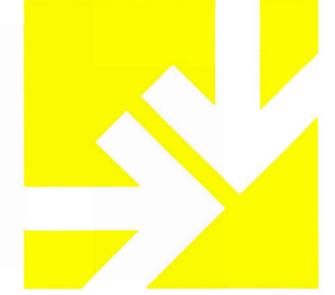
JOURNAL OF THE AMERICAN SCIENTIFIC AFFILIATION



An evangelical perspective on science and the Christian faith

POWER

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Moral Challenges to Christians in an Age of Scarcity

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PROTEIN

Calvin College Centennial Conference October 23 and 24, 1975

"The fear of the Lord is the beginning of Wisdom."

Psalm 111:10

SUPPLEMENT 1

1976

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SUPPLEMENT 1

PEOPLE, POWER AND PROTEIN

Moral Challenges to Christians in an Age of Scarcity

The academic year 1975-76 was the Centennial Year of Calvin College and Seminary, which are institutions of the Christian Reformed Church and are located in Grand Rapids, Michigan.

The Planning Committees for the Calvin Centennial worked with the conviction that our celebration should be an occasion for serious, grateful reflection and an opportunity for the college and seminary to engage in significant projects of lasting value to the Christian community. The committees were convinced that our celebration should be an occasion for grappling with current issues that face us as we begin the second century of our existence. The official "Statement of Centennial Objectives" declares that our "celebration will focus on past blessings, present opportunities, and future challenges".

On the basis of these convictions about the character of our centennial celebration, it was decided to sponsor two special academic conferences early in the centennial year for the purpose of applying the Christian faith to important current issues. One of the purposes of these conferences was to celebrate our Centennial by working together to discover Christian answers to problems that face us now and will continue to face us in the years ahead.

The two topics which were selected were as follows: "The Arts in the Church's Worship" which was held on October 2, 3 and 4, and "People, Power & Protein: Moral Challenges to Christians in an Age of Scarcity" which was held on October 23 and 24. The papers of this second conference are presented in this Supplement to the Journal of the American Scientific Affiliation.

As we all know, the world is faced with a number of interrelated problems of global proportions. In the second conference we focused on three major problem areas, namely: World Population, World Energy Needs and Supplies, and World Hunger and Food Supplies. Much has been written and spoken recently about the nature and extent of these problems and about the technology related to each of them and required for their alleviation. It is also being increasingly recognized that, in addition to the technological aspects, these problems have great moral and ethical dimensions.

In the conference we did not simply want to restate the problems once again, but rather, because we believe that Jesus Christ places radical demands on all aspects of our lives, we tried to put forward and discuss proposals for a Christian response to these problems and possible radical changes in Christian lifestyles which may be necessary in order to meet these problems. Hopefully, this conference and these proceedings will help all of us to intensify our efforts in learning how to live the Christian life in contemporary society.

Roger Griffioen

Department of Physics Calvin College

Rethinking Christian Perspectives on Family Planning and Population Control

JOHN H. SCANZONI

Historical Christian Views on Contraception

Christians have a long history of pronouncements when it comes to issues related to population control. These pronouncements have been many and varied, but their traditional content is caught by Martin Luther's argument. "'Propagation,' wrote Luther, 'is not in our will and power . . . creation is of God alone'" (Thomlinson, 1965:188). But John Calvin went one logical step further and condemned the one form of contraception with which most people at that time were familiar. Coitus interruptus or withdrawal was "doubly monstrous" to Calvin for "it is to extinguish the hope of the race and to kill before he is born the son who was hoped for" (Petersen, 1975:519).

The obvious thrust of statements such as these has been pronatalist in nature, i.e., Christians have supported the idea of children—"The more the more meritorious." One outgrowth of that view was strong Protestant opposition to "artificial" contraception and to abortion during the 19th century. In 1869, for instance, Anthony Comstock and The Society for the Suppression of Vice got the New York state legislature to pass a law defining birth control writings as obscene (Thomlinson, 1965:207). Most states followed suit and in addition banned "the manufacture and sale of contraceptives or the dissemination of birth control advice. In 1873 Comstock was instrumental in passing federal legislation which made it a criminal offense to import, send through the U.S. mails, or transport between states any article of medicine for the prevention of conception or for causing abortion" (Thomlinson, 1965:207). And while most Protestants have recently changed their position regarding contraception, the official Catholic position remains consistent and against both contraception and abortion. Indeed, "Some Catholic theologians consider contraception a worse crime than abortion because whereas feticide is only the murder of a human being, contraception involves prevention of both a human life and an eternal soul. After feticide, so runs the argument, the soul continues, but in the case of anticonception techniques, the soul is never created in the first place-a far more heinous sin" (Thomlinson, 1965:199-200). The point is that toward the end of the last century American Christians of varied persuasions shared a common abhorrence against practices that would prevent the union of sperm and egg, and against practices that would destroy the developing outcome of that union. Opposition to abortion and contraception was all one package. Only recently have official Protestant statements cut up the package and allowed the legitimacy of contraception. However, it seems clear that reinterpretations by Protestant theologians regarding contraception came in response to the behavior of Protestant laypersons. Laypeople were in fact using contraceptives (and so were the theologians, one suspects), and so the churches moved to justify the practice.

Much the same thing is now occurring among Catholics. Many local parish priests and even more parishioners are not listening to the Pope. Evidence gathered over the last 15 years shows increasing convergence between Catholic and non-Catholic contraceptive practices (Ryder & Westoff, 1971). While Catholics continue to have somewhat larger families than non-Catholics, and continue to be somewhat less rigorous in their contraceptive behaviors, the trend is clearly in the direction of convergence with white nonCatholics. But even nonCatholics who are more theologically conservative are likely to feel more uncomfortable with contraceptives, and likely therefore, to have larger families (Rvder & Westoff, 1971).

Views on Abortion

Abortion represents the other part of the package where Christians have traditionally taken pronatalist positions—positions that encourage population growth. Nevertheless prior to the 19th century Anglican ecclesiastical law held that, "The soul entered the body at the moment of quickening of the embryo, that is, the first time the woman felt movement in the uterus," (Thomlinson, 1965:200). Generally this occurs during the fourth month and English laws reflected this theological notion. Prior to 1803 abortion was punishable only after "quickening" (*ibid*). But subsequent to 1803, English laws became more stringent in also prohibiting "prequickening" abortions.

Recently modern governments have begun to reverse those laws and to allow abortions. All of us are familiar with the dramatic 1973 decision by the U.S. Supreme Court striking down state antiabortion laws. Among Christians, there is sharp division regarding abortion. Most Catholics and many conservative Protestants continue to believe that abortion is akin to taking a human life. Some Christians favor a consistutional amendment prohibiting abortions. On the other hand there are many Christians who fall into two remaining camps regarding abortion. One group contains women who would never obtain an abortion themselves, and men who would resist it if their wives wanted it. Yet these same persons prefer the present law allowing freedom to anyone to have the right to choose abortions. Finally there are some Christians who not only favor the present law, but also feel they have the moral right to have abortions themselves if they felt it were necessary. (See Spitzer and Saylor, 1969; also Gardner, 1972, for a spectrum of opinions among Christians on this issue.) It has been argued that since there are equally devout Christians on all sides of the abortion controversy it ought to be declared a matter of Christian liberty. Christians ought to be allowed to follow the leading they perceive from the Holy Spirit and the Bible and church history. They should seek the counsel of other devout Christians and make prayerful, careful decisions as to what God wants them to do in this matter.

It therefore follows that it seems ill-advised for Christians to want to turn the clock back and do again what we did in the 19th century, i.e., impose certain religious views regarding abortion on nonChristians. The evidence shows that just as prohibition of alcohol failed, state laws did nothing to prevent abortions. Persons who wanted them got them. Women who could pay lived through their ordeal because they got good physicians and sanitary conditions. But many less advantaged women did not survive the "back alley butchers." Others who did often suffered grievous consequences including serious infections that brought great pain, and often subsequent sterility. Just as important, the evidence shows that since the Supreme Court decision, abortion-related deaths have dropped markedly in the U.S. (Tietze, 1975). To go back to the old laws would probably raise these deaths to a higher level than before. In addition one study shows that in New York City the greatest impact of legal abortion has been to reduce illegitimacy rates substantially (Tietze, 1973). It is the woman who can least afford the unwanted child who is most benefited by safe, legal abortion (Kramer, 1975). For these kinds of reasons, Christians who are genuinely interested in worldwide population control could very well find it quite difficult to defend laws that prohibit simple access to safe and sanitary abortions.

Sterilization

In addition, populations are controlled not only by contraceptives and abortion but also by sterilization—surgery preventing either male or female to contribute to conception. Catholic dogma remains officially opposed to voluntary sterilization, while Protestants have not been quite so outspoken here as in the abortion or contraception controversies (Petersen, 1975). Protestants have rarely if ever spoken out positively in favor of sterilization.

It is clear that Christians have been strongly pronatalist—in favor of producing children. Why should that be? There are at least five reasons we can identify for this traditional Christian pronatalism.

Interpretation of Old Testament

The first has to do with an interpretation of certain Old Testament passages that seem to favor the notion of child-quantity per se. To Old Testament Jews living in an agrarian society, children were a blessing—or

"positive utility" as the economist would say. The more there were, the more smoothly and efficiently the agricultural families of that period could function. And so "blessed is the man who hath his quiver full of themthey are an heritage from the Lord." However in the New Testament that theme is missing. Indeed at one point Christ actually warns against the perils of motherhood because of the destruction that was coming on Jerusalem. (Luke 23:29) At another point, He instructs listeners who had just elevated motherhood that motherhoodhood is far less important than obedience to God's will. (Luke 11:27-28) St. Paul pointed out that married persons have to think about the well-being of their family, so that if they wanted to serve God effectively, it might be better not to marry at all. That statement, of course, has been the rationale behind Roman Catholic celibacy through the centuries. The strategy of celibacy is certainly an effective though perhaps unintended way to control population growth, and celibacy has a biblical foundation. It seems that Paul, and most subsequent theologians, assumed that marriage automatically meant children. Apparently it did not occur to St. Paul, or else he did not choose to suggest, that persons could marry and yet be child-free. The firstcentury church believed in Christ's immediate return. The idea of producing many children for whatever reasons did not appear especially pertinent as it had in Old Testament times. Nor, on the other side, was there any reason for the Apostles to warn about a nonexistent "population problem." Life-spans were brief, diseases and famines were rampant. Mortality was high among persons of all ages. Indeed the concern of the Emperor Augustus was to find ways to increase population growth-to encourage Romans to have larger families (Carcopino 1940). When Christ did not return and it became evident that the Church was to remain here, it simply revived the Old Testament blessing on "full quivers," and did so within secular societies that welcomed that doctrine in terms of their own interests. That doctrine has persisted to the present time.

Regard for Human Life

A second reason why Christians are so strongly pronatalist is the high regard they hold for human life itself. Many thorough-going humanists would also hold human life with equally high regard. But since Christians believe that people are made in the image of God, human beings take on an added special, or *sacred* significance. Much of Christian opposition to contraception was and is based on the assumption that each life is a sovereign and sacred act of God, and to seek to thwart the union of sperm and egg is to violate God's will. How many times have we heard stories about the 17th child of a Christian family—such as Charles Wes-



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Christians have traditionally taken pronatalist positions — positions that encourage population growth.

ley—who would not have been here had the parents "selfishly sinned" and used contraception. We are told that church and society suffer great loss when Christians for "selfish ends" seek to thwart God's sovereign purposes in conception. The argument is Luther's—if God creates a sacred or special life then God will provide for the sustenance of that life.

The concern for life's sacredness also appears among those Christians who oppose abortion. We are told that the commandment against murder underscores the uniqueness of life, and that abortion is the taking of a human life. The Supreme Court, however, ruled that no one can be certain that the fetus is actually "human life." The fetus does have the potential for human life, but so do the sperm and egg. It is for that reason Catholics tell us not to interrupt their union. In any case, there are two points we can make in regard to abortion and life's sacredness. One is that if we are going to interpret the sixth commandment so far as to preclude destruction of fetuses, it would seem that we would also have to disallow the taking of all human life-even, for example, by the military or police. And of course there are Christians in the so-called "peace" churches who, remarkably, are that consistent. But most Christians today who oppose abortion do not seem to be avowedly nonviolent in general.

An additional and more serious inconsistency among many who opposed abortion because of life's sacredness has to do with the narrow way in which they often define life. They are passionately concerned that the law guarantee that any developing fetus be brought to full term. But the evidence shows that the incidence of children born out of wedlock occurs most often among the poor and those less well off. Very often such women are black and still in their teens (Kramer, 1975). Even among married women the proportion of unintended pregnancies increases as education decreases (Ryder & Westoff, 1971). Where are the antiabortion Christians who will argue for laws guaranteeing equal opportunity for those unwanted children? Christian voices are seldom heard demanding that the government provide a guaranteed annual income for women or couples with more children than they can support. Instead, conservative Christians complain about "welfare chiselers" and high taxes, while strongly supporting money for police and military who ultimately have the right to take human life. In short, to be concerned for the sacredness of life is not merely to institutionalize mechanisms assuring that all fetuses maintain physical existence. It also means institutionalizing mechanisms to enhance the quality of the child's life in the economic, emotional, intellectual, and spiritual realms as well. To stop merely at physical existence, is to have a very narrow view indeed of God's image in human-

Church's Ambivalence Toward Sex

Third, Christians have been pronatalist not only because of the Old Testament stress on child-quantity, and because of the sacredness of life, but

also because of the Church's ambivalence toward sex. The Bible itself takes a very positive view of sex. In reading Song of Solomon, for example, one is struck by the robust, pleasant, and pleasurable images of sexuality that emerge. It was the Church Fathers who gave us a negative view of sex. For example, "Jerome would not permit married couples to partake of the Eucharist for several days after performing the 'bestial act' of intercourse. 'A wise man' (he wrote) 'ought to love his wife with judgment, not with passion. . . . He who too ardently loves his own wife is an adulterer.' Ambrose made a similar statement and was quoted with approval by Augustine and much later by John Calvin in his commentary on the seventh commandment." (L. Scanzoni, 1975: 30-31). This negativism persisted in Catholicism, and permeated Protestantism as well.

How do these unbiblical views of sex as "dirty" or "evil" contribute to Christian pronatalism? How is it that we can view the means of procreation as suspect, but the outcome-namely babies-in such favorable light? The fact is that because sex is suspect Christians have not talked openly about male and female sexual organs-anatomy. We feel uncomfortable discussing what God has made even with our own children, our own husbands and wives, and Christian friends. Not only do we ignore anatomical discussions, we conveniently ignore the physiology of reproduction. Most of all we don't talk about the specific techniques of contraception, much less techniques of sterilization or abortion. Who can name an evangelical minister who has ever led a series of meetings on "Christian family planning?" For a long time the Church never talked about sex at all, even in the most general terms. Finally within the last 15 years or so, in reluctant response to open discussion in the larger society, some churches hesitatingly allow their teenage youth group to acknowledge that sex is there, all right, but "it's bad and they shouldn't do it 'till after marriage."

Failure to take a positive attitude toward sex means that there is no frank and open discusssion about physiology, reproduction, and contraception. Lacking this kind of information, many unmarried couples find that they have produced a pregnancy they don't want. There is strong evidence to show that many young unmarried women who are sexually active do not practice any kind of contraception-much less effective contraception (Kantner & Želnik, 1972, 1973). And the less education they have, the more unprotected these women tend to be. Even among married persons there is a considerable proportion of children born as a result of what is known as "contraceptive failure"—the parents really didn't want the pregnancy and would have preferred it to be later if at all. (Ryder & Westoff, 1971). Therefore, many family-planning specialists argue that we need to take a more wholesome view of sex and discuss it normally and naturally. One way to achieve that goal is through sex education in schools. Teaching young adolescents about reproduction and contraception should help to reduce unwanted pregnancies both outside and inside marriage. Planners contend that such programs would especially benefit children and young people from less advantaged homes-the very persons who are the least well informed about the physiology of reproduction, who are least likely to use the best contraceptives, and who are the most likely to bear the most children, in and out of marriage.

But using the phrase "sex education" is like waving a red flag in front of some Christians. Because of the traditions of our Fathers we do suspect sex, and some Christians feel that learning about sex and contraception will cause kids "to do it." Adults are dreadfully concerned that adolescents not learn about sex and contraception because we are convinced that to be ignorant is to be innocent; to be informed is to experiment. Therefore the fear of sex education supports pronatalism, because the fact is that many young people (including some Christians) are already experimenting, and children are being born that were not planned forchildren that contribute to unwanted population growth. At the same time many of these unwanted pregnancies are terminated by abortions-a behavior which some Christians strongly oppose.

To cope with these unwanted pregnancies, and to cut down on the numbers of abortions, some advocates go beyond sex education per se and argue that adolescents ought to have access to the best contraceptives available-much as they have access to good medical care-and indeed as a part of medical care. And where they can't afford it, advocates argue that it ought to be provided free of charge. A recent study concluded that over the past decade "the trend has been consistently in the direction of liberalization of laws affirming the right of young people to consent for their own contraceptive care" (Paul, et al, 1974). What this means is that virtually all persons aged 18 are free from parental control insofar as legally obtaining contraception and abortion is concerned. Moreover among persons under 18 lawyers refer to what they call the "mature minor doctrine." This simply means that increasing numbers of younger adolescents can legally obtain contraception and abortion whether their parents approve or not.

