Extending Human Life:

Scientific, Ethical, and Social Considerations
Challenges for the Church

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Introduction

Dr. John Lewis

This report is the product of study and reflection by the Working Group on Faith and Genetics of the Episcopal Diocese of Massachusetts. That group is true to most of its long name: we work hard, reading and discussing, to learn about questions that come up as an alive faith encounters the burgeoning world of the science of genetics. While we are supported by the Episcopal Diocese of Massachusetts, through financial support and a spot on its web site, we are not all Episcopalians. We belong to various faith communities, but we share an interest in science and a strong belief that an ongoing conversation between science and faith is necessary.

In the spring of 2006, searching for a project, we found a common interest in the aging process and efforts to slow it in humans. Throughout history, in fact and fiction, people have sought a Fountain of Youth, a way to live longer, perhaps even have eternal life. Real people – Ponce de Leon – and imagined people – Lord Voldemort – have gone to great efforts to find the secret to long life. To date, outside the world of fiction all efforts to find the Fountain of Youth have failed. As the biological and medical sciences have learned more and more about how life works and how to ward off life-threatening illnesses, however, hopes have risen that a real Fountain of Youth may be possible.

Our study began as an inquiry into efforts to find a scientific, medical Fountain of Youth, one that would allow humans to live longer. We were interested in the scientific questions this raises. What causes humans to age? Is this process necessary? Is there some way, through pharmacological treatments or genetic modifications or life-style alterations, to slow it down, or even stop it completely? What are the prospects that this will happen any time soon?

We quickly realized the need to distinguish between human *life span* and human *life expectancy*. "Human life expectancy" refers to the average amount of time humans live – in other words, the expected length of a person's life. "Human life span" refers to the maximum amount of time any person might live. Human life expectancy, in developed countries, has risen dramatically in the last century. Human life span has not changed much throughout history.

Human life expectancy – the average length of a human's life – has risen dramatically over the last century in developed nations. Human life span – the maximum length of a human's life – has not.

Considering the possibility of retarding, or even halting, the aging process led us to consider the possibility that such a treatment might be expensive and therefore not available to all. We realized we could not ignore the ethical questions raised by the quest for a Fountain of Youth. If only some can be given longer life, who decides who those people will be? And who is responsible for caring for them?

We also realized that there are a wide range of practical issues associated with a population of elderly, non-working people. Where do they live? What do they do? How do they support themselves?

Finally, as people of faith, we wondered what our Christian tradition has to say to these questions. The Bible seems to regard long life as a blessing. Yet the Christian faith surely tells us that death is not to be feared. What should a Christian response be to the possibility of longer lives for all in a world of finite resources?

As we considered these questions, we realized that our society must face them regardless of whether or not science succeeds in extending human life. By the year 2030 the ratio in the United State of working-age adults to retired adults will be approximately one to one. This is a huge drop from the 1990 ratio: three to one. [PET]* Even without any advances in life-sustaining medicine (the possibility of which is almost zero), we will in the next couple of decades find ourselves with an entirely different population, one that is older.

Even with no medical advances, our population in 25 years will be much different, because it will be an older one.

Thus, our study, which began as a kind of scientific speculation about possible new medical technologies, transformed into a political, economic, ethical, and even theological survey of the massive challenges posed by the certainty of an older population.

What follows is an overview of the myriad questions raised by the effort to extend human life. Don Plocke surveys the state of scientific understanding of the aging process and the prospects for breakthroughs that would allow for extending life. Christy Green identifies a multitude of social, political, and economic issues raised by these possibilities. Norm Faramelli examines the ethical and moral dilemmas posed, viewing these from the perspectives of social justice, compassion for individuals, and the role of the aging in our society. Doug Bond considers the theological perspective, finding a tension between two God-given propensities in people: the will to live, and the desire to contribute to the common good. Carole Belgrade reflects on these issues from a personal viewpoint. Finally, I present the conclusions the group came to and suggest ways that churches can help us confront the challenges ahead.

