable alternatives: health or death. Great convictions are replaced by the path of least resistance; challenges of personal responsibility are avoided in favor of compliance with authority. Instead of the dissemination of truth, we face the spreading of manufactured information and propaganda. Pragmatism rules the day, and whatever is useful is declared for that reason to be just. Trust gives way to suspicion. Only one thing remains: the universal fear of the "void."[17]

Reality

Reality is to be defined neither in terms of empirical positivism nor in terms of idealism.

The two hallmarks of Bonhoeffer's theology and ethics are their Christo-centricity and their emphasis on the real. His treatment of reality is therefore a central point in his ethics, and his attempts to circumscribe reality give rise to a number of "neither-nor" formulations.

> This participation must be such that I never experience the reality of God without the reality of the world, or the reality of the world without the reality of God.[18]

"Whoever sees Jesus Christ does indeed see God and the world in one. He can henceforward no longer see God without the world or the world without God."

The empirical positivist errs by identifying the good with nothing more than the expedient, the useful and the advantageous. But even this is superior to the idealist who is concerned with the attainment of impossible goals unrelated to the real, with abstractions and ethical ideals. The weakness of the positivist is that his reality is circumscribed by what is empirically verifiable, "which implies denial of the origin of this reality in the ultimate reality, in God."[19]

Traditional Christian ethical thought blocks the road to perceiving ethics in terms of reality because of the common emphasis on "two spheres, the one divine, holy, supernatural and Christian, and the other worldly, profane, natural and un-Christian."[20] No progress can be made until it is realized that we are called to choose neither the one nor the other of these two spheres, but rather to see the unity of the one reality which exists embracing both divine and worldly, holy and profane, supernatural and natural, Christian and non-Christian. History provides examples of the extremes that must be avoided. On the one hand there is the devout monk, who withdraws to the monastery to concentrate wholly on the first sphere; on the other hand there is the secular Protestant, who becomes so caught up in the second sphere that he can no longer perceive the first.

To think in terms of these two spheres is to make secular and Christian oppose each other, to pit the natural against the supernatural, the profane against the sacred, and the rational against the revelational. These two aspects of reality are certainly not identical; yet they have a unity which is derived from the reality of Christ.

It is possible neither for Christianity to thrive apart from the world, nor for the world to thrive apart from Christ. A world in isolation from Christ falls victim to license and self-will. Christianity withdrawn from the world falls victim to the unnatural and the irrational, to presumption and self-will. The Christian's worldliness does not separate him from Christ; his Christianity does not separate him from the world. The Christian belongs wholly to Christ; at the same time he stands wholly in the world.

The Ultimate and the Penultimate

Neither the ultimate nor the penultimate must be taken exclusively.

The final, last and ultimate word for the Christian is the justification of the sinner by the grace of God. The whole of his past is comprised in the word of forgiveness; the whole of his future is safely held in the faithfulness of God. His past sin is swallowed up in

the love of God in Christ; his future in a life proceeding from God is without sin (1 John 3:9). There is no word of God that goes beyond his mercy; it is his final word. Yet it comes at the end of a span of time during which the man has passed through accusation and found himself under the sentence of God. The way to the ultimate must of necessity pass through the way of the penultimate. But the penultimate has no value of its own, only the value it receives in relationship to the ultimate. Two extreme attempts at solutions have been proposed, both of which must be rejected since they make the ultimate and the penultimate mutually exclusive.

One solution sees only the ultimate; Bonhoeffer calls it the "radical" solution. It sees only the complete breaking off of the penultimate, views Christ as the destroyer and enemy of all penultimates, and fastens on the last word only and the last conduct only to such an extent that the effect on this world is judged to be of no consequence.

The other solution sees only the penultimate; Bonhoeffer calls it the "compromise" solution. It sets the last word apart from all preceding words and holds that the penultimate retains its right on its own grounds. It concentrates on the penultimate, since the end is not yet here; it deals with men only as they are, not as they are called to become in Christ.

The "neither-nor" aspects of Bonhoeffer's treatment of the radical and compromise solutions can be most graphically shown in the form of the following table of comparisons. It is evident that elements of the classic personal evangelism vs. social gospel conflict are also included here. Only the proper relationship between the ultimate and the penultimate, a relationship with precarious dynamic balance, is adequate for a Christian following Jesus Christ.

Advocates of the radical solution must come to realize that Christ is not radical in their sense. Advocates of the compromise solution must come to realize that Christ does not make compromises. There is value neither in the concept of a pure Christianity in itself, nor in the concept of man as he is in himself; there is value only in the reality of God and the reality of man which becomes one in Jesus Christ. It is not some kind of Christianity that has value, but it is Jesus Christ himself. It is only in Christ that the solution of the ultimate-penultimate problem lies: his Incarnation shows the love of God for his creation; his Crucifixion shows the judgment of God upon all flesh; his Resurrection shows God's will for a new world. These three revelations are revelations of one God; they cannot be separated.

The Christian life calls for neither the destruction nor the sanctioning of the penultimate. The reality of God meets the reality of the world in Christ and allows us to share in this real encounter; it is an encounter beyond all radicalism and beyond all compromise. The ultimate leaves room for the penultimate, yet a thing becomes penultimate only through the ultimate. The ultimate is coming and the penultimate is here to prepare the way.