These trends pose a genuine dilemma for some Christians, especially those who are Reformed in their outlook. On the one hand, widespread sex education, and especially unimpeded access to contraceptives will likely mean that the numbers of unwanted children, along with the numbers of abortions, should go down. Yet on the other hand if Christians support such policies, does that mean that they thereby endorse premarital sex? When St. Paul wrote to Corinth, Athens, or Thessalonica he never exhorted them to preach Christian sex ethics to nonbelievers. While he had a lot to say to Christians about their sexuality, to others the message was one of simple trust in Christ. Unfortunately over the centuries, not only have Christians developed a negative view of sex, we have also tried to impose our own sex ethics on others. We have confused grace with law. And it might be said that Christian opposition to sex education and to dissemination of contraceptives to the unmarried reflects this effort at imposition. Perhaps Christians ought to make a sharper distinction between what they expect from themselves and their children, and what they hope to see in the larger society. We convey to our own children that since sex is a glorious gift of God, it is never "dirty". Nonetheless we also convey our conviction that God's will is that actual intercourse be reserved for marriage (L. Scanzoni, 1975). At the same time we should provide our children with the fullest and the most explicit sex information available (L. Sanzoni, 1973). If this strategy were followed, then ideally Christian single persons would not need contraceptives, nor abortion, nor would they experience premarital pregnancy. If they marry, they would hopefully be better able to eliminate any unwanted pregnancies.

But we can't communicate these same kinds of spiritual motivations to nonChristians. Therefore, if ready access to contraception can reduce unwanted births and abortions, and thus reduce unwanted population growth, then Christians should not *oppose* ready-access programs. Some Christians might go a step further and strongly *support* expanded contraceptive delivery programs. It goes without saying that we ought to take a positive view of sexuality and strongly support sex education in the schools and churches.

Earlier we said it was inconsistent for Christians to oppose abortion and yet not favor full social and economic benefits for fatherless or disadvantaged children. It seems to me it is equally inconsistent to oppose abortion and yet also to oppose expanded contraceptive delivery systems. No one *prefers* abortion as a solution. If abortions can be avoided through expanded contraceptive delivery, then those who are most anti-abortion should be most pro-contraceptive delivery.

View of Woman

We come now to a fourth reason why Christians have been so strongly pronatalist. At least for some Church Fathers, there was a connection between negative views of both sex and women (L. Scanzoni, 1975). Some Christians still today take Genesis 3 as a commandand interpret I Timothy 2 as the solution. That is, they allege that because women are responsible for sin, they must bear children in pain as part of the curse. And the more they bear, the more they are able to get out from under the curse. While such a view may be too extreme for most Christians, it seems clear that the majority of conservative Christians do view women as inherently different from men in ways other than anatomy. The defenders of intrinsic feminity sometimes wax very mystical (Howard, 1975) in arguing for the uniqueness of woman, and for her subordination. Others argue from interpretations of certain passages that women are indeed different in function and essence though not in rank (Olthuis, 1975).

Modern Christians are not aware of how much they have unknowingly been influenced by Freud and Freudian psychology when it comes to women. Though they object to Freud's preoccupation with sex, they unwittingly concur with his speculation that "anatomy determines destiny." And what is the chief end of woman? To be a mother, to bear children. It is alleged that this is the highest vocation a female can attain. Moreover, like good Freudians, some Christians allege that the Mother has a unique relationship with her infant and small child-that only she can be there providing nurture and training. And so we train young girls to model themselves after the Virgin Mary or the mother of John Wesley or of John Calvin. We never think to teach them to use as models Mary the sister of Lazarus, or Priscilla, or Lydia, or Catherine Booth, or Mary Slessor or Gladys Aylward. We effectively exclude women from vocations that would function as alternatives to childbearing. Some churches still refuse to ordain women, and by various subtle means we keep all but a miniscule fraction of Christian women from participating in demanding professions, or in the middle or upper levels of management.

It is obvious why such policies are pronatalist. We

tell women "to be fruitful and multiply" and they dutifully obey. By excluding them from meaningful alternative vocations, we seal them into this one vocation. And we create all kinds of guilt feelings within them if they dare to break out.

Of course it is not only Christian women who are captives of these kinds of forces. For example, many women from lower-class and working class backgrounds perceive that the only rewards in life open to them emanate from motherhood. Life in general presents a bleak and dismal picture. Educational and occupational achievement are simply not viewed as realistic kinds of rewards for which to strive. And then think of the great masses of women in the nonwestern World—their sole opportunity for meaning in life is to bear children. To come to them with contraceptives in hand and merely to say, "Look, with this you can have 2 children instead of 8," has become recognized as an exercise in futility.

An essential part of the overall strategy of effective population control in every part of the world must include providing women with rewarding alternatives to childbearing and encouraging them to seek these out. Oil-rich Iran, according to one observer, may be a case in point.1 With the rapid expansion of business, education, and government services as a result of their petrodollars, hundreds of jobs have been created for which there are simply not enough trained personnel of either sex. Therefore all talented persons regardless of gender have been trained and recruited for these slots. Men apparently have no competitive edge over women. It is yet too early to tell whether these trends will mean lowered fertility among well-trained women, or an overall reduction in Iran's birth rate. However both declines should occur if we use the Western experience as a base for prediction.

In the U.S., Christians should support programs to broaden the horizons of young women. In pragmatic terms this means, for example, spending as much per pupil in Detroit's inner city as in its suburbs. It means saying the same thing to every girl that we say to every boy—"You can be anything you want to be—even President!" And what an irony it would be if Christians would argue that a woman can be president but not a preacher or priest. If we're really serious about effective fertility control and reduced population growth, then it's time we discard the Freudian myth about woman's mystical uniqueness and instead include her as a full and equal partner in society, church, and home.

Spreading the Faith through Children

There is a fifth reason why Christians have been so strongly pronatalist. And that is the very biblical notion that children carry on the Faith. The Old Testament makes the point that at the heart of the community of God are adult believers nurturing children from infancy. And in spite of some "covenant children" who "fall away" it is clear that the majority of contemporary adult Christians came from Christian homes. They were "nurtured" in the Christian faith as distinct from converts who have been "evangelized" to Christ from their adolescence onwards. Therefore we have been pronatalist, not merely because children are a blessing from God and intrinsically rewarding, but we also have a worthy utilitarian motive—they maintain the Christian community. The Shakers, for instance,

demonstrate what happens when a Christian group rejects sex entirely and therefore children—they become decimated to oblivion.

In the midst of a world that is overpopulated, and in the midst of a nation that consumes far more than its share of the world's resources, the question of reproduction for the sake of community is an extraordinarily serious matter. We can modify the Old Testament praise of children because we no longer live in an agrarian setting. We can hold life sacred and still opt to limit growth by the most effective technologies at our disposal. We can discard our "hangups" about sex, and our prejudices toward women, and consequently limit numerical growth. But how are we going to resolve the dilemma of limiting growth and still maintaining a viable Christian community? (Bayly, 1975). The Pope is at least consistent when he tells the world and the Church that both will prosper if they accept all the children God sends. But can we legitimately tell the world to cut back on children, when we feel Christians should proliferate for the sake of the Kingdom?

In reality the dilemma is not quite that painful because it appears that many Christian couples (including Catholics) have begun to follow the lead of persons in the larger society and to reduce the average sizes of their families. But then the question becomes, how much can Christians reduce family size—3-2-1-zero? And more important, is there any way we can seize the initiative and show the world how we can enjoy the rewards of chlidren, have sufficient numbers to maintain viable Christian community, and yet be responsive to the pressures of uncontrolled population growth? Are there life-styles that Christians can develop that can serve as a witness to the world as to how to achieve responsible growth in the midst of rapidly changing conditions?

The foundations of such life-styles would be based on the twin elements of individual freedom and corporate responsibility. Each Christian man and woman would be more free than now to produce and/or to care for as few or as many children as they wanted. Some would produce or care for none-they would be child free (J. Scanzoni, 1975b). Others would be free to produce and/or care for 1, 3, 5, or 10 if they wanted to. In other words there would be no negative sanctions taken against those who believe that God wants them to be child free-nor against those who feel God wants them to be prolific. Right now we sneer at the latter, and are cold towards the former. Neither would we censure singleness as we do now when we use such derogatory terms as "old maid." Instead we would affirm the Catholic concept that for those who are called, singleness is a unique means to serve God with unrestricted dedication.

Likewise we would need to change substantially our notions regarding both men's and women's roles. Earlier we said that the Christian woman should be free to be "all she can be" (L. Scanzoni and Hardesty, 1974) as far as vocation is concerned. The evidence is clear that married women who are oriented towards occupational achievement in the same sense as their husbands have fewer children (J. Scanzoni, 1975a). Trends towards female achievement are likely to expand among Christian as well as non-Christian women. We should support the freedom of those women to achieve and to have few, if any, children if that is how they discern God's will. But what of the Christian married woman

who desires serious vocation plus some children? One way to accomplish both goals is for husbands to take much more seriously than they have the Old Testament teaching on fathers nurturing their children. We must discard the Freudian notion that to achieve emotional health infants and children require their own natural mothers. Fathers can nurture just as well as mothers. The Bible makes clear that Christian men are supposed to be just as gentle, tender and compassionate as women. Therefore Christian husbands and wives should be free to be genuine equals in child care as well as in occupational achievement. To go one step further, some Christian husbands may want the freedom not to work at all during some period of time in order to "stay home" with a child or children. Christians should be allowed this freedom without the censure that we currently apply.

Child Care by the Christian Community

Now let us become even more heretical and suggest that during this period of rapid change the Christian community must begin to assume more responsibility for the care of all its own children (Henry, 1975). For the past hundred years or so we have become accustomed to households in which the biological mother (in most cases) became uniquely responsible for all phases of the children's development. As our society became more urbanized the effective influence of the kin on child-nurture became increasingly less. That process was reinforced and made mysterious by Freudian notions about various "complexes" between parents and their own children. Actually, in most societies, for most of the world's history, children have had a wide range of significant adults with which to identify besides their parents. Actual parents were always important, but so were older siblings and cousins, aunts, uncles and grandparents. Among the masses of people, prior to industrialization, biological mothers had to work as hard and as long as fathers to eke out a living—usually from the land-sometimes as small merchants or within the guild system (Young and Wilmott 1973). Mothers simply didn't have time to hover over children as many mothers do today. And among the upper classes where the mother actually had leisure to hover, she didn't use it for that purpose. Their nanny, or nurse, interacted with growing children far more than the mother ever did. And somehow the world survived in spite of the lack of intense mothering to which we have become accustomed. Some Christians even refer to that premodern era as the "golden age" of Protestantism. But with industrialization a middle class emerged in which women had discretionary leisure, but not quite enough wealth to hire nannies, nor were the kin as accessible as before. And so evolved what some have called "a cult of motherhood," in which the woman's whole mission and destiny became wrapped up not just in bearing children, but also in caring for them.

We must begin to think very hard about what it means to distinguish childbearing from childcaring—the natality function from the nanny function. We must begin to think about a far wider range of nurturing mechanisms than we have envisioned for the past hundred years. We must think about what it means to relieve the Christian nuclear family of the total burdens of both bearing and caring for all the needs—emotional, spiritual, social and economic—of children. Many Christians object to the State assuming more responsibility

There are five reasons for the traditional Christian view: interpretation of the Old Testament, regard for human life, the Church's ambivalence toward sex, our views of women, and the fact that children carry on the Faith.

than it already has for the care of their own children. But who could object to the Christian community itself—denominations and local churches becoming the servants of Christians. These are Christians who perhaps would like to bear a child or additional children but who feel they cannot because they claim they can't afford it, or because both partners are involved in serious vocation, or because for any reason they feel they would not be adequate parents if left to themselves.

The forms of the Church's servanthood on behalf of such persons would be many. Expansion of existing religious legal adoption services is one. We would not discourage adoptions by single persons as we do now, nor should we discourage interracial adoptions. There are some Christians who have not had the chance to marry or else do not wish to marry, yet they desire the experience of parenthood. They should be encouraged in this desire. The facilities of local churches that often stand idle during the week could be used to provide loving childcare on a daily basis. Senior citizens could be used in these arrangements, along with arrangements to provide childcare within private homes if some parents prefer that. The list of specific forms of the church's commitment to childcare is virtually endless and obviously situational. The basic policy point is that Christian parents could always count on the Christian community to provide whatever resources are needed in the care of children.

And that includes economic resources. The financial cost of children in the next few decades is going to continue to rise markedly. Add that cost to the equally marked rising aspirations of Christian women for vocation, and we can see how the *quantity* of covenant children available to nurture could decline significantly. The concept of making the whole Christian community responsible for the care of *all* its own children could be a means to balance those two economic and social trends. In this way the quantity of covenant children could be kept at a reasonable level—but far more important the quality of their care would not suffer and might even be enhanced.

Such patterns could also serve as examples to the larger society of how to maintain continuity in responsible fashion while living in a world of shrinking resources. Such patterns could also be mechanisms whereby nonChristians might be willing to entrust the care of their children to the Christian community, and thus provide us with means of evangelism for both parents and children. In addition, some nonChristian women who are pregnant but considering abortion, might instead be willing to give up their infant to a community of this sort. Finally, nonChristian women who do not wish to keep their newborn or other children might be willing to give them to the community for adoptive purposes, if they saw that it cared vitally about the well-being of children.

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Conclusion

In concluding, we may say that in the past Christians have been strongly pronatalist-proclaiming for themselves and for the world the virtues of childbearing and caring. But "times are changing" and we can no longer advocate the same modes of reproduction either for ourselves, or much less for society. We may have to make clearer than ever before the distinctions between Christian and nonChristian ethics on sex, abortion, and contraceptive delivery systems. Christians should be in the forefront of efforts to control population growth here and around the world so that the interests of nations, families, and individuals are best served. Yet we must recognize that those interests vary. An American view of population growth may be quite different from views held by nonwestern politicians, or some black leaders within our own country.

At a general level there is a connection between those peoples seeing their identity and power threatened through reduction of numerical growth, and the Christian community seeing its identity and influence threatened as a result of fewer children being born into it. And while we cannot deny the freedom of individual Christians to avoid or to severely limit childbearing if that is how they perceive God's will, we can take bold and perhaps daring steps to encourage reasonable continuity. In the days ahead may God grant us grace to know how to maintain that precarious though necessary balance between individual autonomy and our corporate responsibility to see all God's children as our very own children as well.

FOOTNOTE

¹In conversations with a native Iranian who works for her government, and who is presently taking graduate studies in the U.S.

REFERENCES

Bayly, Joseph. "Population Control-Who Decides?," Eternity (June), 26:43, 49, 1975.

Carcapino, Jerome, Daily Life in Ancient Rome, New Haven:

Yale University Press, 1940.

Gardner, R. F. R. Abortion: The Personal Dilemma, Grand Rapids: W. B. Erdmans, 1972.

Henry, Carl, F. H. "Reflections on Women's Lib," Christianity

Today, 19:345-346, 1975.

Howard, Thomas. "The Traditionalist View: A Dialogue on Women, Hierarchy, and Equality," Post American (May), 4:8-15, 1975.

Kantner, John F., and Melvin Zelnik. "Sexual Experience of Young Unmarried Women in the U.S.," Family Planning Perspectives, 4:9-17, 1972.

Young Unmarried Women in the U.S.," Family Planning Perspectives, 5:21-35, 1973. Kramer, Marcia J. "Legal Abortion Among New York City

Residents: An Analysis According to Socioeconomic and Demographic Characteristics," Family Planning Perspectives (May/June), 7:128-137, 1975.

Olthuis, James. I Pledge You My Troth, New York: Harper & Row, 1975.

Paul, E. W., H. F. Pilpel, and N. F. Wechsler. "Pregnancy, Teenagers and the Law, 1974," Family Planning Perspectives (Summer), 6:142-147, 1974.

Petersen, William. Population (third edition), New York: Macmillan, 1975.

Ryder, Norman B., and Charles F. Westoff. Reproduction in the United States, 1965, Princeton, New Jersey: Princeton University Press, 1971.

Scanzoni, John. Sex Roles, Life-Styles, and Childbearing: Changing Paterns in Marriage and Family, New York:

Free Press, 1975a. Scanzoni, John. "Alternate Styles of Marriage," Paper presented to Continental Congress on The Family, October, 1975b.

Scanzoni, Letha. Sex Is a Parent Affair, Glendale, Calif.: Regal Books (Gospel Light), 1973.

Scanzoni, Letha. Why Wait? A Christian View of Premarital Sex, Grand Rapids, Baker, 1975.

Scanzoni, Letha, and N. Hardesty. All We're Meant to Be: A Biblical Approach to Women's Liberation, Waco, Texas:

Word, 1974. Spitzer, W. O., and C. L. Saylor. Birth Control and the Christian, Wheaton: Tyndale House, 1969.

Thomlinson, Ralph. Population Dynamics, New York: Random House, 1965.

Tietze, Christopher. "Two Years' Experience with a Liberal Abortion Law: Its Impact on Fertility Trends in New York City," Family Planning Perspectives (Winter), 5:36-41, 1973.

----. "The Effect of Legalization of Abortion on Population Growth and Public Health," Family Planning Perspectives (May/June), 7:123-27, 1975.

Young, M., and P. Willmott. The Symmetrical Family, London: Routledge & Kegan Paul, 1973.

A New Consciousness: **Energy and Christian Stewardship**

RICHARD H. BUBE

Introduction

Since life is an anti-entropic process, the existence of life is synonymous with the consumption of energy. The higher the form of life, the greater is the consumption of energy needed to maintain full functioning. If human life is intrinsically good, then the consumption of energy is intrinsically good. The question is: How much energy must be consumed to make life human?