A note on spelling: All the dictionaries I consulted give both “aging” and “ageing” as correct spellings of the participle form of the verb “to age.” Our group decided to use “aging” as our preferred spelling, but to keep whichever spelling appears in a direct quote.

* Bracketed abbreviations, such as [PET], refer to the Bibliography at the end of this report.

Scientific Aspects of Aging

The Rev. Dr. Donald J. Plocke

Will a scientific understanding of the aging process allow us to *slow* the aging process? Possibly the most succinct recent summary statement on this question comes from Leonard Hayflick, a respected authority in the field of aging studies at UCSF School of Medicine:

"As yet, we know of no way in which the human ageing process can be slowed. Caloric restriction is a probable exception which, although observed in many species, has yet to be demonstrated conclusively in humans. Even so, a near-starvation diet is unlikely to be acceptable to those of us who value quality of life above quantity of life."

Hayflick concludes his article by stating:

" Biogerontologists have an obligation to emphasize that the goal of research on ageing is not to increase human longevity regardless of the consequences, but to increase active longevity free from disability and functional dependence."

Earlier in the article he had pointed out while there has been a marked increase in life expectancy, particularly in the first seventy years of the twentieth century, the human life span has not changed in the course of the past 10,000 years, and there is no reason to expect major changes in either of these in the forseeable future. [HAY]

At the opposite end of the spectrum in this area would appear to be the speculations of Aubrey de Grey at the University of Cambridge who, along with a number of other researchers, proposes that "within about a decade it might be possible to reverse ... mouse aging." [DG2] These authors suggest that reversing aging in mice, and possibly humans as well, is likely to be easier than simply retarding it. In another paper with Aubrey de Grey as the first author the feasibility of "SENS" (Strategy for Engineered Negligible Senescence) is discussed, although the authors concede that there is as yet no direct evidence of the possibility of reversing human aging. Nonetheless these authors maintain that "engineered negligible senescence may finally be in reach." [DG1]

Strong opposition to these proposals of de Grey and others comes from Preston Estep, who states that SENS is pseudoscience based on "the scientifically unsupported speculations of Aubrey de Grey" and that "... at its core, SENS is simply a collection of naive hypotheses dressed up by misrepresentations of research in science and engineering." [TR]

The question of human life expectancy itself has evoked similar disagreements among researchers, with two principal schools of thought, described in a 2004 article by Arking, et al. [ARK] One school is represented by Olshansky and Carnes, who suggest that

human life expectancy is most likely approaching a statistical maximum of approximately 86 years, and that the "period of rapid increases in life expectancy in developed nations has come to an end." The opposing school is represented by Oeppen and Vaupel, who cite the dismal record of forecasts of human longevity limits in the past and propose that within 60 years a life expectancy of 100 years might be achieved. One conclusion of the Arking article is that we should expect that in the future the human population would consist of two components on the basis of life expectancy, dependent on such factors as healthy or unhealthy lifestyles, etc. Those practicing a healthy lifestyle would be expected to live longer than the ones who practice an unhealthy lifestyle such that a stratification of our society into long-lived and short-lived subpopulations would result.

While it is undoubtedly the case that calorie restriction in humans, even it is shown to extend human life expectancy, is not very likely to have wide appeal (see above), there remains the possibility raised by calorie restriction mimetics, the use of drugs to provide the same benefits as calorie restriction without the drawback of a near starvation diet. Possibilities of such drugs might include 2-deoxyglucose, which inhibits glycolysis, or resveratrol, which affects stress signaling pathways. The characteristics that such drugs should possess would include the ability to mimic the physiological and metabolic effects of calorie restriction without the need for significant reduction of long-term food intake, etc. These proposals are not merely speculative, but are based on such studies as survival data from the Baltimore Longitudinal Study of aging (BLSA), in which low body temperatures and low plasma insulin levels (both of which are achieved with a 2-deoxyglucose diet) correlated with a higher probability of survival in a large sample of men. Other possibilities include the use of combinations of compounds (a "cocktail approach") that could be more effective than the use of single compounds. [ING] The authors of this paper suggest that "this emerging field appears poised for major advances".