In relation to justification of the sinner by grace, two things are penultimate: being man and being good. It is only by reference to Jesus Christ, who has come and who is to come, that we can know what it means to be man and to be good. It is possible for us to be human and good because he has come; we must be human and good because he is coming.

The Natural

The natural is to be identified wholly with neither the creaturely nor the sinful.

The concept of "the natural" as an ethical guide has been generally forsaken by Protestants, and has been retained primarily in Catholic circles. Although there are undoubtedly ambiguities in its use as a viable concept, there is also something lost if it is completely neglected. Subjects such as abortion, euthanasia, contraception, suicide and sterilization cannot be treated without some consideration of "the natural" and some evaluation of "the natural" as a meaningful guide. We consider these topics in greater detail in subsequent installments, giving here a brief overview of Bonhoeffer's perspective without necessarily indicating our agreement with it on all points.

The natural is distinct from the creaturely because of the effects of the Fall. The natural is distinct from the sinful in order to include the creaturely, i.e., the good creation of God. Bonhoeffer offers the following definition of "the natural,"

> The natural is that which, after the Fall, is directed towards the coming of Christ. The unnatural is that which, after the Fall, closes its doors against the coming of Christ. . . . The natural is the form of life preserved by God for the fallen world and directed towards justification, redemption and renewal through Christ.[22]

Comparison of Radical and Compromise Solutions[21]

Radical	*Compromise*
Penultimate destroyed by ultimate.	Ultimate excluded from penultimate.
Ultimate does not admit penultimate.	Penultimate does not admit ultimate.
Sees God as Judge and Redeemer.	Sees God as Creator and Preserver.
The end is rendered absolute.	Things as-they-are are rendered absolute.
Hatred of the established, of creation.	Hatred of ultimate, of justification by grace.
Hatred of time.	Hatred of eternity.
Hatred of patience.	Hatred of decision.
Hatred of wisdom.	Hatred of simplicity.
Hatred of moderation and measure.	Hatred of the immeasurable.
Hatred of the real.	Hatred of the word.
Gives rise to ethic based solely on Cross or Resurrection.	Gives rise to ethic based solely on Incarnation.

Alternatively, the difference between natural and unnatural is the difference between a proper and a mistaken use of freedom.

The natural is already established and present in the created world; neither individual, nor community, nor institution decides what is natural. The purpose of the natural is to safeguard life; the unnatural is the enemy of life. The unnatural requires organization; the natural is simply there.

Life must be viewed neither in terms of vitalism nor in terms of mechanization. Life which sets itself up as an absolute destroys itself. Vitalism is an absolutization of life as an end in itself; mechanization is an absolutization of life as a means to an end. Natural life stands between these extremes. Both vitalism and mechanization express despair toward natural life.

Life is neither only an end in itself nor only a means to an end. In relation to Christ, the status of life as an end in itself is understood as creaturehood, and its status as a means to an end is understood as participation in the Kingdom of God. Within the framework of natural life, the status of life as an end in itself is manifest in the rights with which life is endowed, and the status of life as a means to an end is manifest in the duties which are imposed upon it.

Bodily life carries within itself the right to its own preservation since it is the will of God that life on earth should be in the form of bodily life. It is therefore the "first right of natural life" to safeguard "the life of the body against arbitrary killing."[23] "All deliberate killing of innocent life is arbitrary."[24] This perspective leads Bonhoeffer to be extremely cautious with the practices of abortion and euthanasia. In the case of euthanasia, he recognizes the difference between "allowing to die" and "killing" to be valid, but finds that many arguments stem from the utility of life as the deciding criterion. The destruction of human life can in general be justified neither on the grounds of consideration for the patient nor on the grounds of consideration for the healthy. The argument that human life should be destroyed when it has lost its social usefulness, or that innocent sick life can be properly destroyed in the interest of healthy life, spring from a utilitarian view toward life and from an improper struggle against the character of the fallen world itself. "In the sight of God there is no life that is not worth living; for life itself is valued by God."[25]

The human body must never become a thing, an object, completely in the power of another man to do with as he pleases. Rape, exploitation, torture and arbitrary confinement of the human body are all violations of natural life.

A Good Life

Life must be made neither a purely private concern nor the occasion for participation in "enthusiasm."

Because the concept of the good must be bound to the concept of the real, the ethical abstraction of an isolated individual with a knowledge of good and evil, facing incessant decisions between clearly recognizable good and clearly evil, must be forsaken. When life is a purely private concern, then a man's loyalty to his own principles is represented as the good, without consideration for the effects on other men. When we become "enthusiasts," we join the ranks of political fanatics, ideologists, and importunate reformers whose failure is guaranteed, since they do not come to grips with life, with man, as they are in reality.

Our life is lived in the tension between the "yes" of Creation, Atonement and Redemption, and the "no" of Condemnation and Death. A man who knows Christ must always hear the "no" with the "yes," and the "yes" with the "no."

When Jesus says, "I am the life," (John 11:25, 14:6), he binds every thought of life to his person. Life can never be separated from the person of Jesus Christ (Philippians 1:21, Colossians 3:4).