In the twenty year interval between 1950 and 1970, the consumption of energy resources in the United States doubled, increasing at a rate more than twice

the population growth rate. The fraction of energy usage in the form of electricity increased even more rapidly relative to the total during this period. All but a few countries in all the rest of the world get along

This paper was developed out of the discussions of an informal workshop on the subject at Stanford University during the summer of 1975. Those participating in the workshop with the author were Miguel Guilarte, John Mahan, Kim Mitchell, Henry Rodeen, Charles Rogler, Brad Scharf, Virginia Scott, John Strikwerda and Hugh Vander Plas. The latter two are alumni of Calvin College.

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on one-half or less of the energy considered necessary for Americans, although in recent years the growth rate of energy use in other countries has greatly exceeded that in the United States. This rapidly accelerated use of energy resources is depleting our conventional energy sources; the first slight tremors of an impending energy crisis have already been felt.

Any attempt to separate problems associated with energy from those associated with population, food supply or environmental concerns is doomed to failure. We are dealing with a complex system with many interconnections; attempts at simplistic or reductionistic solutions are bound to be inadequate. An increasing population seeking an increasing standard of living requires greater energy consumption of many different types, including food. The production of food in turn depends critically upon large inputs of energy for farm machinery, transportation, irrigation, fertilizers, pesticides and related activities. The processing of food for the consumer again requires large energy inputs, a rapidly increasing demand in the present day of preprocessed, pre-packaged, pre-baked, frozen or dehydrated foods. Although a limitation in population growth obviously would benefit the many pressures on energy, food and the environment, it is probable that a limitation on population only would have little more than a perturbative effect on the total constellation of problems. The increase in environmental pollution since 1946 is seven times the increase in population, largely because of a major change in production technologies starting after World War II. It appears that little less than a dramatic change in values and lifestyle is appropriate for major improvements in the near future.

Finally, it must be remembered that the subject of energy use is peculiarly tied to the future as well as the present. A balance must be struck between our responsibilities to the present generation and our responsibility to future generations. If we avoid our own energy crisis by exhausting the energy resources of our children's children, if our desire for greater and greater amounts of energy lead us to irreversibly damage the air, water and land of our planet, then we will have doubly failed. We will have failed our responsibility to both the present and the future.

God calls the Christian to be faithful in all things. Faithfulness with respect to man's responsibility for stewardship of the earth requires the willingness to dig into problems that are difficult and challenging. Such problems have not often been effectively tackled by evangelical Christians. What is required is a holistic approach in which ethical and technical matters are appropriately interwoven, a growing consciousness that because Jesus Christ is the answer, his disciples are

called upon to be obedient in a variety of ways, not just those commonly associated with religious expression. Until the responsible use of energy, as one example, assumes the same role in the daily life of the Christian as the faithful use of Word and prayer, an integrated understanding of Christian living in a day of energy scarcity will elude us.

Is There An Energy Crisis?

Whether one decides that there is an energy crisis or not depends critically on one's definition of "crisis." If the period of time in mind is the next 5 years (or until the next election), the answer may very well be that there is no energy crisis. But if being at the beginning of a radical change in the availability, cost and mode of energy supply is in mind, the answer is certainly yes

Traditional sources of energy—the fossil fuels, such as coal, petroleum and natural gas—are running out as presently foreseeable rates of use are projected into the near future. Just 100 years ago, the principle source of energy in the United States was wood. Subsequent industrial development was built on the large exploitation of our coal resources. About the time of World War I, oil began to become a major contributor to our energy consumption. Finally in about 1950 natural gas took over a significant role in our economy. The large utilization of these fossil fuels is therefore a rather recent development against the history of the human race, not to mention the history of the planet earth itself.

Even if coal is utilized in many different ways not presently used (e.g., solvent refining, pyrolysis, gasification magnetohydrodynamic generators), its supply is hardly infinite and we will probably begin to run out of coal in about 300 years or less. The attempt to use coal more widely threatens the air through volatile pollutants, and the exploitation of strip mining to tap our major reserve of coal threatens the earth with degradation.

Domestic petroleum production peaked in 1971. Although 89% of all fossil fuels remaining today are in the form of coal, 77% of United States consumption involves the use of oil and natural gas. Of all known petroleum reserves in the world, 75% are in the Middle East, where they will continue to be constantly threatened by international politics. It is expected that we will begin to actually run out of petroleum (as contrasted to local or politically-generated shortages, which are already with us) in about 25 years. The oil-rich nations of the Middle East are well aware of this, and are making major efforts to use their new income to prepare alternate energy sources for their own future.



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There are many costs (energy, environment, health) beside financial costs, and any balance sheet that excludes them will cover up massive deficits in the quality of human life.

Natural gas is an ideal fuel, but its supply is so limited that the United States may burn the last molecule of natural gas within 20 years.

Even during the interval when these traditional sources of energy are still available, however, the energy crisis will manifest itself as a drastic increase in the cost of energy: a cost to be reckoned not only in dollars, but in degradation of the environment, and in damage to the health and welfare of human beings. From these effects springs a major lesson of the energy crisis: there are many costs (energy, environment, health) beside financial costs, and any balance sheet that excludes them will cover up massive deficits in the quality of human life.

But the energy crisis is not the result only of the depletion of traditional and environmentally acceptable sources of energy, it is also the result of an absence of presently viable alternatives. Alternatives are known-nuclear fission, nuclear fusion, solar heating, solar electric, wind, geothermal, hydroelectric, and fuel from wastes—but no single one of these, or simple combination of several of these, is known today to meet the projected energy requirements of the year 2000.

Nuclear fission involving U²³⁵ is short-range, the supply of this material being more limited than the supply of coal. The nuclear breeder reactor overcomes this difficulty by producing more fissionable material than is consumed, but whether the operation, handling of radioactive wastes, and protection against accident and sabotage, of such an installation can be sufficiently controlled to warrant its operation, is still a subject for intense public debate. Nuclear fusion promises the ultimate limitless source of energy, but the technical problems involved in bringing it to practical use are extreme, if solvable at all.

All of the other alternative sources of energy arise from just three sources: the radiation from the sun, the gravitational effect of sun and moon on the tides, and the heat inside the earth itself. All of these sources will make a contribution to the future needs for energy, but it is unreasonable to suppose that they are going to supply a major share of the needs predicted for 2000 within the context of present-day lifestyles.

The effective use of such alternative sources of energy also calls for a technology of energy transmission and storage that is not presently available. Many of them are transient sources (solar, wind) and their utilization requires that excess energy received during periods of supply be stored for use in periods of dormancy. Their effective application also calls for a change in public evaluation of initial-capital-outlay cost vs life-cycle cost; systems involving these sources are often much more expensive at the beginning than conventional sources, but then the owner recovers this expense during the life of the system rather than continuing to pay regularly for fuel.

When all the aspects of the present energy situation are considered, including the physical, social, economic,

technical and human changes that are required for the future of human life on earth, there seems to be no other answer than, "Yes, there is an energy crisis."

Why Is There An Energy Crisis?

There is an energy crisis because (a) environmentally-acceptable sources of energy are being or about to be depleted, and (b) there have been no developments yet or in the near future that appear able to replace these sources with other environmentally-acceptable sources of energy. Human sin cannot be blamed as the ultimate cause of this crisis.

On the other hand, when such a crisis makes itself known depends upon a variety of other factors including human nature, social practice, international politics etc. Human sin can play a dominant role in determining when such a crisis is felt and how severely people suffer because of it.

The present dynamics of the energy crisis are a complicated interplay of a variety of interactions. Some of the contributors are described in the following. Of course, everyone would like to find a scapegoat.

It must be someone's fault. Three convenient targets present themselves: the energy industry, the federal government, and the environmentalists. As seen by their adversaries, the first conspires, the second bungles, and the third obstructs. The first is a knave, the second a fool, and the third a dreamer.²

But scapegoats usually provide little more than convenient places to assign blame, and more basic causes of the energy crisis are much more deeply rooted in human nature and culture. It is perhaps useful to realize that some contributors to the energy crisis arise from what might be called commendable or at least neutral aspects of human life, and that others arise from aspects of the human condition that are more closely related to its intrinsic sinfulness.

At least five factors that would be called commendable or neutral in a general assessment of them may be given.

Development of environmental consciousness. The growth of an awareness of the need to protect the environment has been slow and fairly recent. It is not evident that Christian principles have played an active role in this growth, although there can be no doubt that they should have. The consequence of this enhanced awareness of the importance of the total man-nature system has been an unwillingness to sacrifice the environment for the production of more energy. The environmental cost of new energy is one of the main factors to be considered in choosing from alternative energy possibilities.

Growth of population. The growth of population, per se, is probably to be attributed to the intrinsically good drives of human nature. For millennia the generation of many children was both a sign of divine favor and a practical contribution to the welfare of the family. High infant mortality called for an even greater conception rate. But we have arrived at a time in the history of the world when the uncontrolled growth of population seems certain to bring a series of catastrophes including its own limitation. As human beings continue to "do what comes naturally" the strain on energy production increases continuously; an increase in the per capita consumption of energy due to a higher

standard of living and becoming accustomed to a variety of labor-saving devices and technological processes only aggravates the problem further.

Changes in agricultural practice. Modern methods of agriculture have revolutionized the production of food, but at the expense of greatly increased consumption of energy. The number of calories of energy needed to produce 1 calorie of food for actual consumption has increased continuously over the last 50 years from about 2 calories in 1920 to almost 10 calories in 1970.3 Natural fertilizers from animal manure have been almost completely replaced by chemical fertilizers that not only require energy consumption to produce but result in pollution of local water resources. Financial costs and economic considerations have controlled the situation; energy costs have not been hitherto part of the balance sheet.

Changes in mode and style of transportation. Widespread use of automobiles and airplanes for individual travel has added immeasurably to the freedom of each person, but at a greatly increased cost in energy. One-fourth of the energy use in the United States is for transportation, including both passenger and freight. The transportation efficiency for passenger travel by a suburban train is twice that by bus, seven times that by automobile, and ten times that by jet plane. The transportation efficiency for freight movement by a supertanker is four to ten times greater than by train, twenty times that by truck, and one hundred times that by jet plane. Our practice, however, in each case has been to move more and more toward the less energy-efficient mode.

Urbanization. The development of city living, with its high population density almost completely dependent upon supplies from outside locations, intensifies the need for energy consumption in order to meet the needs of people. The plight of our great cities has many causes, but the energy crisis will aggravate them all in the near future.

In addition, there are at least four other factors that seem to be not only the consequence of natural development, but as much or more the consequence of human sinfulness.

Materialism. Materialism is a common philosophicoreligious base for the majority of people living in the Western world. It claims quite simply that to have is to be. Things bring happiness. We are bombarded by advertisements to purchase things that will make our lives complete, happy and sexually fulfilled. The production, the purchase and the owning of things is constantly advanced as the way to the good life, the beautiful life, the American life. Materialism demands the objectification of energy in order to provide a tangible basis for personal worth. In this context any responsible conservation of energy becomes virtually impossible.

Growth of energy-expensive industrial processes. By failing to include the total costs to society in the daily balance sheet, industries have moved ahead to meet the demands of materialism and to obtain higher profits by adopting technologies that are ever more energy-expensive. Commoner points out the areas in which

rapid growth in industrial production has occurred: non-returnable soda bottles, synthetic fibers, mercury for chlorine production, mercury in mildew-resistant paint, air conditioner compressor units, plastics, fertilizer nitrogen, electric housewares, synthetic organic chemicals, aluminum, chlorine gas, electric power, pesticides, wood pulp, truck freight, consumer electronics, motor fuel consumption, and cement.⁵ Many of these areas involve both a greater energy cost and a greater environmental cost.

Given the farmer's present economic situation, he cannot survive unless he pollutes. . . Like an addictive drug, fertilizer nitrogen and synthetic pesticides literally create increased demand as they are used. . . . The total energy used to produce the active agent (of detergents) alone and therefore the resultant air pollution-is probably three times that needed to produce oil for soap manufac-The crucial link between an energetic process and the environment is the temperature at which the process operates. Living things do their energetic business without heating up the air or polluting it with noxious combusion products. . . . Mercury poisoning is a feature of the "plastic age." . . . The low-powered, low-compression engine was displaced between 1946 and 1968. . . . This meant more fuel combustion-and therefore more air pollution from gasoline combustion products—
per vehicle-mile travelled. . . . For the same freight
haulage, trucks burn nearly six times as much fuel as
railroads. . . . The energy required to produce metal for an aluminum beer can is 6.3 times that needed for a steel beer can.6

The story goes on and on: modern progress has often been a thoughtless and sometimes selfish plunge into greater energy consumption and greater environmental degradation.

The exclusiveness of the profit motive. Our industrial enterprise has been guided, at least in principle, by the ideal that society is best served as a result of competition between many sources of supply, each trying to gain a larger share of the market and hence a larger profit than its competitors. In the course of this sharp competition, the final product is supposedly improved, economics are ensured, and incentive is provided where it counts the most: in the pocketbook. In practice, however, it is all too often found that the final product is degraded because the necessity for profit has made quality an unaffordable luxury, economies are obtained at the expense of the public and in order to provide larger profits for the relatively small number of well-todo investors, and the development of built-in obsolescence, the hard-sell of materialistic views, and a 'public-be-damned" attitude, often follows. The growth of large industrial monopolies and international cartels leave the individual with litle choice of alternatives. When the profit-motive is the exclusive guide to industrial action, economic factors dominate all others, and energy, environmental and human costs never enter the equation.

Nationalism and its counterparts. Finally in a global view of the energy crisis, nationalism, racism and ethnicism can be grouped together as analogous challenges to the responsible use of energy. They correspond to putting some group of people above the welfare of all people, whether that group be the nation, the race, or the ancestral background. In each case, the preservation of the welfare of the group takes priority over all other responsibilities. They threaten the responsible use of energy because they demand that the group's energy

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utilization be maintained and expanded even at the expense of all other groups' energy needs.

How Can This Crisis Be Alleviated?

There are essentially only two possible ways to alleviate the energy situation: (1) the development of ways of utilizing environmentally acceptable sources of energy that are not now contributing appreciably to energy needs, and (2) the conservation of presently available energy sources by a variety of means. Since the details of the development of alternative energy sources are quite technical, we concern ourselves here primarily with the requirements of energy conservation that are certain to play an important role in the near future if not for a much longer period.

What conservation means. The conservation of energy means at least three different things: (1) stopping certain uses of energy completely, (2) reducing the use of certain sources of energy partially, and (3) using energy more efficiently and putting waste energy to work. Lincoln 7 suggests several general areas in which energy conservation should be sought. An absolute reduction in oil and gas should be achieved through the substitution of domestically available fuels such as coal and nuclear (although here there is the common conflict with environmental concerns that we discuss further below). The trend in transportation toward greater speed and convenience at the expense of decreased efficiency of energy use should be reversed and incentives provided for small automobiles, mass transit, and improved traffic control. Good energy conservation practices in the home should be encouraged, and improvements in construction and insulation supported to decrease energy loss from existing houses. The discussion closes significantly with the words, "Recent experience has shown that technological advances alone will not solve the problem."

In the area of agriculture, as another example, Steinhart and Steinhart offer a number of areas where energy conservation should be attempted: more use of natural manures, weed and pest control at much smaller energy cost, research by plant breeders for more suitable stock, a change in eating habits toward less highly processed foods, control of packaging, reducing the use of trucks for food transport, and reconsidering the trend to ever-larger frostless refrigerators.⁸

Many of the above suggestions involve both energy conservation and improvements in the efficiency of energy use.

Self sufficiency. One way to contribute to the conservation of energy is to attempt to reverse the trend by which the individual becomes dependent on outside sources for all of his energy needs. Hammond 9 provides a useful summary of suggestions: turning down the thermostat in winter, wearing warmer clothes, shopping less frequently, doing by hand such jobs as mowing the lawn, mixing batter and brushing teeth that have become electrically done in recent years, turning out lights, putting up storm windows, servicing the furnace, using brooms and non-electric blankets, limiting use of television, seeking local recreations, home gardening to supply some of the family's food needs and use of cooking methods that minimize energy use. Experimental homes using solar and wind energy are growing in number, and some of the developments can be adapted

for individual existing homes with or without alteration. Minimization of the use of the one-passenger automobile and taking full advantage of alternatives modes of transportation, including of course the bicycle and the leg muscles in walking, also contribute to energy self-sufficiency.

Dilemmas of conservation of energy. Although conservation of energy appears to be an unmitigated good, the introduction of conservation into our present society can produce serious consequences. Basic conflicts are certain to be encountered by any major attempt to effect a conversion to an energy-saving lifestyle, as the success of this attempt inevitably results in the loss of job and income for thousands of people employed in the corresponding industries. The same problem is faced, of course, whenever any major industry receives much less demand for its services, as in space or defence programs. A major decrease in the use of the automobile, for example, would be certain to have drastic effects on the automobile industry, whose health is often taken as an index of the nation's health.

Hannon ¹⁰ points out three dilemmas associated with changes in our attitude toward energy use.

Energy conserving policies would increase overall employment in general by decreasing the number of highwage jobs and increasing the number of low-wage jobs, but the people holding the former belong to the most highly organized unions.

Spending money in any way demanding energy, and the extra dollar spent required almost the same energy when spent by a poor family as it did when spent by a rich family. It appears that the only way to save energy is to reduce income.

What does the consumer do with the dollars he saves after he has shifted to a cheaper mode of transportation? He can spend it or save it. In either case, energy will be required to provide for this freed expenditure. . . . he can never save more energy by redirecting certain portions of his income than he can by becoming that much poorer.