Calorie restriction mimetics, which would provide the same benefits as calorie restriction without a near starvation diet, are a possibility.

Extending Human Life: Social, Economic, and Cultural Issues

Dr. M. Christian Green

Many proposals to extend human life take on the cast of science fiction, for those unfamiliar with the life extension debate. Much of that debate has heretofore occurred primarily in the realms of science and bioethics and, thus, seems remote from the lives and concerns of ordinary people attempting to deal with the ordinary problems of life today. Yet the intersection of the life extension debate with current and ongoing discussions of problems of aging in our society invokes a host of concerns that are both familiar and vexing for individuals, families, and communities. Viewing the life extension debate in terms of current discussions of aging reveals a range of social, economic, and political considerations, including issues pertaining to family, work, gender, and intergenerational justice, which any discussion of the desirability of extending human life must take into account.

Even as scientific research has been exploring the feasibility of life extension, bioethicists have been sounding alarms about it for some time. One of the most important voices on the issue of aging has been that of leading bioethicist and Hastings Center founder, Daniel Callahan. Approaching theses issues from consideration of proposals for health care rationing, Callahan's influential and controversial books, *Setting Limits: Medical Goals in an Aging Society* [DC1], *A World Growing Old: The Coming Health Care Challenges* [DC2], and *What Kind of Life: The Limits of Medical Progress* [DC3], have argued against the biomedical imperative of seeking cures and extending life at all costs. In *Setting Limits,* in particular, Callahan questions the disproportionate allocation of medical resources to the acutely ill elderly in the very last stages of life, arguing that such interventions seek to extend the quantity of life with insufficient attention to quality in a way that ultimately reduces the dignity of life.

Extending the quantity of life, with insufficient attention to quality, ultimately reduces the dignity of life.

On a broader and more global scale, Daniel Callahan, along with other ethicists working in this area, raises questions about the social and economic consequences of increasing the proportion of frail elderly in the population, relative to the younger population that must support them. These socioeconomic and population concerns have increasingly made it into discussions of population and development at international organizations such as the United Nations in recent years. Where population experts in such organizations tended to concentrate on population control and reducing the birthrate at the front-end of the population spectrum in decades past, in recent years they have been paying attention to the shift from youth-heavy populations (the traditional pyramid in which a large population of youth support a much smaller number of elders at the top), to what is now described as a column structure in highly developed nations (with an evening out of age groups and fewer young people supporting a graying population), to the potential that societies of the future may take the shape of an inverse pyramid (with a small population of workers supporting a large population of elderly).

While debate continues about whether an aging population will overtax and overburden the workforce of the future--some arguing that societies will, in fact, become more productive and wealthy with longer working lives and expansion of certain economics sectors related to eldercare—these issues already impact consideration of policies surrounding the future of Social Security, for example, in the United States. Considerations of health care rationing and population pyramids may strike some as overly utilitarian and dismissive of the inherent value of preserving life. Such critiques have frequently been lobbed at former Wall Street investment banker and Social Security reform activist Peter G. Petersen, who, in books such as *Gray Dawn: How the Coming Age Wave Will Transform America—And the World* [PET], has emphasized the economic implications of an aging population. Peterson, a member of the American generation between the Greatest Generation that fought in World War II and their Baby Boom offspring, has appealed in his writings to and, at times, actively cultivated alliances with younger generations in the so-called Generation X and Generation Y (or Millenial) cohorts, thus giving his arguments a distinctly intergenerational cast. At the same time, he has been roundly criticized by activists for the aging for tending not toward intergenerational justice, but intergenerational war.