> If we leave him out of our reckoning, as the origin, the essence, and the goal of life, of our life, if we fail to consider that we are creatures, reconciled and redeemed, then we shall achieve no more than mere biological and ideological abstractions.[26]

Our life is lived in the tension between the "yes" of Creation, Atonement and Redemption, and the "no" of Condemnation and Death. A man who knows Christ can hear neither the "yes" only, nor the "no" only, but he must always hear the "no" with the "yes," and the "yes" with the "no."

Responsible Living

The possibility of responsible living arises from the realization that man is neither wholly free nor wholly bound. Life is bound to man and to God, and a man's own life is free. Without this bond and this freedom there can be no responsibility.

Responsible living evokes the concept of "deputyship," of representing other men (e.g., as father, statesman or teacher) selflessly. Deputyship must avoid two abuses: one must neither set up one's own ego as an absolute, nor must one set up the other man as an absolute. Both abuses set up false absolutes, not recognizing the ultimate authority for responsible living in Jesus Christ. The first leads to tyranny and exploitation; the second makes an idol of responsibility *per se*.

The responsible man does not live in an ideal or abstract world, but in the world of reality. His conduct is therefore dependent on his neighbor and the context in which they live. But this is not an advocacy of "situational ethics" in which every powerful pressure is yielded to; such a response would be irresponsibility, not responsibility. Two extremes must be avoided: neither servility to the factual, nor opposition to the factual in the name of a higher reality.

Action in correspondence with reality, i.e., in correspondence with Jesus Christ, neither sets up a "secular principle" and a "Christian principle" as conflicting perspectives, nor does it consider the secular and the Christian to be identical. The former leads to the setting up of eternally conflicting laws of reality which are the substance of Greek tragedy, but such a tragic reading of life has been overcome by Jesus Christ. The latter neglects the fact that the reconciliation between God and the world achieved by Christ consists not in abstractions of conflicting principles but "in him as the

one who acts in the responsibility of deputyship, as the God who for love of man has become man."[27]

Responsible living requires that man commit his life and ways into the hands of God, and live day by day by God's grace; the man who acts on the basis of abstract ideology sees himself as justified by the idea itself.

In the outworking of responsible living, both obedience and freedom must be united. We must have neither obedience without freedom—which is slavery, nor freedom without obedience—which is arbitrary self-will. For the responsible man is called upon to choose, not simply between right and wrong, but also between right and right, and between wrong and wrong.

Summary

In this installment we have explored a form of ethical formulation—the "neither-nor" approach, and an approach to ethical guidelines—the system developed in embryonic state by Dietrich Bonhoeffer. While being committed to neither in any kind of absolute sense, we have explored their utility and relevance for modern man.

The "either-or" formulation of doctrine and ethics, often vigorously expounded as the means of retaining antithesis in Christian thought, must frequently be supplemented by a "both-and" formulation. In many cases, furthermore, a "neither-nor" formulation provides the best method for avoiding extremes without restrictive or unrealistic attempts to define or delimit the desired middle ground. To see things in a "neither-nor" framework indicates why the "either-or" formulation is frequently inadequate for the full expression of the biblical perspective on doctrine or ethics. This follows from the realization that we may often be able to say what something is *not*, even when what it fully *is* lies beyond our grasp and understanding. Most of the creeds of the Church came into being with this kind of goal.

In sharing some of the striking examples of "neither-nor" formulations which characterize the incomplete *Ethics* of Dietrich Bonhoeffer, we have sought to emphasize Bonhoeffer's biblical insistence on both the Christocentricity and the importance of reality for any adequate Christian approach to ethics. The Christian approach to living grows out of a personal relationship with God in Jesus Christ, a relationship through which the Christian is continuously transformed more and more into the image of his Lord (the process of sanctification). This personal relationship and daily walk must be at the basis of any Christian discussion of ethics, rather than abstractions, idealizations, or search for knowledge.

NOTES

[1]D. Bonhoeffer, *Ethics*, E. Bethge, Ed., Macmillan Co., New York (1961).
[2]F. A. Schaeffer, *The God Who Is There*, Intervarsity Press (1968), p. 20.
[3]F. A. Schaeffer, *Escape from Reason*, Intervarsity Press (1968), pp. 41, 42.
[4]F. A. Schaeffer, *The Church Before the Watching World*, Intervarsity Press (1971), pp. 83-105.
[5]D. Elton Trueblood, "The Self and the Community," in *Quest for Reality: Christianity and the Counter Culture*, C. F. H. Henry, Ed., Intervarsity Press (1973), pp. 35, 40.
[6]D. D. Feaver, "The Failure of a Religious Subculture," in *Quest for Reality: Christianity and the Counter Culture*, C. F. H. Henry, Ed., Intervarsity Press (1973), p. 45.
[7]Or changing the field of discourse to physics, we note the interesting result that we say No to "an electron is either a particle or a wave," and No to "an electron is both a particle and a wave," but Yes to "an electron is neither a particle nor a wave." We thus leave unanswered what an electron *is*, but we avoid the pitfalls that such a definition might involve us in. See also P. T. Arveson, "Dialogic: A Systems Approach to Understanding," *Journal ASA* 30, 49, June 1978.
[8]*Ethics*, p. 25.
[9]*Ethics*, p. 55.
[10]*Ethics*, p. 56.
[11]*Ethics*, p. 142.
[12]*Ethics*, pp. 5, 6.
[13]*Ethics*, p. 8.
[14]*Ethics*, p. 7.
[15]*Ethics*, pp. 12, 13.
[16]*Ethics*, p. 15.
[17]Is it not remarkable how these conditions, fashioned in Bonhoeffer's thought by the immediate events of the Hitler regime in Nazi Germany more than 30 years ago, are so applicable to us today?
[18]*Ethics*, p. 62.
[19]*Ethics*, p. 60.
[20]*Ethics*, p. 62.
[21]*Ethics*, pp. 86-89.
[22]*Ethics*, pp. 102, 103.
[23]*Ethics*, p. 115.
[24]*Ethics*, p. 116.
[25]*Ethics*, p. 119.
[26]*Ethics*, p. 189.
[27]*Ethics*, pp. 201, 202.