These dilemmas are cited in detail to show that the conservation of energy, like all other perturbations in a dynamic system, is certain to have large effects that cannot be ignored if conservation is to achieve its ultimate goal of providing a quality human life. Hannon suggests that "in the long run, we must adopt energy as a standard of value and perhaps even afford it legal rights."

How does the Christain respond to such problems in which wholly desirable goals (conservation of energy as responsible Christian stewardship) seem to necessarily produce foreseeable deplorable human conditions (many people without work, food, income)? At least the problem must be sufficiently understood to allow alleviation of the human condition of those forced into unemployment at the same time as the conservation of energy is achieved.

Conservation of energy and the environment. As mentioned earlier, within a given context conservation and environmental concerns will often, if not always, be in tension. Environmental concerns are of at least two types: those that deal with human physical health (air and water pollution, chemical poisoning), and those that deal with human aesthetic health (wilderness, wild rivers, mountains). Environmental concerns require the evaluation of risk factors with two components: (1) what the risks actually are, and (b) what

risks are humanly acceptable. Both of these questions are frequently difficult to answer adequately.

When human life is endangered, one would expect that Christian advocates would be among the forefront of those seeking to alter the situation and bring relief. All too often, however, Christians have been completely unaware of the needs of society and of their own responsibility to be positive contributors. It is provocative to ask today, when there is a good deal of concern about the environmental effects of strip mining, why there has been for so long so little concern about the effects of deep-mine work, which under the best of conditions could not help but bring damage to the health of the miners and under the worst of conditions could be a guarantee of early death. If there is a question about how much society in general would be willing to give up in order that no human being would have to suffer out of proportion to the rest, is there not just as much question about how much Christians would be willing to give up?

So often we simply embrace the cultural situation without exercising actual judgment about it. We accept that a certain number of people must die in order to provide the convenience that the rest of us desire; we hope that we are not ourselves those who must die. But then we must face that basic question: how many probable deaths will we accept in order to get what we want? We know that the automobile, simply as a projectile, is inevitably the cause of the death of thousands of people each year, people who would otherwise have lived on to enjoy life. We can add to this toll the contribution of the automobile to pollution and the effect of that on the lives and health of thousands. How much can we tolerate? That is the kind of challenge that we all must face in connection with alternative sources of energy.

Nuclear energy, particularly in the form of the breeder reactor, can be considered as an example. Rose 11 selects three areas of concern about the major development of such systems for the generation of power: illegal acts, accidents and radioactive waste disposal. He feels that "illegal use is . . . the most worrisome and least resolved hazard, and a prime motivation for exploring the possibilities of controlled nuclear fusion." Estimates of danger due to accidents (and, of course, this can be only the most approximate of estimates) have projected a "fatality rate" per person in the year 2000 to be about the same as the probability of being struck by a meteorite, and a thousand times less than the probability of being electrocuted. Such estimates vary widely, however, and orders of magnitude difference may occur between different estimators; the probability of injury for people living in the vicinity of an accident is obviously much larger than for others, and an average over all people can be misleading. Radioactive wastes are of two types, one having a half-life of only 30 years or less, but the other having very long half-lifes, for example, 25,000 years for plutonium-239. All of the wastes are very toxic for human beings and tend to accumulate in the bone and other body sites. Their storage must be safe, guarded, and virtually perpetual.

How many additional probable deaths due directly or indirectly to the operation of nuclear energy plants around the world can be tolerated? If it were known that each year one million people would die or be fatally affected, it is probable that this source of energy Can a Christian deliberately and continuously, as a matter of principle, harm the few to benefit the many? And can excuse be sought in ignorance?

would be judged too expensive in human life. Suppose the number were one thousand, one hundred, one? In many contexts, a person who would never knowingly kill another, leaves a thousand to die just as surely by his inaction. For a person to willingly give his life for another can be a noble and selfless sacrifice; for a person to subject another to a situation where his life will be taken unwillingly from him, violates most standards of Christian living. The moral challenge for Christians raised here is an old one: can a Christian deliberately and continuously, as a matter of principle, harm the few to benefit the many? And can excuse be sought in ignorance?

Is there a Christian solution to the energy crisis? Many Christians seem to feel that since Jesus Christ is the solution to all human problems, there should be not only a Christian solution to the energy crisis, but a uniquely Christian solution different from all other non-Christian solutions. If such a uniquely Christian solution does not exist, then they seem to feel that the matter is not one deserving serious attention. This misconception is the result of a failure to recognize the outworking of the Christian commitment in all aspects of life. It is not that the Christian brings to the energy crisis some master plan forged in heaven, or some superknowledge of science and technology not available to others, but that the Christian brings a world and life perspective shaped by communion with the risen Lord, who calls him to be concerned, to love, and to serve.

Can we not simply claim that every solution that takes full concern for the quality of human life is ultimately based on a Christian foundation, whether recognized and admitted or not? Are there two ways to have full concern for a hungry man, a Christian way and a non-Christian way? The contribution of the Christian is that he recognizes the need for *full* concern, to treat the whole man in all his needs, whereas the non-Christian will generally cut off the fullness of his concern when something short of the full needs have been met.

Responsibility and guilt. We have spoken repeatedly of the responsibility of the Christian with respect to the energy crisis. The concept of responsibility requires the possibility of action (ability-to-respond); we are responsible to do what we can, but we should not underestimate how much this is.

It is important to distinguish clearly between our responsibility and our guilt. We are responsible to attempt solutions in whatever ways we have ability and opportunity; we are guilty only if we fail to attempt. If groups with which we are associated commit immoral acts, we are responsible to attempt to change the situation, but we are not guilty of the acts themselves; if we condone the acts or if we do nothing, then we become guilty as well. Thus individual American citizens need not feel intrinsically guilty about the large consumption of energy by the society into which they were born—unless they fail to act responsibly in their own

There is perhaps no area where the activity of the Devil is more obvious than when Christians do evil in good conscience.

utilization of energy and unless they do nothing to alter the pattern of use around them.

Can we have too much energy? Of all the alternative sources of energy, the one that promises the most in terms of energy supply is controlled nuclear fusion. If such a process were developed, it would provide an essentially unlimited supply of energy—effectively by putting in human hands the power of the sun itself. The method is currently fraught with technical problems, but its very existence raises the question as to whether the obtaining of a source of limitless energy would necessarily be an unmitigated good.

When account is taken of the way in which human beings have polluted and degraded the environment with only limited energy at their disposal, what might not be the consequence of unlimited energy? At the conclusion of his article on nuclear energy, Rose ¹² significantly remarks

Here is a final question. We have never before been given a virtually infinite resource of something we craved. So far, increasingly large amounts of energy have been used to turn resources into junk, from which activity we derive ephemeral benefit and pleasure; the track record is not too good. What will we do now?

One suspects that even the "ultimate solution" of the energy crisis will but bring home more sharply than ever the lesson that man is in no shape to go it alone.

Energy and Christian stewardship. The energy crisis, with its interrelationships in the population, food and environmental areas provides a general challenge to the Christian church, and to evangelicals in particular, to get on with the business of being a whole Christian in all of life. Although the concept of Christian stewardship is an old one that extended to one's whole existence, it has tended to become, like many other such teachings, spiritualized and religicized to mean little more than contributions to the church offering plate. But offerings to the church and tithing are only a portion of the total claims of Christian stewardship upon us. A great need of the evangelical Christian church, that body who knows and values the importance of the presentation of the Gospel of saving faith through Jesus Christ, is to rekindle the concept of Christian stewardship so that it extends to cover what one does at home, at work, at play as well as at church. Sermons are needed, teaching is needed, but most of all evident practice in the life of individuals is needed. Social sins must be recognized as being as heinous and as destructive as individual sins. Grace, faith and works must be molded into a whole Christian person.

Christian stewardship is based on the position that ownership can never be ultimate and must always be temporary. The universe and all that is in it belong ultimately to God alone. We understand our role clearest when we see ourselves as caretakers of what God has for a short time allowed to rest in our hands. Any time

that a person's concept of ownership of a thing begins to take on an ultimate aspect of his thinking—i.e., any time that ownership of a thing becomes so important that loss of that thing would seriously deprive life of its meaning, he has forgotten the actual order of reality and has passed into idolatry. It is this awareness and acceptance of the human role as caretaker, steward, or deputy in the name of God over God's world that forms the essential basis for a Christian approach to responsible living with respect to energy, population, food and the environment.

Even with an awareness of the false claims of cultural materialism, however, living responsibly as a Christian is no simple task. A new definition of success is required, a definition in terms of being rather than in terms of having. A new definition of necessity and luxury is required, a definition that does not allow luxuries to become necessities without conscientious reflection, and yet takes full account of the aesthetic as well as the physical needs of human beings. A re-evaluation of the Christian approach to such matters in the political sphere is required; as long as Western capitalism unavoidably appears as a defence of the rich, and Communism skillfully represents itself as a defence of the poor, can the battle for human freedom be won?

Finally there is the question of the development of Christian norms to guide responsible Christian stewardship. Christians in general become aware of the non-Christian aspects of their life through a familiarity with the Word and with the experiences of other Christians. In some Christian communities no members smoke, and the community accepts smoking as a non-Christian activity (in recent years supported by the findings of medical research); in other Christian communities many members smoke and the community accepts smoking as a gift from God. Where a general Christian consciousness of the equality of all races does not exist, many Christian communities interpret the inequality of races as the will of God. So also where a general Christian consciousness of the significant demands of Christian stewardship with respect to current crises does not exist, many Christians will continue in irresponsible living in good conscience. There is perhaps no area where the activity of the Devil is more obvious than when Christians do evil in good conscience. Does not a vital consciousness of Christian stewardship require that a person who wastes energy should feel as guilty as one who commits adultery?

What Can Individual Christians Do?

God requires that Christians be faithful. He does not promise us success necessarily, but he also does not allow us to use the unlikelihood of success as an excuse for disobedience. In the world in which we live, the Christian finds attempts at responsible stewardship constantly frustrated by a multitude of factors: cultural styles, unconcern of others, powerlessness to make major changes, political practices—the very structure of society itself. Perhaps the greatest challenge to the Christian is to exercise responsible stewardship in a situation where such stewardship is discouraged and all but made impossible.

The individual Christian can be a faithful steward of energy by living himself in a way that reflects a desire to be responsible both to the present and the future. In the previous sections of this paper on conservation, increasing energy efficiency and developing self sufficiency, many specific approaches have been mentioned as examples. In the area of transportation, the Christian will not in general (and it is always foolish not to recognize that valid exceptions exist for most generalizations) drive a large car that gets low gas mileage, nor will he regularly drive as the only occupant of his car, but he will consider alternative modes of transportation, including public transportation, bicycling or walking. In his home the Christian will be a faithful steward by having only needed lights on, by keeping his thermostat low in winter and high in summer, and by planning his daily routine so as to use no more energy than necessary. In his public life the Christian will support political candidates who give evidence of a consciousness compatible with responsible stewardship. The Christian will encourage and participate regularly in recycling efforts; every church should be a recycling center for its members. The Christian will take care as to how his money is spent and will develop an awareness of what kinds of goods have been overprocessed or over-packed, and are destined to contribute heavily to environmental pollution.

Responsible stewardship also requires that Christians reflect deeply on some of the difficult questions raised in this paper, seeking through their communion with the Word, through prayer, and through discussion in the community of faith to arrive at Spirit-led answers.

A quote from Daniel Moynihan was not meant to be taken in a Christian context, but it speaks relevantly to the theme of this paper.

A century ago the Swiss historian Jacob Burckhardt foresaw that ours would be the age of 'the great simplifiers,' and that the essence of tyranny was the denial of complexity. He was right. This is the single great temptation of the time. It is the great corruptor, and must be resisted with purpose and energy. What we need are great complexifiers, men who will not only seek to understand what it is they are about, but who will also dare to share that understanding with those for whom they act.13

REFERENCES

- 1B. Commoner, The Closing Circle, Bantam, N.Y. (1972). Commoner points out that the highest postwar growth rate is the production of non-returnable soda bottles, with an increase of 53,000 percent! 2H. H. Landsberg, "Low-Cost, Abundant Energy: Paradise
- 2H. Landsberg, "Low-Cost, Abundant Energy: Paradise Lost?" in Energy: Use, Conservation and Supply, P. H. Abelson, Ed. AAAS, Washington, D.C. (1974), pp. 3-9.
 3J. S. Steinhart and C. E. Steinhart, "Energy Use in the U.S. Food System," Energy: Use, Conservation and Supply, P. H. Abelson, Ed., AAAS, Washington, D.C., pp. 48-57.
 4G. A. Lincoln, "Energy Conservation," Energy: Use, Conservation and Supply, P. H. Abelson, Ed., AAAS, Washington, D.C., 1974, pp. 19-26.
- D.C., 1974, pp. 19-26.
- ⁵B. Commoner, loc. cit., pp. 140, 141.
- 6B. Commoner, loc. cit., pp. 149-171.
- 7G. A. Lincoln, loc. cit.
- 8J. S. Steinhart and C. E. Steinhart, loc. cit.
 9A. L. Hammond, "Individual Self-Sufficiency in Energy," Energy: Use, Conservation and Supply, P. H. Abelson, Ed., AAAS, Washington, D.C., 1974, pp. 34-38.

 10B. Hannon, "Energy Conservation and the Consumer," Science 189, 95-102, 1975.
- ¹¹D. J. Rose, "Nuclear Electric Power," Energy: Use, Conservation and Supply, P. H. Abelson, Ed., AAAS, Washington, D.C., 1974, pp. 88-96.
- 12D. J. Rose, loc. cit.
- 13From the farewell speech of Daniel Moynihan to the President's Cabinet in 1970, quoted by E. E. David, Jr., Science 189, 679 (1975) in an editorial, "One-Armed Scientists?"

BIBLIOGRAPHY

- Energy and Power, Scientific American Inc., W. H. Freeman and Co., 1971.
- Energy, J. Holdren and P. Herrera, Sierra Club, San Francisco, CA, 1971.
- Energy, Technology to the Year 2000, Technology Review, 1971, 1972.
- "Energy: How Critical is the Crisis?" Consulting Engineer, March 1973
- Energy and the Future, A. L. Hammond, W. D. Metz and T. H. Maugh II, AAAS, Washington, D.C. 1973.
- Energy: Use, Conservation and Supply, P. H. Abelson, Ed., AAAS, Washington, D.C. 1974.
- Exporing the Energy Choices: A Preliminary Report, Energy Policy Project, Ford Foundation, 1974.

World Food Supply: The Light at the Beginning of the Tunnel

KAREN DE VOS

Introduction

Last Summer during our vacation, my family and I drove across Illinois, Iowa, Nebraska, and part of Wyoming. You know what we saw! Mile after mile after mile of corn fields, potato fields, soybean fields, wheat fields. In Wyoming, mile after mile of scrubby grassland, more acres of grassland than I had ever imagined. As far as one could see, even from the elevated vantage point of Interstate highways, nothing but

And most of that grassland was dotted with cattle. The herds looked tiny, like ants my children said, lost in that vast expanse; but we must have seen thousands, maybe even tens of thousands of head of cattle.

For someone who had spent almost two years dealing with food shortages, it was a startling experience.

I had a similar experience last spring. I was to speak to the Cadillac, Michigan, Diaconal Conference of the Christian Reformed Church on food. Knowing my audience would be made up of farmers, many of them beef producers, I was nervous. As I drove into the area, I grew more and more apprehensive. Mile after mile after mile of freshly plowed fields, ready for planting. Houses, every half mile at most, more often, several miles between them. How could I convince people that there is an international problem of population growth and food shortage?

Food organizations, many of them Christian and/or church-related, tell us that we must stop eating beef. The American Cattlemen's association replies that acres and acres of otherwise useless grassland can be turned

The facts are complicated and complex. But these two things are true: we are rich in food, while others have only a bowl of rice.

into an excellent source of protein by beef cattle. Food organizations tell us that cattle eat so many tons of grain each year. The cattlemen's association replies that much of that grain is unfit for human consumption. Food organizations point out that one pound of beef represents 6-8 pounds of grain, while one pound of poultry represents only two pounds of grain. The cattlemen reply that the grain poultry eats is grain humans could eat while the grain beef cattle eat is not.

One of my farm listeners in Cadillac tells me that some economy beef comes from dairy cattle that have stopped producing milk, a gentleman from the Farm Bureau assures me that all economy grade beef is entirely grass fed, and a representative of the American Friends' Service Committee insists that such statements just show that the Farm Bureau is being influenced by the agri-business mentality. Where in all this cacophony of claims and counter claims is one to find the truth about food—about American agriculture, about agriculture around the world, about food shortages, famine, American and other western consumption, and above all about a Christian's duty in all of this complexity?

Two Certainties

Full and complete truth about the matter of food and food shortage is difficult to come by. The predictions are only estimates, sometimes only guesses. But they are the best we have. And in the face of the possible dangers that we face if we refuse to pay attention, it seems that we ought to act on the best information we have, knowing that some or even most of it may not be accurate.

That information makes clear at least two things:

Fact #1. The wheat fields of Nebraska and the range land of Wyoming notwithstanding, people all over the world are going hungry. Some are starving but the real problem is far more wisespread than starvation. The problem of food shortage extends to apparently well-fed people whose diets are short of protein. It extends to children who look healthy, but who will never have the energy and interest they might have because their diets lack essential vitamins. Malnutrition, lack of proper diet, and intestinal parasites that steal nutrition from their hosts, are the real killers.