One scholar of aging, Margaret Morgenroth Gullette, has challenged such conflictual intergenerational tactics as misguided. In her important books *Aged by Culture* [GU04] and *Declining to Decline: Cultural Combat and the Politics of the Midlife* [GU97], Gullette has pointed to the important cultural dimensions of aging, specifically the idea that aging and how we interpret and value it are far from timeless and universal, but rather continually shaped and constructed by the societies and cultures in which we live. The fact that contemporary America is a decidedly youth-oriented society does not bode well for the aging or for those whose time in the socially devalued category of the aged would be expanded through life extension. What would it mean to usher ever more people into the elderly population for longer and longer periods when the elderly are devalued by the surrounding culture? Can we assume that merely adding more people to the elderly population would increase the social power of that population? Must we not considerably alter our cultural value of the aged before pursuing such life extending tactics? These are the questions that Gullette and other advocates for the aged (as well as the chronically ill) would likely ask of the new technologies.

The fact that contemporary America is a decidedly youth-oriented society does not bode well for the aging.

Gullette's argument is one that calls for an enhanced cultural valuation of aging not only for the sake of the aged, but as an intergenerational legacy to future generations. In the important area of work and employment practices, for example, an area that some depict as a zero sum game in which every person who delays retirement denies a job to a younger person, Gullette maintains that young workers should themselves value seniority and all it entails in terms of their own future employability and increased remuneration as they move up the ladder of experience. Is it worth laying off a fifty-something parent so that their offspring can get high-paying entry-level jobs with uncertain prospects for long-

term employment or for steadily increasing levels of income and social value? Rather than accepting the script of intergenerational conflict over employment and entitlements, we should, in Gullette's view, resist such cultural artifacts, particularly as constructed by the media, and recognize the way in which they socialize us into passivity around issues of aging, in which narratives of decline come to seem inevitable. Instead, we should use our cultural and political agency to challenge these constructs and to put in their place a new vision of value at all stages of the life cycle.

Gullette is also a feminist scholar, whose work invokes a range of concerns about gender, family, and the life cycle—an area in which there is likely to be increasing social concern as today's "sandwich generation," particularly the women, bear, however willingly and dutifully, the dual burden of care for both children and the elderly. Two recent articles in the *New York Times* illustrate the double bind. One, titled "The Opt-Out Revolution, [BEL]" described a supposed trend of women in high-powered careers opting out of the work force to care for their children. The other, more salient for concerns about aging, was titled "Forget the Career. My Parents Need Me at Home, [GRO]" and it described another supposed trend, this time of single, high-powered career women dropping out of the work force at the peak of their careers for the "daughter track" of caring for their aging parents, particularly those with Alzheimer's disease, a disease whose capacity to inspire fear seems to have increased along with its frequency in recent years.

Several readers wrote in to the *Times* to praise these women for their altruism, virtue, and devotion to family. Only one, herself a "daughter tracker," raised the question of the implications of career interruption for the future, particularly the financial future, of these women. Her letter ended with the plaintive speculation, "Who will care for me? Answer: No one." The author of the *New York Times* article, journalist Jane Gross, who regularly covers issues of aging and caregiving, reported that women constitute 71 percent of those devoting 40 or more hours a week to the task of eldercare, and that 88 percent of those take leaves of absence, quit, or retire from their careers, with an average lifetime earnings loss of $659,139 over the course of their lifetimes. Thus, if proposals to extend life succeed and become widespread, without a corresponding improvement in the health and cognitive capacities of the newly long-lived aged, the socioeconomic burdens of this expanding population will likely be borne on the backs of women.

If proposals to extend life succeed, the socioeconomic burdens of this expanding population will likely be borne by women.