Topics for Discussion

1. In describing the relationship between science and Christian faith, which of the formulations: "either-or," "both-and," or "neither-nor," is most effective? Construct positive examples of each approach.
2. Show how the major interpretations of the Lord's Supper can be categorized in terms of which formulation: "either-or," both-and," or "neither-nor," is chosen for expressing a particular interpretation.
3. What is the major difference between standard concepts of ethics as the choice of right or wrong in a particular situation and Bonhoeffer's concept of a uniquely Christian ethics? Do you find this difference substantive?
4. What is the basis for ethical choice outside of the Christian context? Can ethical relativism be avoided?
5. Does an acceptance of Christian ethics as "the form of Christ taking form in us" rule out the use of scientific understanding to guide us in ethical matters?
6. Theodosius Dobzhansky writes, "The Book of Genesis gives an unexcelled poetical account of the decisive evolutionary step from animal to man (Gen. 3:22). The capacity to know and to forsee the consequences of one's own and of other people's actions is, indeed, the fundamental biological precondition for becoming an ethicizing being." (*Zygon* 8, 261 (1973)) Does the acquiring of the knowledge of good and evil mark the beginning of the human condition, or does it mark a departure from what it means to be truly human?
7. What is the Christian basis for the intrinsic value of a human being? Can there be an intrinsic value of a human being if this is not derived from religious sources?
8. Consider the common conflict between loving one's neighbor and loving mankind in terms of the difference between the real and the ideal.
9. Discuss how acceptance of the "two spheres" concept has affected our ideas of education, worship, welfare, sex and vocation. How does a realization of the unity in Christ affect these ideas?
10. In terms of Bonhoeffer's categories of "radical" and "compromise" solutions, consider the political revolutionary and the practical politician.
11. Indicate how the concept of "the natural" as an important consideration in ethical thought has been revitalized by our environmental concerns.
12. What are some of the major weaknesses of taking "the natural" as an ethical guide? Consider shaving, being immunized against polio, using contraceptives, and flying in airplanes. Is it "natural" for married couples to have children?

Which is more unnatural: to practice birth control by use of contraceptives or by abstinence?

13. Does Bonhoeffer's assertion that "life itself is valued by God" have a biblical foundation? Which is better: not to be at all, or to exist with physical and mental suffering?

14. Which is easier for the human being: relational living or ideological living, i.e., action growing out of reality or out of abstractions? Why?

15. When called upon to choose between wrong and wrong, is no choice the best choice of all? Is no choice possible most of the time?

OTHER READINGS

Ian Barbour, *Christianity and the Scientist*, Association Press, N.Y. (1960).

A. Dumas, *Dietrich Bonhoeffer: Theologian of Reality*, MacMillan (1968).

M. O. Hatfield, *Conflict and Conscience*, Word (1971). *Between a Rock and A Hard Place*, Word (1976).

C. F. H. Henry, Ed. *Quest for Reality: Christianity and the Counter Culture*, InterVarsity Press, Downers Grove, Illinois (1973).

H. F. Roellig, *The God Who Cares*, Branch Press, N.Y. (1971).

Zygon 8 (1973), "Papers from the Symposium on Science and Human Purpose of the Institute on Religion in an Age of Science".

EDUCATION FOR THE REAL WORLD by Henry M. Morris, San Diego, California: Creation-Life Publishers, 1977, 192 pp., $3.95.

Imagine a school where Chaucer and Shakespeare are prohibited because they are "spiritually dangerous." Within this setting, picture a science class where students are programmed to believe that evolution is occultic. And visualize a majority of the teachers substituting handouts for texts because there are no "suitable" textbooks available. This is what Henry Morris describes as an "education for the real world."

Morris says that because Christian education is based on God the Creator, Redeemer, and Revealer, students must be exposed only to that which espouses this world view. Learning should occur primarily at home, though the Church and the school are ordained to reinforce and extend parental teaching. Furthermore, Morris believes that learning occurs only through listening. "Teaching is not the discovery of truth, nor sharing the truth; it is indoctrinating the truth."