Millions of the world's people live on the brink of disaster. They are peasant farmers who work an acre or two or three. In years when the weather is good and family members are not ill, they grow enough food to keep themselves alive, to store some seed for next year's planting, and maybe even a bit extra to send a child to school or buy some medical care. But the slightest bad weather sends their harvest dropping to the point where they will be hungry part of the year. The slightest crop failure wipes out their ability to save some seed for planting; that means that next year's crop will grow only if they can find someone to lend them money for planting, and whatever extra comes in that year will go to the money lender. Two years of bad crops

may be enough to cause them to lose their land to their creditors. More than two years and they become entirely dependent on their governments for even the most basic necessities.

Fact #2. Over against the precarious lives of these millions—really even billions—stand three major food exporting countries—the United States, Canada, and Australia. The U.S. is by far the largest exporter of the three. Here is a nation so productive in food and so affluent in its eating habits that obesity is a major health problem, a nation that has for years had an agricultural policy geared to cutting production rather than increasing it, a nation that controls almost 70% of the world market in grains, a nation whose liquor industry uses enough grain each year to feed 20 million people, a nation that eats 70% of the world's tuna catch and more grain per person each year than any other people in the history of mankind. A nation that can, quite literally, decide whether certain hungry people will live or die.

The facts are complicated and complex. But these two things are true: we are rich in food. Others have only a bowl of rice.

What is the Christian's responsibility in the face of such disparity among God's creatures?

Facing Reality

The first of these responsibilities is to face the way the world is. Few of us have really assimilated the difference betwen our way of life and that of the rest of the world.

A famous example for helping us see the world is cited by Arthur Simon in his book *Bread for the World*.

Imagine ten children af a table dividing up food. The three healthiest load their plates with large portions, including most of the meat, fish, milk, and eggs. They eat what they want and discard the leftovers. Two other children just get enough to meet their basic requirements. Three of the remaining five manage to stave off hunger by filling up on bread and rice. The other two die, one from dysentery, the other from pneumonia because they are too weak to survive these diseases.

Let me paint another picture. One day last summer, I spent the day in my office reading materials on hunger, world trade, and other related issues. I don't have any pictures of starving children in my office, but they hover in the background of my mind. I left the office, picked up my children, and drove to a friend's house. We sat on a beautifully manicured lawn. My childrenhealthy, strong-swam, dived, played in the friend's swimming pool. At dinner we ate large helpings of barbecued chicken and potato salad. We were, we said, "stuffed." In the garage stood two cars, with my car out in front. In the house were separate bedrooms for each of the children, two separate rooms for "living"the living room and a family room, and two different rooms for dining-the kitchen and the dining room. Suddenly I saw that scene superimposed on the pictures of the hungry children that cross my desk almost every day. I felt I'd been thrown into a surrealistic painting. Here I was with my marvelously straight and strong-limbed children in a setting so ordinary to uswhat must it look like to God? What would it look like if we could see a picture of ourselves each day set next to a picture of the rest of the world?

I am not interested in increasing guilt. I am not



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suggesting that we ought all reduce ourselves to the living standards of the peasants in less developed countries. I just want to make us *aware*, make us *see*, how we are living.

Our staff at the Christian Reformed World Relief Committee sometimes has morning coffee together. One day last summer the coffee conversation centered for a few minutes on our gripes about the air conditioning system. Suddenly one staff member said, "Isn't it nice that we have nothing to complain about but the air conditioning?" That's what I want us to see, to become aware of how incredibly, fantastically, wildly, amazingly luxurious our lives are, compared to those of the billions of other people who live on this earth.

Why do I want us to become aware of this? Why do I say that the Christian's first responsibility is to know how it really is? Because I believe that when Christians face up to the realities of the world food situation, their lives will change also.

A Change of Attitude

First of all will be a change of attitude. Someone asked me the other day if my study of the world food situation had changed my family's eating habits. I wasn't sure whether my study had changed them or the increasing prices at the grocery store had changed them, but they have changed. And we seldom complain about food prices. How can be possibly complain about the cost of beef when we know that most people can never buy any? How can we complain about the cost of onions, when we know they're strictly a luxury? How can we complain about grocery bills when we realize that at least half the items in our basket are things we could do without—would do without if we were average people living anyplace but North America.

We have developed, have been encouraged to develop by our consumer society, several very bad attitudes. One is that life will be "better" if we can have more or different things, be it food, appliances, or furniture. The other is that we have a "right" to live in the style to which we have become accustomed. We are being deprived of our "rights' if we can no longer afford a roast for Sunday dinner, or we can't afford strawberries during strawberry season this year. Our rights, if we consider ourselves just average members of the human race presently alive, our rights come to perhaps slightly less, maybe a tiny bit more, than a barely adequate diet.

A Change in Lifestyle

Besides changing our attitudes, awareness will bring about a change in the way we live. I am not advocating that we all take vows of poverty. I do advocate that we reduce our consumption of energy intensive foods, whether in the form of eating less high-grade beef or in the form of eating less processed food. I advocate that we let the American food industry know that we will not succumb to their enticements to buy bugles, twisties, freakies, crunchies, chippies, dippies, and horns. That we are interested in and willing to pay for a supply of fresh, high quality, nutritious, honest-to-goodness food, but that we will not encourage ourselves or our children in the wasteful eating patterns that the food processing industry is constantly thrusting upon us.

The Problem of Distribution

Unfortunately, however, personal change is not enough. We could all reduce our eating level to essential quantities of only the necessary elements, and it would not save one starving child in Bangladesh unless we somehow make the transfer from here to there. Or better yet, find a way to provide that child with food grown there. To put it less personally, the problem with food is not only one of supply, but also one of distribution. And the second thing Christians must do is work on the problem of distribution.

Let me try to describe for you some aspects of that problem. The United States earns much of its trade income by exporting food. And because we export so much of our agricultural production to paying customers, we are able to import all the other things that we need and want which are produced elsewhere, most noticeably, of course, petroleum. That means that the export of food is important to our economy.

But every time we sell wheat to Russia or soybeans to West Germany or beef to Japan, we decrease the supply of those items available to poor countries. And as countries like Russia become willing to buy and pay, the price goes up and the poorer countries are left with less and less chance of being able to pay for their food import needs. What we frequently do if they can't pay, is offer them the food as a loan, at what looks like a generously low interest rate of something like 3%. But a country like Bangladesh, which is poor to begin with, and which needs to import food year after year, soon finds that even paying that low interest rate is costing them a sizable portion of their budget. And even when we give them the food, we often require them to pay for transporting it, and that becomes a sizable cost to them also.

Besides the burden on the less developed country, there is, of course, the problem at home. When food prices begin to spurt upward, the U.S. government stops or limits exports. This means that poor countries may be unable to buy at any price, even if they are dependent on imports to feed their populations. Such

steps are taken, of course, to prevent food prices in the U.S. from rising more rapidly than Americans will tolerate. The problem for us is to balance *our* needs against those of the less developed countries of the world.

The distribution of food among the nations of the world is really part of a larger question. What is the obligation of one nation to another in the matter of sharing resources? We seem to think that the OPEC nations have some obligation to share their oil with us, that we have some right to buy it at a reasonable price. Do we? And if we do, then what is our obligation toward the selling of food? Is food, as Earl Butz has said, "One more tool in our negotiating kit" or even a weapon with which to force other nations into line with our will? Is it legitimate for a nation to use self-interest as its main guideline in determining export policies for something as basic as food?

National Self-Interest

This quickly brings us to a still more basic question. Where may the self-interest of a nation fit into a Christian's scheme of values? Suppose we know that it is against the interest of the U.S. to sell or give any more food to, let us say, Ethiopia. May I, as a Christian, make the calculation that the future of the U.S. is more important than the lives of starving Ethiopians?

Much of the distribution problem of the world's food supply is determined by the trade agreements made among the nations of the world. May a nation use its trade agreements to protect the impressively high standard of living to which we, in the developed world, have become accustomed? Or is a nation, like an individual, required of God to share with the needy, to attempt to redistribute wealth so that everyone enjoys basic physical well being? What are the obligations of rich countries to poor countries? The same as those of rich people to poor people?

The problem of food distribution, then, is no easy matter. It is not entirely clear what our obligations as a nation are in the matter of sharing food, and it is not entirely clear how we can meet those obligations once we have determined them. But what is clear, it seems to me, is that as citizens of a nation that controls a larger share of the world's food trade than the OPEC nations do of its oil trade, we are responsible for what our nation does with that tremendous agricultural resource the Lord has given us. We are responsible for the behavior of our government toward poor nations.

Political Action

If we are to do anything about redistributing the world's food supply (as well as its other resources) we must engage in political action. I do not mean, of course, that every one of us is required to run for office, or even to get actively into party politics. What is required is a concern for the poor and how our governments oppress the poor or help to alleviate the problems of the poor. Writing in *Foreign Affairs*, Lyle P. Schertz has asserted

No major political force in the United States is embracing the food needs of the lower-income countries for any reason-charity, security, or economic self interest

In other words, nobody with any clout in this country cares whether the poor of the world get fed or not.

If Schertz is right about that, and I suspect that he is, it is a disgrace to the Christian church. That the church of Jesus Christ, which Christ so clearly indicated must have concern for the poor, does not care what happens to that share of God's creatures who happen to live on the other side of a national border, is a clear indication that it is no longer a faithful church. As responsible citizens of the world's great food-producing nations, we are required to do what we can to make our governments responsible to the needs of the poor.

Still, There is Hope

This litany of difficulties and responsibilities and complexities probably leaves you tired and depressed. I don't blame you. It frequently leaves me depressed and discouraged, too. And perhaps you are wondering what possible relevance my title has to this list of perplexities?

Why the *Light* at the beginning of the tunnel?

Because I believe that there is hope. We have, in fact, been given a few years of grace in dealing with this issue.

The immediate cause of the recent food shortages was a series of very bad crop years in large sections of Asia, in Russia, and in parts of the U.S. These inadequate harvests, which began in about 1972, coincided with the decision on the part of the U.S. government to get the government out of the food storage business. We began getting rid of our surpluses, selling much of our wheat stock to Russia in the now infamous deal.

Suddenly people realized that the entire stockpile of grain in the world was down to something like 27 days worth of food. A major crop failure in one of the big grain producing countries, like the U.S. or Canada, would mean disaster. Out of those concerns grew the recent publicity about food shortages.

I suspect that the problem of food shortage will not continue to dominate the headlines during the next few years. If the major food-growing countries have good harvests for a few years, the scarcity problems will ease. But what has been permanently engraved on our minds is the shocking collision course the world is on between population growth and increasingly affluent eating habits on the one hand, and food production on the other. Although we may ease our difficulties for a few years, eventually we will face *severe* food shortages, if we do not do something about them *now*. What can we do?

First of all, we can increase food supply. At home, that is, in the U.S. and Canada, we need to find ways to encourage farmers to plant and grow more crops, rather than less. That means finding some means, and being willing to pay for it, to keep the prices paid to farmers from fluctuating so much that a farmer may make no profit. I cannot suggest such a scheme. I asked a group of farmers about it once, and one said, "If I could tell you that, I'd be Secretary of Agriculture." Well, apparently one can be Secretary of Agriculture without having such a scheme. But we need one: some way to encourage production without endangering farm incomes.

We can even more certainly increase food supply grown abroad. We have lived for years with the myth that American agriculture is *the* best way to grow food, and American farmers have done wonderfully well in feeding not only us but other people around the world. The American system of agriculture *is* almost miracu-

lous in the abundance it supplies. But it will not do to export that system to other countries. For one thing, American agriculture is energy intensive, rather than labor intensive. That means that we use petroleum based energy to run machines and produce fertilizer rather than use hand labor. With our wide plains and sparse population it makes sense to do that.

But in most of the less developed world, hand labor is available in huge amounts, land is scarce, and capital to buy machinery is lacking. In such a situation, the solution is to make use of that huge labor supply. This can be done by encouraging peasant farmers to cultivate intensively every inch of their two and three-acre plots. Japan and Taiwan, using such methods, grow more food per cultivated acre than any other countries in the world, including the U.S.

These small farmers need education about improved methods, and they need a supply of credit to get them through the lean years when harvests are not adequate. They need some kind of security that if they try something new, they will not go hungry if it fails. When such support is offered, they can and do increase food supply significantly.

These peasant farmers also need water control systems, small earthen dikes that will protect fields and homes from annual flooding, and small pumps that will permit irrigation in the dry season, thereby allowing double and triple cropping in some climates.

We need research, especially geared to small farms in tropical and semi-tropical climates.

One of the most important things the U.S. as a nation or a government can do is to encourage less developed countries to make agriculture a top priority item in their development schemes. In the past our foreign aid has frequently given preference to countries who wanted to develop industrial or manufacturing capabilities. We must start emphasizing increased agricultural productivity in our foreign aid agreements.

The United States is a nation of generous people. But we have been disillusioned by tales of scandal in our foreign aid programs, and too easily discouraged by difficulties. In those countries where we have concentrated our aid, such as Korea and Taiwan, great strides have been made. But we must not, may not give up. Part of our problem is that we have seen foreign aid as a way of protecting our own self interest and of exporting democracy. When a nation that we have supported does not live up to our expectations, we think foreign aid has failed. But it has not failed, regardless of changes in government, if we have brought about genuinely improved well-being for the people of that country.

Besides these possibilities for increasing food supply, we need better methods of distribution. We need to start using world trade arrangements to bring about improved living conditions among the poor, instead of using them to support the life styles of the rich. We need a serious commitment on the part of the developed countries to the task of bringing about needed changes in the poorer countries.

These things are not beyond our power. They can be done. They will take time, effort, and a collective will.

A Collective Will

The collective will-that is, I believe, the place where we need to be putting our emphasis right now. We

Is it legitimate for a nation to use selfinterest as its main guideline in determining export policies for something as basic as food?

need to be increasing our own awareness and that of others. We need to be educating ourselves, our neighbors, and especially our political leaders to what we as Christians believe is the *right* way for our nation to go.

Most of us have heard of "lifeboat ethics" and "triage" in dealing with the food situation. Lifeboat ethics refers to the belief, seriously set forth by some scientists, that we in the developed world are like people in a lifeboat, surrounded by the drowning billions of the less developed world. If we try to take them all aboard, we will all drown; therefore let us save ourselves instead.

"Triage" refers to the process of deciding that some of the world's people or nations have such a disparity between population and food supply, that there is no hope for them; therefore we must choose the most promising nations, concentrate our resources there, and let the rest die.

At the moment we do not need to make such difficult decisions. The world has not reached the point where we need to invoke either of these ways of dealing with our problems. It is the responsibility of each of us to do what we can to make sure that the world never does reach that point.

What Must the Christian Do?

What then is the individual Christian's responsibility in all of this? What, in a nutshell, must we do?

First, we must become genuinely aware of how luxurious our life style is, and how it affects the lives of others. That will change our attitudes toward many things.

Second, we must be willing to reduce our standard of living, our wasteful, affluent, luxurious consumption of the world's resources, in the interests of giving others a better life.

Third, we must mobilize the collective will of our nations to concern themselves with the plight of the poor. And through that mobilization, bring about government policies that encourage basic improvements in the lives of the poor. You can do that by becoming part of a Christian political influence group such as Bread for the World. You can do that by encouraging your family, friends and relatives to become aware of the problems. You can do that by supporting the right kind of foreign aid, by being aware that one goal of foreign aid is improved lives, not just our own military security.

Fourth, we must, as members of the body of Christ, the church, be a witness to Christ's love for all peoples. We must witness concretely, in ways that can be seen and heard and felt, to the fact that Jesus Christ cares about the poor of the world. We must be his hands and feet in bringing about relief of poverty. You can do that through supporting your local congregation's and other congregations' efforts to meet the needs of the poor at home. You can do that by making sure that your

local congregation's "lifestyle", that is, the way it as an organization spends its money indicates concern for the poor. You can do that by making sure that your own personal lifestyle, the way you spend your money, shows concern for the poor.

I have been to several food conferences in the course of my work on the food issue, and I have read about even more food conferences. I have met and talked with, and read material written by, Christians and Jews of all stripes, and by humanists. I am convinced that Reformed Christians and other Christians who share some of our Reformed sensibilities have a world view that makes us peculiarly suited to the work that needs to be done on this issue.

We have always claimed that all of life was under the lordship of Jesus Christ. We didn't perhaps expect that the matter of whether to eat potato chips or fresh potatoes, or how much fertilizer to use, would become moral issues. But when we realize it, we see that it is only the detailed working out of what we have always confessed—that commitment to Jesus Christ makes a difference in every part of life.

We Calvinists understand, perhaps better than any other people in the world, the extent of sin and greed in the human heart. We understand our own, and we understand other people's. And because we are aware of that, we are in a good position to speak to our nation about its selfishness. We will not be taken in by

the argument that we are so blessed because we are so good, or so hard-working, or so much more sensible than others of God's children.

We are aware that no matter how much effort and education we invest in people, we will never make them perfect. We know that there will always be some greed and corruption in the people we seek to help, and we do not require the poor of Bangladesh to go hungry unless they can guarantee the honesty of their political leaders.

Most especially, we know that duty, doing what needs to be done, and living in obedience, do not depend upon immediate results. We must exhibit a dogged determination, even when results seem insignificant or slow in coming, in the matter of feeding the world. We understand that changing the minds and hearts of people is not something that happens in a flash, that no stroke of the Presidential pen can change the habits and beliefs of a nation. It is for us, the followers of Jesus Christ, to set as our task the changing of the will of our nation, so that we become the defenders of the poor and oppressed, rather than their oppressors.

Remember the painful death of Jesus Christ for us. You are not being asked to live in pain or to die in agony for the sake of others. You are being asked to give up some time, some effort, a little pleasure, some recreation, some luxury—in order that other of God's image bearers may live more healthily, and more wholly.