This is only a brief summary of social, economic, and cultural issues—all of them likely to become hotly contested political issues—to which the new life extension therapies might give rise. For further reading on this topic, one of the best sources is a pair of reports recently published by the President's Council on Bioethics (www.bioethics.gov). The first, titled *Beyond Therapy: Biotechnology and the Pursuit of Happiness*. [PR04] provides an ethical discussion of life-extension techniques and the quest to create "ageless bodies." Therein, the Council discusses such issues as attitudes toward death and mortality, the meaning of the life cycle, generations and families, and attitudes

toward innovation, change, and renewal, in addition to many of the issues that I have set forth above. At their most speculative, the Council members suggest that an extended life span might positively impact our sense of greater freedom from the constraints of time, but that it might, more negatively, weaken the sense of commitment and engagement, as well as the sense of aspiration and urgency with which we live our own lives and our life in common. If time and life are precious, we may be more likely to use them better, is the implication. The Council even speculates that people will be less oriented toward renewal of society through procreation, evidence of which they see in current trends toward delayed childbearing, which could be exacerbated by having a longer lifespan over which to procrastinate instead of procreate. If the *Beyond Therapy* report is laden with intriguing speculation, the second report, *Taking Care: Ethical Caregiving in Our Aging Society* [PR05] is laden with fear. With large portions devoted to Alzheimer's disease, unfortunately juxtaposed with equally lengthy discussions of end-of-life measures and euthanasia, the Council in this second report offers up a grim image of aging, no doubt intended to dampen enthusiasm for the life extension that they so roundly rejected in the prior report.

The Church can and should be a place where the important questions of ultimate meaning and value with respect to life extension, its promises, and its perils, are studied and discussed. With potential social, economic, and cultural implications in the areas of distributive and intergenerational justice, work and family, gender and care, the prospect of expanding human life expectancy raises the sorts of "ultimate concerns" with which the Church and its members must concern themselves and exercise moral and ethical leadership. It is hoped that this brief summary of social, economic, and cultural implications will prod and provoke the imagination and agency of the Church as the Body of Christ entrusted with the care and stewardship of this world and all its resources.

Aging – The Ethical and Moral Dilemmas

The Rev. Dr. Norman Faramelli

INTRODUCTION

In light of the many pressing medical needs, we need to question how many human and financial resources should be devoted to extending the human life span. Regardless of our belief systems, we need to understand that death is an essential part of the life cycle for all organisms, including humans. It is for this reason that our group (on exploring the scientific roots of aging) decided to focus, not on increased longevity as a goal, but on using our scientific and technical skills and resources to improve the quality of life for individuals as the aging process unfolds.

The ethical criteria that we need to consider in our work are: social and distributive justice (and in particular, justice between the generations); compassion and caring for the well-being of all people, and the protection of individual rights, including the increased participation of all citizens in decisions that affect their lives. This is not an exhaustive checklist of ethical concerns, but a reference to the components that must be considered as we address the moral and ethical dilemmas of aging.

SOCIAL AND DISTRIBUTIVE JUSTICE

There is a need for understanding the social justice questions and all of their ramifications. In our deliberations, we need always to address the basic question: for whom? That is, who will be the beneficiaries of scientific progress? If there are successful scientific and technological achievements that enhance the quality of life for the aging, will the fruits of that progress be equitably shared? Will those remedies be available to all people or will they be restricted to those with the greatest purchasing power? These are fundamental moral issues to be addressed. Also, as we use cost-benefit analyses to understand the issues, it is essential that we always ask the fundamental question: Who pays the costs and who receives the benefits? This aspect of distributive justice is frequently ignored in cost-benefit analysis. Similarly, if we embark on any risk–benefit analysis, we need to ask: who is taking the risk and who is receiving the benefit?

Will the fruits of progress be equitably shared? Who pays the costs and who receives the benefits?

The issues of social justice are related to the overall allocation of resources. One factor to be considered is the need for intergenerational justice. In a world with soaring population growth, the pursuit of longevity should not be high on our priority list. Modern science and technology have provided us with numerous possibilities for extending human life, at least from the perspective of biological existence. These are issues that should be of

concern, not only to senior citizens, but to the wider society. Therefore, we need to raise some fundamental questions: Is it fair to the younger generations for the senior citizens to live on for an additional thirty to fifty years? The increased medical costs due to such a life span extension are expected to be staggering. And with such an extension of the life span, we are not sure what kind of diseases the elderly will encounter. Improving the quality of life of senior citizens will most likely result in some increased longevity, but longevity *per se* should not be the major goal. That focus requires us to think in more resourceful ways concerning the financing of the Social Security system and addressing the rising medical costs incurred by a larger pool of aging retirees. (In the US, reforms will be required for both Social Security and Medicare; understanding that the financial crunch in Medicare is even greater than the problems of financing the Social Security system.)