After declaring that evolutionism and creationism are the only existing world views, Morris traces evolutionism back through humanism to pre-Socratic idolatry to Babel and ultimately to Satan. This leaves Christians with one valid world view: creationism—that is, if believers can accept Morris' historical "analysis." A Christian education, then, indoctrinates the creationist schema.

Morris allows the use of empirical data from Christian or non-Christian sources in studies of natural science, but rejects most of the available material in the social sciences and humanities because he believes that a large percentage of this is anti-Christian. That which opposes Morris' world view should be taught only if it commands monumental secular attention, and then only to advanced students who "need to be armed against

Books Received and Available for Review

(Please contact the Book Review Editor if you would like to review one of these books.)

Davis, S. T., *The Debate About the Bible: Inerrancy versus Infallibility*, Westminster, 1977.

Hayer, R. (ed.), *Medical/Moral Problems*, Paulist Press, 1976.

Inch, M. A., *The Evangelical Challenge*, Westminster, 1978.

Kitchen, K. A., *The Bible in its World: The Bible and Archeology Today*, I.V.P., 1978.

McBurney, L., *Every Pastor Needs a Pastor*, Word Books, 1977.

Plantinga, A. C., *God, Freedom, and Evil*, Eerdmans, 1977.

Ramm, B., *The Devil, Seven Wormwoods, and God*, Word Books, 1977.

Rice, F. P., *Sexual Problems in Marriage: Help from a Christian Counselor*, Westminster, 1978.

Sanford, J. A., *Healing and Wholeness*, Paulist Press, 1977.

Schmitt, A., *The Art of Listening with Love*, Word Books, 1977.

Shaggs, F. R. and W. L. Trimyer, *Colors of the Mind: Excitement, Depression, Fear, Pain, Joy, etc.*, Skipworth Press, 1978.

Wilson, C. and J. Weldon, *Close Encounters: A Better Explanation Involving Trauma, Terror and Tragedy*, Master Books, 1978.

Wogaman, J. P., *The Great Economic Debate*: An Ethical Analysis, Westminster, 1977.

Wogaman, J. P., *A Christian Method of Moral Judgment*, Westminster, 1976.

them, not merely conditioned to understand them."

The administration of Christian education closely follows the aforementioned criteria. In descending order of importance, Morris maintains that Christian schools should require studies in Bible, communication, history, natural science, geography, and government; beyond these, other humanities, professional, and vocational courses can be offered if time, need, and resources permit. Teachers are to be selected on the basis of moral purity, academic dedication, biblical maturity, and experience and wisdom. Indoctrination should be accomplished primarily through lectures, though there may be some class participation, directed studies, and practica.

Only insofar as Morris calls for a re-evaluation of Christian education is his book valuable. Unfortunately its flaws outweigh this merit. Morris pays lip service to sound exegesis; in this book, that which is sound is that which agrees with Morris. Secondly, the idea of indoctrination usurps the Christian experience of discovery and individuality. It seems that Morris wants to manufacture fundamentalists *en masse*. A third major flaw is Morris' narrow concept of curriculum: graduates of the Morris school will not be equipped to deal effectively with the variety within secular society. These students may be prepared for the real world, but they will flounder in the temporal one.

Reviewed by John P. Ferré, Department of Communication, Purdue University, West Lafayette, Indiana

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THE RELEVANCE OF NATURAL SCIENCE TO THEOLOGY by William H. Austin, New York: Barnes and Noble, 1976, 132 pp., $22.50.

The author of this book is Associate Professor of Philosophy at the University of Houston. This book was researched and written during a fellowship from the National Endowment for the Humanities in 1972-1973.

The question is posited: "In what ways (if any) is it in order for theologians, in doing their theological work, to take account of the discoveries and theories of natural science?" Many people believe that science is irrelevant to theology because the two disciplines deal with entirely different areas or realms so that science has nothing to do with religion. Austin's thesis is that natural science is relevant to theological doctrines, i.e., religion and science are not mutually exclusive. He is not concerned with the relevance of theology to science or with the social and behavioral sciences.

Several arguments for the irrelevance of natural science to theology are examined and found inadequate. Not all possible arguments are included in Austin's discussion but fair representations of the main types are refuted.

Science is relevant to theology although it is not entirely clear how. Austin concurs with Whitehead that science can contribute to theology by helping it eliminate non-scientific conceptions. There is the temptation to get rid of scientific intrusions by undertaking a systematic reinterpretation of theology so as to guarantee that science is irrelevant to theology. This is happening with the doctrine of providence, writes Austin. It is the major theological doctrine likeliest to be immediately affected by natural science.

This book does not take a *Reader's Digest* approach to the topic. On Rudolf Flesch's readability scale, it would rank low because of long sentences, difficult words and few personal references. This treatment is for scholars who are interested in an enlightened discussion of the issues involved in how natural science relates to theology.

This book is evidently intended for a small audience because of its topic. Its price tag will assure a limited circulation.

Reviewed by Richard Ruble, Department of Psychology, John Brown University, Siloam Springs, Arkansas 72761.

THE ART OF MANAGEMENT FOR CHRISTIAN LEADERS by Ted W. Engstrom and Edward R. Dayton, Word Books, Waco, Texas, 1976, 281 pp. $6.95.