What to Do When There is Nothing You Can Do

LEWIS B. SMEDES

Introduction

In locating the moral components of any situation, it usually helps if we know the facts. But who is able to be sure of the facts about protein, power, and people and their relationships in this global situation? The problems confronting the human race today are fashioned out of a galaxy of realities and possibilities whose inter-locking effects on one another are too complex for specialists to grasp even sections of them with a sure hand. We have to work with facts and predictions of facts to come, predictions whose fulfillment is contingent on a thousand unpredictable variables. So what is a theologian who knows little about energy and less about protein to do? He certainly has to be wary of his assumptions and tentative about his conclusions. But one thing he ought not do is leave the problem to the experts. The stakes are very high, with the survival of thousands of people now and the well-being, if not the very being, of civilization involved tomorrow. We would be irresponsible indeed if we dared not venture into the business at least to locate the moral dimensions of the problem and try to view them from some transtechnical perspective. Significant decisions are going to be made-one way or the other-and it would be hazardous indeed to let technicians and politicians make them on their own. People, power, and protein—when mixed together—produce severe moral tensions in our day, the like of which have never been felt before. And we ought at last to stake a claim for morality in the decisions that have to be made about them.

The immediate set of facts confronts us with a starkly simple moral problem. There are an intolerably large number of people who do not have enough to eat. Some are starving. Others are groveling in a degradingly inhuman quest for survival. Meanwhile a minority of the human family live profligately and no doubt inequitably off the world's swiftly diminishing supply of foodstuffs. The moral question is simple: what is the duty of the full people to the hungry people and how can they best do their duty now?

But, as we all know, our problem is also how to stave off disaster for an incalculably greater number of people in the future. Any moral response to this question depends on whose futurist script one finds the more credible.

The script written by pessimists such as the *Limits* to *Growth* group is based on what appear to be the

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indisputable mathematical fact of exponential growth. The number of people in the world, the consumption of resources, and the pollution of the earth are growing, not in a steady line, but by frighteningly frequent doubling. Very soon, as disaster time-tables go, the fact of exhausted resources will collide with the fact of an unimaginably large number of people who need them, or the fact of intolerable pollution will collide with the fact of our development of increased resources. We are, if we keep on growing, headed for a horrendous crash in which millions of people will die and others will be reduced to a sub-human grubbing for existence.

The script written by the optimists is based on the faith that our past achievements with technology offer us the promise that technology can solve our severest problems. Further, the optimists contend that we do not know whether we are nearing the end of the earth's resources; all we know is that the resources we are accustomed to using are limited. We do know that in the past, need has been the mother of invention. With new methods, new sources of energy, new ways of recycling, and new patterns of consumption, those fantastic numbers of tomorrow's people can not only be fed but live decent human lives.

It seems clear that our moral response to this gravest of problems is going to be affected by which script most accurately assays the situation. But who can decide for sure?

It strikes me that we would be wrong to draw hasty implications from either script. If we conclude from the pessimists that we are at a hopeless impasse, we might resign ourselves to futility, and so let life go on as usual until doomsday, glad, like Hezekiah, that disaster may wait at least until we are dead and gone. If we conclude from the optimists that technology will find the way out, we might lapse into sanguinity, and let life go on as usual, thanking Providence for divine technology as we drive our cars to the Saturday night steak-fry. In either case, we would be letting *inevitability*—either of doom or progress—release us from making a moral response. Inevitability is the kiss of death for morality.

It seems to me that we ought to act on the premise that the pessimists may be right in their predictions if we go on as we are, but that the optimists are right in urging that we do not have to go on as we are.

Moral Duty

I would like to make a few preliminary, quite abstract observations about moral duty in general as it seems to bear on our monstrous problem.

First, moral duty is focused on people. Only people stake a claim on us. Ecological considerations are important morally in so far as they affect the rights and

welfare of people. And I assume the right to life has priority over the right to marvel at Redwood trees and sport in unspoiled wilderness. Energy is morally important in so far as lack of it affects people. Consumption habits are morally important in so far as they affect people; whether one eats prime rib of beef or soy bean meal carries no moral significance in itself. So the moral side of protein and power is centered solely on persons.

Second, moral obligation is not the same for all, even though we are all involved in the problem. My obligation as a private citizen is not the same as the obligations of Secretary Butz or President Ford. When we talk about what has to be done or what can be done, we have to ask: by whom? We cannot all bear the same burdens.

Third, we have to distinguish betwen the immediate challenge of today's hungry people and the longer range challenge of possible catastrophe for the human race. The two are intertwined, no doubt, but it would be inhuman indifference to living persons if we let ourselves be seduced by the apocalyptic possibilities that lie in the future into making callous decisions to neglect human need of today.

Let me confess that in thinking about all this, I find myself bewildered, depressed, and very inadequate. The problem is so inexpressibly complex, the possibilities so grim, the moral potential of human beings to will to do what needs to be done so unpromising, the political and natural obstacles so formidable, that I am tempted to despair. But morality is not achieved by demanding a better world. Ethics must be done within the parameters of reality as we find it. So we have to try to find the best way within the limits we cannot easily change.

I am going to set my observations under three moral concepts. They are justice, responsibility, and stewardship. Under justice, I mean to ask mainly about the *nature* of our obligation. Under responsibility, I mean to ask mainly about the *scope* of our obligation. Under stewardship, I mean to ask mainly about the *performance* of our obligation.

Justice

I suggest that we try to think of our duty in terms of meeting the claims of justice rather than responding to the constraints of mercy. I think this is a useful way for several reasons. First, justice has a more adamant claim on our response; it demands on the basis of a right to share in what our society assumes is its own. It compels us to respond to the cries of the hungry, not as pitiful pleas for magnanimity, but rightful claims to what is coming to them. Second, justice has a broader claim; it demands, not only that we respond to the long mediate need for help, but that we respond to the long

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range needs for a rightful access to the world's common resources. Third, justice is more open to hard-headed calculation. Love is too easily answered by a few meretricious gestures of ad hoc generosity in response to well propagandized need. Justice urges us to seek ways to distribute the world's resources as equitably as possible, to calculate ways to help people attain, not only a hand-out for today, but a dignified way to produce their own foods tomorrow. Finally, justice requires us to think beyond private charity to public policy, beyond voluntary giving to governmental allotment of resources for the hungry of the world.

There are, however, a few aspects of our situation that might make justice seem an odd category to use. Let me mention two of them.

First, some of the poor peoples' plight seems to be attributable to the strange ways of Providence. When famine strikes some people while others are left with plenty, we may wonder about the ways of God. But we usually say then that the afflicted are victims of tragedy, not of injustice. Further, in His providence, the Creator distributed the limited resources of his finite world in uneven ways. And, again in his providence, some people were born in places rich with arable land on the surface and in sources of energy beneath it. We accept that as a given in a finite world which is populated indiscriminately. We may wish he had put oil under the soil of every nation and created arable crusts everywhere. But we assume that those who live in the rich places have a God-given right to the resources of those places, that people who live in resource-empty places have no claim on the resources of other places.

Second, justice is a concept usually applicable to states of affairs within a given political society. People do have certain claims, but only within the boundaries of their nation-state. To claim a right is to assume that someone is obligated and authorized to grant that right. The usual agency responsible is the government. But governments are responsible for the just claims only of its citizens. And citizens can make claims only on their government. On whom, then, can the starving people of Bangladesh make their claims for food and energy except on their government? It may be argued, then, that though rich people in rich nations waste protein and power like prodigals, the poor outside these lands can only hold out their hands for charity beyond the borders of their own nations.

I think that we should reject these two conclusions. In the first place while it was God's doing to put oil under Saudi-Arabia and fertile soil in Iowa, this does not mean that the oil is the absolute possession of Iranians or the fertile soil the absolute possession of Iowans. The earth and its resources are the trust of the family of man. And it is man's task to distribute those resources equitably to the whole family. Further, it

seems to me that a Christian sense for the oneness of the human family entails a broader scope for justice than is allowable when we absolutize the political divisions of the world into nation-states. Starving people are not merely citizens of a politically organized group within a fenced-in chunk of earth. They are members of our family, part of us, of the same blood, earth-dwellers essentially and nation-dwellers accidentally. They are set off from us by ethnic and political accident; but both of these are trivial compared to their oneness with us in humanity. This being true, they have a just claim on the resources we glibly call ours, resources that God put in the earth to be shared equitably by all his earth-bound family. And we are obligated to share these resources, not as moved by the milk of humankindness, but as obligated by the claims of justice.

We should at this point say something about *how* the claims of justice can be honored both fairly and wisely. It is we who have to ask about this because, while several nations make claims, it is our nation—and others like ours—which has to choose to honor them in a way that is fair to *all*, including ourselves.

Justice, it seems to me, requires a two-pronged response. One is the redistribution of the earth's resources. The other is the development of poor and dependent nations into richer and more self-sustaining nations.

A goal of justice should be a world in which even the poorest have enough to eat and the opportunity to live on at least a minimally humane level in the production of goods for themselves. Only if this is achieved, or sincerely attempted, can we keep our humanity intact as well as avert volcanic eruptions by vast numbers of hungry people against the rich. Whether the goal is attainable in view of limits to the earth's natural resources and the limits of man's moral resources may be doubted. But justice is a goal we are obligated to seek.

Ethical questions arise when we ask about how to achieve this humane end. Within the poor nations themselves, changes will have to be made that are unlikely short of a political coercion that we normally would abhor. For instance, there seems to be no hope at all unless their people quickly and drastically reduce their child-bearing. But they are giving no hint of desire to do this-for understandable, though self-defeating reasons. Unless some benevolent disaster like famine decimates the population, population control will be achieved only by crass political force. Again, there is no hope at all unless the poor people are set to work on projects truly useful to the majority of them. This cannot be done by building a few modern factories; it can apparently work only with labor-intensive-rather than machinery-intensive-production. But this would be hard to organize without a kind of social programming that requires monolithic use of power, perhaps similar to that of China. We may not like the idea of supporting the forceful reorganization of the poor nations' social life if it entails supporting tough, repressive, undemocratic, and probably revolutionary governments. Yet, it is precisely those countries who dedicate themselves to population control and laborintensive industry which would be the more promising candidates for our support.

Further ethical issues arise, especially for Christian people, as we consider the role of rich nations in the redistribution of resources among the poor nations. In the

first place, it will take a courageous political decision. Only governmental appropriation can provide the substantial aid necessary to take even a sizable step toward the goal of a just world. That private generosity can perform the miracle of redistribution is fantasy. But our government now gives aid only to the tune of onefifth of one per cent of our G.N.P. (In March, 1975, Congress cut back foreign aid by 246 million dollars.) It will take much more, maybe as much as 2 per cent. Our government is not likely to do this without loud and clamorous demands from people like us. This means that we would have to shift our priorities from giving to private relief agencies to political action. And it means we would be petitioning the government to force us to cut down on our own standard of living. Further, we would be petitioning the government to encourage and support repressive though hopefully honest and constructive governments in poor nations. In short, we would have to put political action above private generosity, support governments whose methods are repulsive to us, and pressure our government to take action that may curtail our own growth. We have reason to be pessimistic about this happening. But even if it did happen, we would run grave risks.

For one thing, radically reducing our growth could have unhappy repercussions. We may well have to reduce our consumption wholly apart from aiding others, simply because our own resources are coming to an end. But if we do stop growing, the first people to be hurt will be the poor within our own country. And if we become poorer, we will be the less likely to share with the poor of other countries. The poorer we get, the more surely we will checkmate the really poor in their struggle to climb out of starvation's cellar. Somehow, technicians will have to find a way to a limited decrease in our consumption of basic resources without causing disaster to our own economy. At present, our six per cent of the world's population uses 30-40 per cent of the world's primary resources. This is obviously an unfair distribution. The question is whether we can reduce it markedly without economic disaster. To freeze growth could only perpetuate poverty and make the poor of the world permanent and pitiful pleaders for charity from the countries like ours who will then have become the former rich countries.

Life-Boat Ethic and Triage

This may be a good place to talk about those two hideous metaphors for our ethical situation: the lifeboat ethic and the principle of triage. Triage comes from a simple situation in which a doctor on a battlefield, with medicine enough for one person, faces three injured men. One of them is likely to die even with medicine. Another may survive without medicine. The third is likely to survive with medicine, but die without it. So the doctor selects the third man to receive his ministration. Applied to our situation, the doctor stands for the rich nation. The wounded soldiers stand for the poor nations. Following the metaphor, then, the rich nation has to choose the candidate for aid with the greatest need and the best chance for survival. The life-boat metaphor has a similar point. The rich nations and poor nations are likened to crowded life-boats. The poor life-boats are getting terribly crowded, and people are jumping or being pushed overboard. They want to get aboard the rich life-boats. But if we let them all aboard, ours will sink too, and everyone will drown.

So we have to select a few to help, few enough not to risk our own hides. And we will have, in justice, to select the few most likely to be able to contribute to their own and our survival.

What are we to say about these apocalyptic ethical parables and the moral choices they seem to endorse?

First, they serve to remind us that for the sake of justice in a limited world the goods of the earth may have to be distributed in an uneven, sometimes extremely harsh way. Even if, in the abstract, all children have a right to food, we may, for the sake of justice, have to deny it to some of them. Relative justice is the best we can usually achieve. And when the goods to which all have an abstract right are inadequate for all, our only recourse is to decide as justly as we can which will be denied them. The crucial question here is the grounds on which we would choose. We may one day have to decide on the grounds that those children whose societies offer the most likely promise of making it on their own will get the help they need to do it. This may mean that children of societies who will only procreate a lot more children and meanwhile refuse to develop the kinds of industry to feed them by themselves will have to die-even though it was no fault of theirs that brought them into the world in their unfortunate time and place.

My second response, more critical, is that the analogies oversimplify the problem. Lifeboats, for instance, are not like nations in a few critical respects. Nations can get together to pool their resources while lifeboats cannot: the resources of nations are more expandable than are the size of lifeboats. And it is a lot easier to calculate the limits of a lifeboat than it is to calculate the limits of a nation's resources. Besides, as in triage, a doctor has an assumed moral authority to select one wounded soldier over another to heal; but who gives a rich nation the moral authority to make a decision to let starving children die on the basis of its very inexact information as to the limits of its own resources? So, the analogies, while helpful reminders of the need for calculated justice, are oversimplified pictures of the global situation in which justice is sought.

Third, the analogies are of things as they may be, and therefore seductively dangerous models to use now. If we adopt their ethic now, we will be tempted to act as though our lifeboats were now already over-taxed or we had medicine for only one of three soldiers. And we can be seduced into justifying our selection of nations for aid on the basis of this principle when we are actually deciding on political grounds—as we have already been doing.

In summary, I am suggesting that, in the abstract, every child in Bangladesh, the Sahel, or anywhere else, has a just claim on our resources for sustaining his life. Our response to that claim should be conceived as the obligation of justice rather than as the impulses of love. Secondly, I have suggested that the goal of justice will require both a redistribution of resources and the development of poor nations as productive members of an inter-dependent world family. Thirdly, I am admitting that all we can hope to achieve is relative justice and that the conflicting claims may, one day, have to be met by hard decisions to withhold our goods from some in order to give them to others, though we probably have not reached that terrible day yet, Justice, on one hand, forces us to hear the cries of the hungry as assertions of a just claim to food they have a right to eat rather than pitiful pleas for an extension of our mercy. Justice, on the other hand, forces us to discriminate between claimants on the basis of one calculation as to who will be most helped to become a self-sustaining member of human society. This leaves the question of who is obligated to give justice and who has the authority to decide between its conflicting claims. What puts us in a position where claims can be made on us and where we have the right to make decisions either to give or withhold? I fear we must say that it is the accidental fact that we have squatter's rights and the power to dispense or withhold.

Responsibility

Responsibility is a useful category with which to consider our duty because it requires that we search for the most appropriate and useful human response to an incredibly complicated challenge. Unlike the word law, it does not imply that we know in advance what to do or that this is the one right thing to do. Unlike the search for virtue, it does not imply that our first concern is to establish ourselves as benevolent Christian persons. Rather, the obligation to be responsible requires that we seek the best means amid a variety of options-many of them cancelling each other out-to the urgent end of providing an equitable distribution of survival needs and assistance in development for as many peoples as possible within the bafflingly complex and delicately balanced sets of relationship within which dire human need confronts us. Moreover, it assumes that whoever are responsible to do whatever needs doing, are responsible only within the limits of their ability and within the limits set by their resources, as well as the limits of potential evil side-effects of doing what seems on the face of it to be good and right.

We ought to distinguish between the responsibility of private persons and that of governments. Our personal responsibility is *limited*. An individual cannot bear global responsibility without limit. He ought not accept responsibility for everything. Let me list some obvious factors in our world problem that neither you nor I can change by our decision.

- 1. We cannot increase the acreage of food-producing land nor the unrenewable fuels beneath the earth.
- 2. We cannot decide for the poor of the earth that they shall produce fewer babies for their old-age security.
- 3. We cannot decide that the leaders of the poor nations shall have political expertise and moral virtue.
- We cannot decide that technologists will accelerate their movement toward safe use of nuclear energy.
- We cannot decide that competitive nations shall sacrifice national interest for global justice.
- 6. We cannot decide that growers of grain will continue to grow to capacity without anticipation of profit.

Our responsibility must be understood and met within the limits set for us by the freedom and responsibility of other people, and by the political and economic systems of the earth's family. Many of the things that need doing lie with the character, the competence and the compassion of other people, as they also lie with unwieldly and inept political institutions, along with the physical realities of our earth.

In view of my limits and the fact that other people's decisions are beyond my control, I may refuse to bear the terrible burden of accountability for the starving masses of the world. I do not believe that I am eating Bangladesh children when I eat hamburg instead of soy beans. I do not believe that I am stealing food from

nomads in the Sahel when I drive my car to work. I do not believe that I am guilty for having been born here, nor that my wealth is simply loot stolen by my imperialistic society. I don't believe these things about myself, and I think it brutal and demoralizing for impassioned moralizers to lay such unmanageable guilt on others. God does not ask us to bear responsibilities beyond our limits. This does not negate the claims of the poor on an equitable share of our natural resources. It does say that our accountability is limited by our power to grant their claims.

We should perhaps ask about our responsibility to future generations of people. What claim do tomorrow's children have on us? Most of us gladly acknowledge responsibility for our children and our grandchildren. But when we project into the distant future, it gets increasingly hard to conceive or accept responsibility.

However, from a biblical point of view, the reality of responsibility for future generations is clear. The Old Testament in particular, but the New as well, has a very linear view of relationships. It may have been parochial to some extent, but it is clear that the Biblical view of expansive human relationships was more temporal than spatial. Old Testament saints often seemed more concerned about how their actions would affect coming generations than how they would affect contemporaries who lived far off. The third and fourth generations were very real—and how people lived affected them. We need to revive a sense of responsibility to tomorrow's children, and also the children of many days after tomorrow.

The agonizing question is how our response to the needs of future generations can be balanced with our response to the needs of the present one. If we use large quantities of phosphate for growing crops in undeveloped countries—to grow food for present needs, are we robbing the children to come? But can we face the prospect of doing less than we can to feed today's children—letting them die—for the sake of tomorrow's children? We would bear a terrible burden if we sacrificed today's children for the not wholly predictable needs of tomorrow's. Besides, it is morally cheap to decide to sacrifice someone else's children for the sake of the future while we know our own children will surely live.

The general principle surely must be that our obligation to care for the known needs of today's children takes priority over the preservation of goods for the inheritance of the children of tomorrow—especially if tomorrow is the year 2500 A.D. When we know for sure that certain actions will help today's starving people, we would not be responsible if we withheld them for the sake of tomorrow's children whose needs are predictable only with fallible foresight. The ideal solution would be to care for present needs with such prudence that we would not unduly risk harming future generations. But it may be necessary to take a risk.

Responsibility has limits, but it compels us to respond personally within our limits; it urges me to respond even when I sense that there is not much I can do effectively. It restrains us from being content with prophetic indictments against our government for its use of food as a political tool, against agri-business for its penchant for making profits rather than people its only concern, against poor people for stubbornly producing too many babies, against the governments of developing nations for ignoring the need to develop

agriculture, and the like. I am not saying that prophetic indictments are not in order. I think they are very much needed. But the responsible person asks what is the fitting thing for him to do within the limits set by human greed and natural insufficiency.

We can expect governments to be short-sighted and self-interested. We can expect that the grain industry is going to make bargains before it makes contributions. We can expect that the United States will not easily resist using food for political ends. We can expect that poor people, with no other security system, are going to go on producing sons as long as they are poor. And we can expect that our fellow rich people are not suddenly and freely going to change their lifestyles because they see pictures of famished children for an instant on their TV sets. Our responses will have to be made within these limits; and the responsible person will accept them as limits even though he deplores them and makes an effort to change them. This means that his responses will be circumscribed; but at least they can then be fitting responses and not merely impassioned indictments. We will ask what we ought to do when there obviously is not much we can do.

This leads me to my final category: Stewardship.

Stewardship

I suggest that the vocation of stewardship is a useful category under which to consider how we can respond personally when there seems to be little or nothing we can do to solve the problem. I prefer stewardship to the word "lifestyle" that is commonly used these days.

I do like the phrase "lifestyle" in one way; I think it is a nifty phrase to suggest that life, like art, tends to take on distinctive and characteristic traits. It suggests that our way of living forms a profile, a configuration, that analysts can describe and distinguish from the way others live. It is almost the same as what we mean by culture, I suppose. And, like our culture, our lifestyle expresses the meanings, goals, and values we affirm in life. The early Christians used to call their life under the Lord by such terms as The Way; maybe what they meant by the way is what we mean by style. A style is created out of a vast number of details that we decide about or accept without deciding anything at all. It is made up of the things we tend to buy, the roles we assign to people, the way we spend our leisure, the sorts of vocations we tend to pursue, the goals we want our children to seek, the way we organize our institutions and the institutions we support, the way we express our sexuality, and a hundred other things. Style is the portrait of the way of life as we live it out of our special ethos. It is the Gestalt, as we say in educated circles, the whole picture.

Described within the global setting, our style is unseemly and inappropriate. We devour and waste just because these items are available and give us a lot of pleasure. But we are also caught within a system that stimulates consumption and encourages waste. We produce so that we can consume, and we consume so that we can keep producing so that we can consume. If we stop consuming, a lot of people will have to stop producing and then they will have to stop consuming—which is inconvenient at best and terribly painful at worst. In the process we waste like prodigals, often hardly aware of how much we waste. Few of us are senstive to how much protein we flush down the toilet just because our bodies cannot use as much as we

Justice requires a two-pronged response. One is the redistribution of the earth's resources. The other is the development of poor and dependent nations into richer and more self-sustaining nations.

imagine they need. Again, in the process, we work so hard that our stress kills many of us too soon and leaves the rest of us with little spiritual energy to care about the starving members of our human family or be in touch with the transcendent joys of the spirit.

It is no wonder, then, that moralists condemn us and sensitive Christians urge us to change our lifestyle. They see a picture of people stealing grain from starving children as they devour beef that costs 20 times as much protein to produce as we get from it. They see us insanely making, repairing, storing, and using machines that devour previous fuel needed to make fertilizer to make food grow and that poison our atmosphere in the process. They see us wasting fertilizer on our lawns, our cemeteries, our golf courses, while people die because they haven't the fertilizer to increase their crops. They see us using too much energy to keep too cool in summer and too warm in winter and to get away from our stress driving off to pollute the wilderness with our big automobiles that consume more energy.

Were it not for the fact that our lifestyle seems to hurt people so badly, the moral judgment on our manners would be softened. We would still be corrupting our souls, perhaps, but that would be our private loss. We would still be making the world around us ugly—as anyone who has ever seen a foul layer of brownish smog envelop the Los Angeles basin knows—but this would be another kind of evil, an aesthetic one. Smashing the Pieté or turning a wilderness into a dump is not the same category of evil as starving children and crushed spirits. Aesthetic and spiritual empoverishment are evil, but the moral guilt for hurting people is what is most crucial and profound.

So, in general, the lifestyle most of us create out of the habits of our daily lives is surely indictable, at least on some counts.

I can understand the impassioned plea that we change our lifestyle. I can understand it, sympathize with it, and, in the abstract, be convicted by it. But I think that it is not a useful way of prescribing change. I think that passionate moralisms about changing lifestyle are simplistic, ineffective, demoralizing, and confusing.

1. It is simplistic—in so far as it is supposed that a change in our lifestyle would send a lot more food to starving people. Things are just too complicated.

2. It is ineffective. People do not choose lifestyles in a single deliberate decision; lifestyles grow out of one's spiritual perception of who he is and what he is here for, out of one's awareness of his place in the world, out of one's value system, out of one's belief and faith. A lifestyle is the *product* of many choices.

3. It is demoralizing for most people. They are told by passionate and respected leaders that they must change their lifestyles. But they don't know where to begin. They don't know how to get out of their culture.

4. It is confusing.

We are told by some, especially the radical young counter-culture Christians, that we must identify with What we are called to do is cope with a problem we cannot solve. And coping as God's stewards means finding the right thing to do with what we have, at least to keep things from getting worse and maybe making them a little better for others.

the poor and oppressed. There is ample evidence from the Bible that God is on the side of the poor and the oppressed. But it is one thing for the Gospel of Christ to promise God's siding with the poor. It is another thing for me to identify with them.

What does it mean? Does it mean that I must become poor? If so, why? Would it help the poor if I become poor as they are? And how are we to become poor? By selling our homes and giving away the equity? But then where shall we live? By keeping only a part of my salary that is adequate for subsistence on the poverty level set by the Bureau of Labor? Must I live a life of austerity, flattening out life's peaks, dulling life's lustre, divesting life of variety? Must I not send my children to college, pay their tuition in Christian schools, go on camping trips, wear some colorful clothes, and buy some good books? If so, would I create a symbol of my oneness with the poor even if I did not help them? For whom would the symbol work—would the poor be impressed?

Identify with the poor and oppressed might mean participation in their cause; but their cause is to stop being poor and oppressed. In some places, this could mean participation in the revolutionary movements with them. It may well mean, as I think it does, politicizing one's efforts for the poor. But it need not mean becoming poor, for that would be the surest way not to help their cause.

For these reasons and more, I think a better image for moral persuasion is the category of stewardship. I know it has stuffy and sometimes legalistic connotations. I know that it has been called the seedbed of the capitalistic consumerism we are trying to transcend. Yet it has some virtues.

A steward is a caretaker, not an owner. Every man, aware of it or not, is only a caretaker of God's property. His legal right to property is a mere expediency, arranged in God's providence so that the property might be the better cared for. The right, in the deepest sense, is contingent on the quality of the care. For the rest, legal property rights are cultural contingencies with no sacred value. Further, taking care of property is, as are all God's arrangements, people directed. The resting of the land, the forgiving of debts, the year of Jublilee in the Old Testament are signs and witnesses that the earth is the Lord's and is given for the sake of the human family (Ex. 23:10,11; Gen. 25:2-24; Deut. 15:13; Ps. 24:1, 2). The crucial criterion of caretaking is the effect one's care for property has on persons in the community. This is why everyone needs property; he needs to be a caretaker for God; he needs to be a

The vocation of stewardship as a moral directive is useful, I think, for many reasons.

First, it obligates people without legislating them. There is no blueprint with categorical rules that apply universally. "It is required of a steward that he be faithful" (I Cor. 4:2). But faithfulness is measured by response to the changing needs and contingencies of life. No one can know in advance what his care-taking may demand.

Second, it obligates people within their providentially given *place*. It does not shove us into pursuit of a romantic ideal of communal and agrarian simplicity. It compels us who are managers of business, managers of households, managers of classrooms, or whatever we take care of, to live responsibly with the goods trusted to us for care-taking in the place and circumstances where we are.

Third, it obligates people concretely. This paycheck and this portfolio and this factory at this time are what we must make this decision about. It does not obligate a man to jump out of his skin and into some other context in order to transform his lifestyle. It does obligate him to decide whether to eat hamburg with or without soybeans, give an extra ten percent to a World Relief Committee, buy a used V.W., or bother to recycle his bottles and newspapers.

Fourth, it obligates people to take *prudent* care. Here is the rub. For we must be wise as well as faithful. It may be, as I suspect it is, that prudence will dictate something other than reckless austerity or a rush to simplicity. Wisdom calculates all the angles. For instance, if we let concern for ecology, particularly aesthetic concern, dominate our policies, we may end up assigning a permanent role of poverty to many. It may be that within the limits set for us by the competing needs of the world, we will be better stewards if we found new modes of consumption rather than merely reduce consumption. We may have to produce and consume new kinds of things, fewer machines and less meat, but more books and more clothes and more growing things. In any case, we will have to be wise in the way of stewardship within a consumer's economy.

Fifth, stewardship is exercised politically; we are stewards of the *power* we have to affect common policy. The policy of every human community is dictated primarily by self-interest. But this-if continued-means that a redistribution of the earth's good will never happen, and that some peoples will always be short-suited in the world's exchange. The power we have, limited as it is, can be exercised in stewardship by lobbying together for a policy geared to the encouragement of development in poor nations, though this will mean a reduction in our standard of living. Poor nations cannot develop on the same assumption that rich nations did-namely, the assumption of unlimited resources. They must develop at a time of high prices and scarcity; therefore their development will depend on our subsidy through credit and rechanneling of unrenewable resources to them at less cost. To do this goes against our national interest. But, stewards of power may use their clout to push policy against material national interest for the sake of international justice.

Being stewards means that we find the most responsible way of taking care of God's goods in our place and time. What we are called to do is cope with a problem we cannot solve. And coping as God's stewards means finding the right thing to do with what we have, at least to keep things from getting worse and maybe making them a little better for others.

Conclusion

There seems little doubt that our standard of living—or lifestyle—is going to change, whether we choose to change it or are forced to change it. Some of us have already felt the crunch of unwanted change. Further, the depletion of our native resources and the end of our American affluence is only going to make the goal of global justice infinitely harder to keep in sight. As this happens, the crucial issue will be one decided in our spirits. The future will not be decided by the ethical calculations of the most prudent means of achieving relative justice, certainly not by political and technical decisions. It will be decided by the spiritual power of people like us to cope with the high cost of

reduced resources for living and at the same time to be responsible stewards on behalf of people whose poverty will become disproportionately worse as our affluence ebbs. The route to even the barest minimum of what global justice requires is likely to get more and more tangled. Our specific duties will not always be clear. The human prospects, meanwhile, will become grim. But as responsible stewards, "hastening the day of a new creation" where justice dwells, we will keep on asking, keep on searching, keep on acting together in shared concern for the claims of justice and the inalienable rights of all God's human creatures. The last word of the Christian ethicist in our situation may well be: May God help us.

Books and Bread: The Christian Academy and the Christian Lifestyle

M. HOWARD RIENSTRA

Introduction

Throughout this conference we have been discussing what our calling in Christ requires of us in our present world situation. We have been examining the moral requirements of our religious commitment. Furthermore, I am confident that we have been serious about all of this and that we will not be content with the temporary guilt-relieving catharsis of our own rhetoric. We must sincerely hope that whatever understanding of the issues addressed at this conference may have been achieved, will now be communicated to the broader community of Christians as they and we engage in the day to day struggle to be obedient and responsible. But who are "we"? Although Calvin College is the host institution for this conference, "we" obviously and properly are not all from Calvin. "We" aren't all from Christian institutions for higher education, nor are "we" all either students or teachers. Who then are "we"?

The Christian Academy

I should like to submit that "we" are all members of the Christian Academy. This is not to be confused with my secondary school alma mater in New Jersey, Eastern Academy, nor with any national academy in this country or in any other. The Christian Academy is not an institution. It does not have a campus. It is not an academy of higher or lower anything. The Christian Academy is not Reformed, Catholic or Evangelical. The Christian Academy is not just another name for the Christian church universal. Rather the Christian Academy is but a fragment of that Christian church universal. The Christian Academy is an idea and an ideal seeking fuller embodiment and realization.

The distinguishing characteristic of that fragment of the Christian church universal which we are calling the Christian Academy is its calling. The *vocatio* of the Christian Academy is to study the unchanging gospel of Jesus Christ and to apply that study to the ever changing circumstances of the secular. "We", the members of the Christian Academy, have that vocatio. "We" are that fragment of the total community of Christians who are called to use our reading, our research, our training, and our experience to instruct the total community. "We" are called to speak prophetically on the Christian's personal and communal responsibility to today's world. "We" may be theologians, housewives, philosophers, poets, politicians, doctors, artists, astronauts, and yes, even historians. But none of these kinds of specific callings is essential to our being part of the Christian Academy. Rather what is essential is devotion to Christ and a total commitment to integrate our faith with our learning and experience. The Christian Academy exists whenever and wherever such a vocatio is manifest.

Obviously, not all Christians have such a calling. The Church of Christ consists of many who are legitimately and honestly serving God in factories, fields, homes and offices who have neither the inclination nor the opportunity to read or study extensively on the intellectual and moral dilemmas of our times. They properly hope, or piously expect, that their fellow Christians who have the talents and the time to spend with books and in study and writing will do so to the advantage of the total community. All Christians are responsible to discover God's will for their lives and to apply that discovery to their everyday circumstances. But there are special responsibilities that arise out of the talents and the opportunities to fulfill those talents that God gives only to some. Those who have these special responsibilities within the Christian community, who have the vocatio of study and the like, are members of the Christian Academy regardless of their occupation. Thus "we" at this conference are members of the Christian Academy regardless of how we make our bread.

I have chosen to speak of the Christian Academy for several reasons. First, the term *academy* is now virtually devoid of specific meaning. The idea of an academy is now evoked only vaguely in the variant forms of the

Colleges and universities and institutes are all limited by their peculiar historical origin and situation. None of them, therefore, is adequate to express the universal and timeless vocatio of the Christian Academy.

term such as academic-to refer to an attitude, or academics-to refer to persons professionally engaged in research or scholarship and occasionally even teaching. But the academy as such no longer exists. In its place we have such things as universities, colleges, and institutes. These are institutional forms of what among the Greeks was referred to as an academy. This is my second reason. The term academy can yet express an idea and an ideal without being identified with institutional limitations. Colleges and universities and institutes are all limited by their peculiar historical origin and situation. None of them, therefore, is adequate to express the universal and timeless vocatio of the Christian Academy. The third reason arises out of the first two. Since the academy does not exist and is, therefore, not limited by any set of institutional characteristics, it is free directly to influence lifestyle. Colleges, universities, and institutes are themselves products of lifestyles, and they tend to serve the lifestyles of their historical situation. The academy is free to transcend prevailing lifestyles because it is not a product of them. Thus it is, conceptually at least, free to be faithful to its vocatio in

The service such a non-institutional form as the Christian Academy would be able to render is significant. It would serve the entire Christian community by helping it to transcend the usual self-serving shortsightedness of that community's own historical particularity. More importantly for our present purposes, the Christian Academy would serve Christian institutions of learning by helping them to transcend the usual defects of elitism, professionalism, specialization, and provincialism or parochialism that otherwise limit their vocatio in Christ. But there is a paradox lurking behind these observations to which we must be sensitive. I will be suggesting in what follows that the Christian Academy become more of a reality than it presently is; but it must never be institutionalized. The moment the Christian Academy becomes institutionalized would be the very moment that it would become a university with all its defects and limitations.