Although this book was designed as a guide for managers within Christian organizations, the authors acknowledge that many secular groups practice the suggested managing techniques. Every interested member of any organization will find something in this book which could make him or her into a better employee.

While this book is primarily intended for the manager, the individual aspiring to a position of greater supervisory responsibility will find this volume a valuable guide for developing the proper attitudes, skills, and habits required of a good administrator. Even secretaries will find suggestions which would help his or her supervisor be a better administrator in their organization.

The serious reader should be able to translate the majority of the ideas of this book into practice. To aid in further development and understanding of complex ideas, the authors have included a short bibliography on the last page of many chapters. These suggested readings, categorized by chapter theme and also accompanied with short annotated remarks, make the book a valuable tool for further directed study. This bibliography merits the price of the book.

"Goal Setting" and "Managing Your Time" are two major sub-themes in the book. Both authors are experts in these fields and effectively show how these tools can be effective aids for the successful administrator.

This book illustrates that the authors are experienced and knowledgeable supervisors. However the book does not read easily. The beginning of the book is rather abrupt. Chapter three with a few minor changes could function as chapter one and provide a more gentle entrance into the subsequent ideas. In places awkward sentence structure and superfluous words detract from the flow of information.

This is a needed book and should be a reference for every Christian leader. It is directed to the area of the Christian community which can utilize every concept found between its covers. The authors are to be commended for this effort.

Reviewed by Leon W. Kemper, Coordinator of Administrative Services, College of Liberal Arts, Arizona State University, Tempe, Arizona.

New Insights into Thermodynamics

Scientific work which refutes the claim that the theory of evolution contradicts or violates the Second Law of Thermodynamics, has been awarded the 1977 Nobel Prize in Chemistry. Dr. Ilya Prigogine's work extends the laws of thermodynamics to systems far from equilibrium. The Second Law of Thermodynamics is often described as if it applied to all systems under all circumstances and conditions. Although the Second Law predicts that reactions of matter near equilibrium conditions tend toward greater homogeneity and less complexity, there are many reactions in natural systems far from equilibrium that increase in complexity.

Prigogine's initial observation of this type of reaction in hydrodynamics was the formation of convection currents and vortices in a fluid subjected to a temperature gradient. Such systems are maintained at the cost of some energy (the fluid being unevenly heated). Vortices are highly correlated motions and convection currents are orderly and directional. Non-equilibrium differences of temperature create molecular order. Prigogine admitted that the theorem of minimum entropy production for near equilibrium systems that he proposed in 1945, is not valid. His Nobel Prize-winning work indicates that the condition necessary so that new structures may appear is a catalytic or cross-catalytic step.

Many reactions of this type have since been discovered experimentally in biological systems. Life processes work under non-equilibrium systems, and living matter consists of structures that exist in states that are far from equilibrium. Examples cited are the growth of an entire plant from a seed and the formation of amino acids from primordial soup. Nature is full of processes that spontaneously bring order from chaos and that thrive in seeming contempt of the Second Law of Thermodynamics.

Prigogine's work reconciled the Second Law with the obvious facts of life. He realized that in certain systems — self-catalytic chemical reactions, for example — perturbations that get far enough away from thermal equilibrium will no longer subside but will continue to grow. Such a system eventually can reach a new, stable configuration far from equilibrium; it will then maintain itself against thermal disruption by a continuous throughput of matter and energy, which carry off internally generated entropy to the outside.

Prigogine's work, according to his article in *Physics Today,* November 1972, may be providing a theoretical framework for understanding the ultimate example of "self-catalysis" — the origin of life. Only the unwary or uninformed would fall prey to the invalid argument that the Second Law of Thermodynamics contradicts biological evolution.

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Letters

Reviewer Ignores Publication Dates

After reading Paul Seely's review of a work of mine, *Genesis and Early Man* (J *ASA:29* (4), 1977), I wondered whether he is aware of the inevitable delays that sometimes accompany publishing.

The original Paper dealing with the origin of speech was written in 1956 and published in 1957. Eighteen years later (1975) it reappeared when Zondervan Publishing House decided to reissue the original Doorway Papers in a series of ten hard cover volumes in essentially their original form.

Almost all the work with chimpanzees by the Gardners, the Hayses, and particularly by David Premack was reported in the literature available to me subsequent to the publication of the 1957 Paper. When in 1976 Zondervan published Volume IV in the same series, this later work with chimpanzees was evaluated and incorporated in some detail in that volume.

Apart from the fact that there is still not unanimity of opinion as to the precise meaning of these more recent experiments, it seems important that a serious reviewer should take into account the date of publication of any such work whether he agrees with its conclusions or not.

Moreover, it does not speak too well for the reviewer's thoroughness that he omitted to give the name of the publisher, the date of publication, the number of pages, or the price. This is a customary courtesy to any publisher who supplies reviewers' copies.

Nor was the review written in a very happy Christian spirit, a circumstance which is rather sad since it appears in a Christian Journal.

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Ed: *We apologize for the inadvertant omission of publication data on* Genesis and Early Man. *Regretably, numerous attempts by us to date have been unsuccessful. We will be indebted to anyone who will supply us with this information.*

Disagree with Spinka on Abortion

Re: "Society and Abortion," *Journal ASA* 30, No. 1, March, 1978, Spinka implied that mentally retarded children were better off not being born. This is a very narrow, one-sided approach to a problem which has many ramifications. One whom has worked extensively with retarded children, at least educable and trainable mentally retarded children, finds that in many ways these citizens can be happy, well-adjusted, productive contributors to society. While those of us who are not retarded may have a feeling of superiority, believing we are "better than *they* are," this is a very narrow view which extensive work with retarded children and adults usually rectifies. Within their own world they can be quite happy and not uncommonly find more rewarding lives than non-retarded people. As a whole these people are much less of a burden on society than criminals, the insane, and some may add, infants, the chronically sick, the unemployed and a number of other groups. My own personal experience is that I have never seen happier children than those who are supposedly "suffering" from "Down's syndrome." At Bowling Green State University, I am involved in teacher training programs where a number of our students are preparing for careers in working with the mentally retarded. These students find this work extremely rewarding and fulfilling. It is time we remove some of the prejudices and misconceptions against this group of Americans we have labeled retarded. Relative to the desirability of aborting a child who would most likely be retarded, I for one, would not want to make the decision that another person, even if that person is retarded, should not have life. Nor would I want to make the decision that a child born with another defect, whether structural or otherwise, is better off not alive. If anyone should make this decision it should be the child himself. If the child makes the decision in the negative,

it is termed suicide, which is likewise condemned by society. At least among retarded children, this alternative is rarely evoked, even when the means available to do so are readily available.

Jerry Bergman
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I wish to comment on the article "Society and Abortion" by Harold M. Spinka (*Journal ASA,* March, 1978). Because I believe that it is dehumanizing to crush innocent human life within its mother's womb, I must express my horror and sadness at the merciless extermination of over a million unborn human lives annually in our country. It is astonishing to me that Spinka's sought after "sober understanding" takes little note of these tragedies. Nor do I believe that it is either fair or accurate to describe the position that I, as well as many others, take on this issue as "extreme emotionalism." I would rather that the author had the ability or willingness to distinguish between those who clamor to kill innocent lives and those who plead to save them.

The tone of Spinka's article appears to be basically unchristian. It is not in keeping with the mind of Christ to kill unborn human offspring. In many respects the article is unreasoning and misleading. To cite one example, he states that St. Augustine "held that to kill a formed fetus 40 days or older is homicide." This leaves open the interpretation that St. Augustine would not have objected to killing a fetus prior to 40 days after conception. Yet such an interpretation would be far from appropriate. It is clear from Augustine's writings that he condemns all direct abortion after conception as a damnable sin. This strong condemnation should have been stated.

A basic conclusion of Spinka's logic is that "we should be grateful and thankful for the additional guidance and direction provided for us in this complex problem by the U.S. Supreme Court." On the contrary, the abortion decision of January, 1973, by the U.S. Supreme Court is a moral and ethical disgrace which denies the most basic of human rights to members of our human family here on our home shores. Until we as a nation refuse to accept the attitudes and practices of abortion, we will remain a people of faulty conscience, little truth, imperfect laws, limited justice, no righteousness, no holiness, no peace and no proper order.

While we work together for the betterment of mankind using democratic principles, let us not favor the opinions of a purely secular person over a religious one. Nor should we discount the input to public policy formation of persons whose basis for human betterment is their perception of the mind of their Creator.

Finally, I would like to add that in all spheres, but most especially in the moral and ethical spheres, we really do have one man rule. A Christian must never forget, but always profess with the author of Philippians that "Jesus Christ is Lord." He is our guide and our ruler.

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I am a practicing Family Physician having passed my Specialty Boards in Family Practice, having graduated from the University of Nebraska College of Medicine in 1958 and having attended Wheaton College from 1951 to 1954. In our practice we handle approximately 200 obstetrical cases in a year and recently our clinic acquired an ultra sound machine of the latest variety which includes real time scanning. Its use is most extensive in obstetrics. We routinely scan all of our obstetrical patients at five months to see if the development of the baby is normal and also to see where the placenta is implanted. We also scan them at any time that we feel there is any problem. This may be as early as three weeks after conception.

My reason for the above information is to establish my qualification and my reply to the article by Harold M. Spinka, M.D. and his article entitled, "Society and Abortion" from the March 1978 *Journal ASA*. I think his article is typical of the somewhat appalling nature of scientific literature that comes to the Christian community in that someone who is not qualified writes with regard to a subject and then is held out to be an authority. My question is, How can a dermatologist write anything with more than a superficial knowledge with regard to abortion? Dr. Spinka probably handles no obstetrical cases and, therefore, does not have to face the realities of obstetrics and abortion in everyday practice. With regard to his indications for abortion, under number one he states, "In both defensive and offensive wars, and criminal justice and death sentences, and in large hospitals where there are not enough respirators or kidney machines to meet the demand, society must make the difficult choices of who shall live and who shall die. Therefore, abortion is also controlled by society." I would thoroughly reject this statement. First of all from the standpoint that if we know if the baby is healthy, which we can know from ultra sound and amniocentesis, it is therefore not a matter of letting a person die because we do not have enough kidney machines to take care of them. It would, rather, in my opinion be a case of murder, due to neglect.