The University

The study of history, Livy has told us, is the best remedy for sick minds. In the late 1960's there was a radical re-awakening of some historical commonplaces about the university (read schools, colleges, or institutes as appropriate to the context). A medieval European innovation, the university was designed to serve the interests of the community which supported it whether that was the Church or the secular state. A reciprocal relationship of service and dependence has always existed between the university and society. That students at Columbia and elsewhere made this historical discovery in 1968 is testimony to the deterioration of historical studies and to the deceptive power of traditional rhetoric about the university. The university has

always been a mirror in which the prevailing values of society have been reflected, although with widely varying degrees of clarity. When these prevailing values of society are in crisis, so too is the university which reflects them. The hysteria about the "politicization" of the university, which came about as a consequence of a crisis in the prevailing value system of European and North American society in the late 1960's, has now subsided. However, this means little more than that the university is again perpetuating the dominant value system, and lifestyle, of European and North American society. To use the prevailing jargon, it has again been co-opted.

The instrument through which the university attempts to perform its service to society is the curriculum. Some universities, typically American, supplement the curriculum with opportunities for counseling, recreation, entertainment, housing, eating, and worship; but the curriculum is still central. What is a curriculum? It is a set of discrete and disparate, hopefully intellectual, experiences to which the student is subjected during the period of his or her enrollment. There may or or may not be an organizing principle to these experiences. The case in which an organizing principle can be seen most clearly is in those technical studies which are cumulative and lead to a problem-solving competence or skill such as engineering or medicine. For the rest it seems most appropriate to invoke some sort of "invisible hand" theory. It is piously hoped, even if not confidently expected, that when each professor and each discipline has done its thing, there will be some integrated positive product realized within the student. Even in the best of cases, where there is a conceptually integrated curriculum based on disciplines, no one would claim that graduates are better persons. Probably less than 10 percent of Calvin College's graduates do any serious and systematic wrestling with the kinds of moral dilemmas addressed in this conference, and the stimulus for about half of that ten percent is probably extra-curricular. What possible influence, then, does the university have on the lifestyles of its members, both faculty and students?

Purposes of Learning

An approach to answering this question may be to examine two alternative ideas about the nature and purpose of learning. The one is the contemplative and the other the active. In the Middle Ages and the Renaissance these were simultaneously lifestyles and philosophies of education.

The contemplative ideal is the disinterested pursuit of learning. Goodness, truth and beauty are sought for their own sake; not because they have some extrinsic value or use. To be fully human is to desire them. The ideal sage or scholar is one who subordinates everything in life to the acquiring of wisdom. Knowledge and wisdom are intrinsically good. There is no specialization or professionalism that is compatible with the detached pursuit of truth, goodness, and beauty. The tradition of the liberal arts is part of this ideal. The study of grammar, poetry, history and moral philosophy are central to the realization of every person's human potential. They are liberating even if they have no extrinsic use or value in the market place.

The active ideal, on the other hand, holds that there properly is a use for all studies quite apart from their intrinsic merits or interest. The test of the validity of



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learning is the use to which it can be put in society, or, to put it more crudely, its market value. The test for grammar and rhetoric, for example, is in their application to the end of some political or social good. All learning must be interested, practical, and useful, and experience is the final criterion of whether it has worked. The emphasis falls on practice rather than theory.

However, neither of these ideals as they have been realized in the modern university have enabled that institution to be either truly detached or truly useful. It is neither. The university remains a subservient institution of society, contributing its specialized and technical competencies to that society which maintains it. Even the active ideal is distorted into a superficial pragmatism or mindless busy-ness. To the degree that the university orients it's curriculum toward "careers"the new in-term which means little more than getting jobs for its graduates that pay more than the jobs of non-graduates-it abandons detachment in favor of service and subservience. To the degree that it seeks detachment it confronts both the criticism of those who wish it to be politically and morally engaged, and the criticism of those who wish it to guarantee jobs for it's graduates. There is, therefore, little more that the modern university does than serve the cultural and social expectations of the society which maintains it. Not even the occasional riots and the allegations that universities are seedbeds of revolution are convincing evidence to the contrary. In both developed and underdeveloped countries these phenomena arise more out of the anxieties of late adolescence of some students and faculty members than out of a truly revolutionary commitment. They are more romantic than revolution-

We must now ask what possible influence the university may have on the lifestyle of its graduates? A satisfactory answer to this question will be hard to find because all possible answers have been the subject of controversy for centuries. We might begin by gaining unanimous consent to the proposition that it would be the ultimate in naiveté to assume that words of truth are automatically translated into acts of truth. To assume that persons act consistently with what they know to be right or just is to fly in the face of reality. Surely no Calvinist would make such a mistake. But what about other kinds or degrees of possible influence of the university on lifestyles? I must confess that I am not acquainted with the research that has been done on this question. I would be immodest enough to guess, however, that the impact of the university as such, apart from the specific impact of one course or of one faculty member, is either neutral or negative. There are so many other influences on a person in the building of his lifestyle that the university must be seen to have only a fragmentary and limited role. One hardly need be a cynic to suspect that the philandering and alcoholic lifestyles of some faculty and administrators may have a greater, although negative, impact on students than all their books and exhortations. The scant ability of the university to have a positive impact on values and life styles is due primarily to the simple fact that it does not represent or embody a unified idea, ideal or commitment. There is no moral commitment apart from a vague academic one or the personal moral commitments of the members who compose it. Nor does it have a positive religious commitment unless it be a vague secular humanism. But even this would be contradicted by the individual commitments of particular faculty members in the direction either of absolute libertarianism or of sectarianism. But in neither case is there a unified commitment which would be expected to influence lifestyles positively.

The Christian University

We have been using the generic term 'university' to refer to all colleges, universities, and institutes. We must now consider the Christian university, and to do so we will examine Calvin College specifically. Does Calvin College as an example of the Christian university have a positive influence on the value systems and lifestyles of its graduates? Is Calvin College an exception to what is true about the modern university? The answer, unsurprisingly, is yes and no.

The curriculum of Calvin does have a conceptual unity at its base. The student is exposed to the several kinds of intellectual disciplines so that he or she may emerge, regardless of vocational interest, reasonably well informed and equipped to understand life in all its complexity. This is a good starting point for possibly influencing students' lifestyles through curriculum.

Long before the design of this recent curriculum was the basic religious commitment that led to the establishment of Calvin College. That commitment, which has permeated the teaching of all the disciplines from the inception of the college, has often been referred to as the Calvinist life and world view. The Christian's calling in life is one of total obedience and total service to Christ within the context of the historical. All learning was to be brought into conformity with the revealed truth of God in Scripture and in Creation. Although variously formulated in different periods of the history of the college, the basic commitment has been to God-centered learning and living. The life and world view is a total commitment in the classroom and out.

Honesty and historical fairness require, however, the admission that the faculty has not always fulfilled this commitment with equal thoroughness, equal theoretical consistency, nor with equal competence. Some members of the faculty were and are mere professional technicians, some were and are unexcited by the vision, and some were and are doggedly holding on to their salaries while devoting their primary energies to other activities. Similarly, we must acknowledge that Calvin's students have not all been equally receptive to this religious starting point for their studies. Some impatiently have wanted to attain their professional goal or job; others have hated grammar whether it was to God's glory or not; and still others found the greatest issues of life coming to expression on a weekend date or on the basketball court. But given these frailties of both faculty and students, the religious distinctiveness of Calvin has still with remarkable consistency come through in the classroom, studio, and laboratory. Although sometimes dimmed by the press of everyday reality, a religious commitment has been evident, and a life and world view has been articulated and expressed.

Note, however, that the college did not invent this commitment or this life and world view. Rather Calvin was given the responsibility within the historical context of a denomination to develop and communicate that commitment. There was a broader community of Christians who created the institution and asked that institution to serve them by being faithful to the religious commitment and by creatively applying that commitment to the complex world of learning. This was a practical responsibility. That community of Christians wanted pastors, teachers, doctors, and the like. The college was to provide the technical studies appropriate to these callings in life, but more than the technical studies. The community wanted pastors, teachers, doctors, and the like who were committed to the life and world view. The religious commitment of the college was to be integrated with its practical service. Neither without the other would be Calvin College, or any Christian college for that matter.

The faculty too was to embody these dual qualities that for brevity we may call competence and commitment. Excellence was sought in both, but in crisis commitment took priority. While there have been variations in the quality of both commitment and competence, there was clearly more variation in the latter than in the former. There have been many instances in which highly qualified scholars have either not been considered for appointment, or after consideration have been rejected because their religious commitment was not adequate to or compatible with the demands of the college. On the other hand, the demands of commitment together with denominational loyalty have been strengths helping the college achieve academic excellence. Many have come to teach and to study at Calvin, precisely because of the centrality of commitment, who otherwise would have been attracted to more prestigious and better paying institutions.

We have, therefore, a college that expresses a particular religious commitment not only in the curriculum, but also in the approach to each of the disciplines and in the conduct of every classroom. From the perspective of the modern university this is not merely different, but probably a disaster. Merely to mention that we really are still a denominational college is to evoke laughter or cynicism. The picture typically conjured in the viewpoint of the modern university is that we must

be an authoritarian, narrow-minded, un-American, sectarian, middle-class, racist and bigoted throwback to the Middle Ages. To have an institution of higher learning subservient to a denomination and to a specific religious commitment is simply stupid.

There is an interesting and important element to this point of view whether it is politely or crudely expressed. Calvin College is what its support community both demands and permits it to be. If Calvin were not such a reflection of the religious commitment that gave it birth, and of the denomination that supports it, it would then be a classical example of deception and hypocrisy. Just as the university reflects the character of the community that supports it, so too does a Christian college such as Calvin.

What is Calvin College? Descriptively, it is a denominational liberal arts college known for the rigor of its academic program and for theological conservatism. It has a suburban campus which generally exudes an atmosphere of White, Protestant, Middle Class morality and respectability. In all these respects the college mirrors either the character or the expectations of the denomination that maintains it. Calvin thus reflects and expresses the prevailing commitment and the prevailing lifestyle of the broader community. Calvin builds on the commitment and the lifestyle already established in the Christian homes, schools, and churches that have previously been a part of the lives of its students and faculty. How could it do otherwise? How could it change or create positive alternatives to these original and prior expressions of the commitment? Calvin's role is to strengthen, enrich, deepen, clarify, and expand the commitment, not to change it. Calvin, just as the modern university, is limited by its historical situation. We might almost say that it is compromised by that situation. The very commitment that is central to itthe very life and world view of Calvinism-is an historically contingent expression of the Christian faith.

The vocatio of the Academy

Since it is conceivable, at least, that total obedience to Christ may demand something other than the comfortable pew and the middle class conformity of our present situation, we should return to our definition of the Christian Academy. Central to the Christian Academy is the vocatio to serve Christ in the midst of the ever changing circumstances of our secular condition. That vocatio is to work for a specifically Christian understanding of the whole creation, and to give leadership to other Christians on what such understanding entails for the Christian's service to God in his daily life. Everyone participating in this conference has expressed this vocatio in some way. The next question is how can Calvin College more fully realize, or even embody, the vocatio of the Christian Academy? Will such fuller realization produce a more positive faithfulness of Christians in their lifestyles? Are either of these even desirable?

There are three grounds for an affirmative response to these questions. First, Calvin's faculty has attained a level of scholarly activity within their respective disciplines that is quite simply impressive. The college has consistently, in recent years at least, encouraged faculty members to develop their specialized research potentials. There may be heard a grumble or two that

the policies promoting professional development have been too cautious, but such comments are much less commonly heard these days. But there is another kind of scholarly activity of the faculty also consistently encouraged, and that is scholarly work in the integrating of commitment with competence, faith with learning. Here too some impressive things have been produced. Both kinds of scholarly activity are essential to meeting the institutional goals of the college, and to perform its service. But there is a weakness.

The weakness may best be explained by reference to what on all accounts is a dramatic demonstration of the competence and the commitment of the faculty. I'm referring to the work of Nick Woltersdorff in the Philosophy department. Other examples could be chosen from members in that or other departments in the college, but Nick's work is most recent and best known among us. His exciting work on the relationship of religious commitment to all theory building activities has been a positive stimulus on this campus and on the campuses of several other Christian colleges, and most recently at the conference of Reformed institutions of higher education held at Potschefstrom. In preparing this theory of theories Nick has enjoyed the stimulus and the critical encouragement of his colleagues in the Philosophy department. The operation of that department in giving critical encouragement to each other is unique with the college. But despite all of that, the theory is still Nick's. It is his idea and before it can become a part of all our thinking, it demands further criticism, elaboration, and application to other disciplines. Our enthusiastic applause when he had done speaking about it is not enough. There must be a continuing forum in which an individual's contribution can become a part of our communal understanding and commitment. Here is our weakness. Even on scholarly projects which specifically relate faith to learning we have been too individualistic. A beginning of a communal activity in this regard has been made with Nick's contribution, but that beginning must be encouraged, expanded, and applied to other areas. Calvin merely does what universities do when it supports and encourages individual scholarship. Calvin must encourage communal study of problems relating commitment to competence and lifestyle if it will be true to its Christian vocatio and potential.

My second ground for answering in the affirmative that Calvin should seek more fully to realize the Christian Academy comes from a totally different direction. Orlando Fals Borda is a Protestant sociologist from Columbia who is best known in scholarly circles for his work on peasant life in his native country. He has an international reputation, but I wish to speak about him because he has expressed with such clarity the tensions that his scholarship and his Christian faith have produced in his life. His view of the university is devastating. In both North and South America he sees the university as devoted to justifying the social order of a given historical moment. (See a summary of his ideas in Denis Goulet, A New Moral Order. New York: Orbis, 1974. Chap. III) The same is true of professional scholarship. Thus he found his Christian commitment to social justice to be incompatible with his aspirations to scholarship and university teaching. He had to choose between being a detached scholar or an active revolutionary intellectual. He could not be

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both. He had to choose between being an institutionally successful professional or a marginalized outcast. Why did he have to make such choices? Why don't we? The answer lies in his situation as a Third World Christian. But the painful tensions he has faced may also be instructive to us in our apparently more comfortable accommodation to scholarship, professionalism, and the like.

Orlando Fals Borda is one of many Latin American scholars, both Protestant and Catholic, who have developed what is being called Liberation Theology and Development Ethics. For several years now I have been reading in this literature and having fragments of conversations with colleagues and students about it. I am troubled by it. I am uncomfortable with some of their exegetical and theological studies. I am consciencestricken by the totality of the demands of their ethics. I am attracted to their goals of social justice. They seem to be reading the Bible out of a totally different historical perspective than mine. Is this an authentic ortho-doxy which may lead to an authentic orthopraxis? To whom can I turn for answer or discussion? To books? What is the perspective of those who comment on Liberation Theology? Some denounce it as vaguely concealed Marxism. Others praise it as the first steps toward the realization of the Kingdom of God historically. The truth doesn't necessarily lie somewhere between. This fragment of the body of Christ institutionalized at Calvin College must become engaged with those fragments with like faith-commitments throughout the Third World. We need each other and need to understand each other. To transcend the limitations of our specialization, professionalism, and the very historical perspective that informs most of our studies is the vocatio of the Christian Academy. Obedience and faithfulness to Christ require this kind of transcendence of its own historicity even of Christian institutions.

A third ground for an affirmative response is to note a newly emerging sensitivity to the global dimensions of the Christian faith. That which Christ inaugurated is coming to fulfilment in new and exciting ways in our own times. The life and world view that I came to understand during my student days at Calvin had a very small world at its base. It was a Western Civ. world with some romantically enticing involvement with Greenland's Icy mountains and Africa's sunny clime. Furthermore, it was a Protestant world. Now Nick Woltersdorff can return from South Africa and tell us with a sense of discovery about struggling Calvinists and struggling Christian colleges and seminaries throughout Asia, Africa and Latin America. To our embarrassment, the faculty shared the excitement of his discovery because our world view had been too small. There is a growing body of both Protestant and Catholic thinkers about history who are insisting that Christians must be working to realize the Kingdom of God historically in acts of love and deeds of justice. In all of

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this new sense of unity, expectation and urgency there is a challenge to the older and more affluent Christians. Are we so attached to the comfortableness of our historical situation that we cannot discover how to help our brothers in Christ who are physically and politically oppressed? How can we make sense out of the confusing and contradictory reality of history? Is Christ still the Lord? What are we then required to do? For Calvin College to be able to handle the ecumenical and global scope of such inquiries, it must bring together within itself representatives of that global faith coming to realization. For this purpose it needs the Christian Academy to transcend institutional limitations.

Conclusion

In order to fulfil the potential of its own history, and

to more fully realize within itself the vocatio of the Christian Academy, Calvin must gather within itself a community of Christian scholars and activists to address themselves on a continuing basis to the intellectual and moral challenges facing Christians in this age. Conferences are but beginnings. The curriculum is too fragmented and professionalized. Individual scholarship, however worthy and relevant, does not influence lifestyles until accepted and applied communally. The articulation of a Christian vision and of Christian answers to the moral dilemmas of our age is the responsibility of the total Christian Academy-both Protestant and Catholic. The acceptance of that responsibility by Calvin College and other Christian institutions will enable them more fully to integrate life and learning, competence and commitment, books and bread.

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