For my position there are relatively few indications for abortion. I do feel that if we know that the fetus is defective and cannot survive outside the womb, such as in cases where there is an anencephaly or renal agenesis or other chromosomal defects which do not allow for survival of the infant, or if the infant is going to be severely damaged to make life miserable, then this is perhaps an indication for an abortion. The other indication, of course, as Spinka states is for the health of the mother. I think if the pregnancy is such that it will pose a definite threat to the life of the mother, then certainly the pregnancy should be terminated. However, with our newer scientific methods we find that we can make pregnancy safer than it was a number of years ago.

With regards to rape and incest, I have some mixed feelings. Certainly, the Bible seems to be clear that adulterous or illegal pregnancies are to be terminated. However, I think that one has to be extremely careful in making these judgments and we must consult with the clergy and with the patients themselves and thus come to a decision whether an abortion should be done in these cases. Also, the only reference to this is in the Books of the Law and may not be applicable in our day of grace.

With regard to his section under abortion and government laws, he cites a number of incidences in ancient society where abortion was allowed. I think this is merely historical "irrelevance" and is of no point in a discussion of this kind. The societies which he lists were idolatrous, godless societies and, therefore, their standards have no bearing on the standards that we should have today. Under his statement with regard to when the soul enters the body, he has given a rather comprehensive although somewhat confusing review. I was rather confused by his statement that in 1869 Pope Pious X dropped the forty day rule and this was reconfirmed in the current Canon law code in 1918. I checked with our local Catholic priest and evidently what Spinka means here is the Catholic Church accepts the fact that the soul enters the fetus at the time of conception.

With regard to his statement on the recent U.S. Supreme Court ruling, he states, "We should be grateful and thankful for the additional direction provided for us in this complex problem by the U.S. Supreme Court." My disagreement reaches a peak here. The only thing I think we have to be thankful for here is that we are able to see through our eyes as Christians the thoroughly godless part that this decision has played in our society. Why we should choose to take the opinion of men, some of whom have demonstrated their lack of any regard for the principles that God has set before us, and then use them as standards for our decision, is more than I can understand.

I believe, as do our Catholic friends, that the soul enters the fetus at or very near the time of conception. Certainly newer techniques of diagnosis in pregnancy such as ultra sound, which I mentioned above, have convinced me as to the fact that within three to four weeks the fetus is a living creation that has the God-given potential for humanity at a very early stage. An infant moves extremely early within the uterine cavity and the heart can be seen to be beating at three to four weeks. Therefore, I feel that abortion at any stage of pregnancy is comitting a criminal act against the laws of God. I feel that abortion is wrong except in very rigid circumstances and these I have mostly listed above. I also feel that a magazine of the caliber of *The Journal of the American Scientific Affiliation* should be more careful in its selection of articles to print on such delicate subjects which may have a great deal of impact on people who will be reading them.

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Founded in 1941 out of a concern for the relationship between science and Christian faith, the **American Scientific Affiliation** is an association of men and women who have made a personal commitment of themselves and their lives to Jesus Christ as Lord and Savior, and who have made a personal commitment of themselves and their lives to a scientific description of the world. The purpose of the Affiliation is to explore any and every area relating Christian faith and science. The *Journal ASA* is one of the means by which the results of such exploration are made known for the benefit and criticism of the Christian community and of the scientific community.

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PUBLICATIONS include the *ASA News* (sent to all members four to six times each year); four symposia: *Modern Science and Christian Faith,* F. Alton Everest, Editor, Van Kampen, Wheaton, Illinois (1950) (out of print), *Evolution and Christian Thought Today,* Russell L. Mixter, Editor, Eerdmans, Grand Rapids, Michigan (1960), *Our Society in Turmoil,* G. Collins, Editor, Creation House, Carol Stream, Illinois (1970), and *People, Power and Protein, Journal ASA Supplement* 1 (1976). Individual authors are also encouraged to publish independently.

INDICES to back issues of the *Journal ASA* are published as follows: Vol. 1-15 (1949-1963), *Journal ASA* 15, 126-132 (1963); Vol. 16-19 (1964-1967), *Journal ASA* 19, 126-128 (1967); Vol. 20-22 (1968-1970), *Journal ASA* 22, 157-160 (1970); Vol. 23-25 (1971-1973), *Journal ASA* 25, 173-176 (1973); Vol. 26-28 (1974-1976), *Journal ASA* 28, 189-192 (1976). *The Journal ASA* is indexed in the CHRISTIAN PERIODICAL INDEX. Present and past issues of the *Journal ASA* are available in microfilm at nominal cost. For information write University Microfilms, Inc. 300 North Zeeb Road, Ann Arbor, Michigan 48106.

LOCAL SECTIONS of the American Scientific Affiliation have been organized to hold meetings and provide an interchange of ideas at the regional level. Membership application forms, ASA publications and other information may be obtained by writing to: AMERICAN SCIENTIFIC AFFILIATION, Suite 450, 5 Douglas Ave., Elgin, Illinois 60120.

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"Upholding the Universe by His Word of Power." Hebrews 1:3

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