A recent study prepared by the Urban Institute (*Kids' Share*) noted that the children's programs in the federal budget are receiving a smaller portion of domestic federal spending (which includes everything except defense and international) each year. For example, from 1960 to 2006 the percentage of spending on children's programs dropped from 20% to 15% of the federal budget, and by 2017 it is expected to decline further to 13%. Currently, state and local government increases have been offsetting the declines in the federal share, but the trends are clear. During the same period (1960-2006) the mandated programs of Social Security, Medicare and Medicaid increased from $58 billion to $993 billion, and will increase substantially in the future when the "boomers" reach retirement age. Although we should always be leery of intergenerational warfare, we need to recognize that given the above realities, the costs for the programs supporting an aging population will soar out of control if the average life span is substantially expanded.

THE 'BEST' FOR OUR LOVED ONES

One of the major ethical dilemmas encountered is that each of us wants "the best medical care" for our aging loved ones. Such a desire is a sign of our caring and compassion. It is one thing to speak of overall costs and benefits and the fair allocation of scarce resources, etc., but the collection of individual choices of wanting and demanding the best medical care for our loved ones runs counter to many of those overall rational cost/benefit analyses. From our own experiences we can express this concern. But the problem arises when there are millions who are making "the best" choice for their loved ones. In our society, the medical profession is willing to comply with those requests because of dedicated professional commitment to care for the sick and also the threat of legal action.

The medical profession complies with requests for "the best" care because of dedicated professional commitment and the threat of legal action.

We, of course, need to protect the rights of each individual, and in particular we need to allow each person the right to be a full participant in decisions that affect him or her

directly. This, however, is easier said than done, because often times those who are ill cannot make the choices for themselves and in many occasions have not transmitted their desires and aspirations to their loved ones who will eventually have to make the tough decisions.

It is, therefore, too simplistic to reduce all of these issues to a question of social and distributive justice. We need to consider the care for and compassion shown to those in need, as well as find ways to include people in the decisions that affect them.

THE SOCIETAL ROLE OF THE AGING SENIORS

Let us further assume that scientific and technical progress can enhance the quality of life for senior citizens. Then we need to ask: Will there be suitable places in society for the vibrant and healthy senior citizens to make significant contributions or will they be pushed aside into retirement communities? This is a big challenge to the wider society as it develops new part-time job and new volunteer opportunities for aging citizens. How the rest of society views these seniors is very important. For example, will that pool of senior citizens be seen as social assets or as social liabilities? Will they be blessings or burdens on society?

It is important to stress again that extending the life span is not a desirable social goal. Also, from the standpoint of global sustainability, extensions of longevity simply make no sense. (These global/environmental concerns, however, our beyond the scope of are efforts.) Moreover, if increased longevity is the goal to be pursued, will we be looking at much longer stays in nursing homes? This is not just an issue for seniors and their families, but has to be the concern of the wider society.

DEATH IS NOT THE END

There is still another ethical issue that needs to be addressed, one which is also profoundly theological. As Christians, we believe in a life after death. We proclaim "the resurrection of the body". The form that the resurrected body will take is unknown to us, but we believe that we will live on with God, because God will not abandon us. For most religious people, the sting of death is ameliorated by the conviction that there is a life beyond this one. But as noted previously, we also need to understand that the death of the old is essential for the emergence of the new. This is a biological and ecological fact, one that includes human beings. This belief should discourage us from focusing on the extension of the life span as an important social goal. There are, however, serious problems when this belief in life after death is minimized or ignored, and the result is twofold:

1. There is a desire to extend life at any cost, even if the quality of that life has declined considerably. That goal will be the prolongation of life, simply to extend it regardless of its quality. Given the legal structure and the oaths of the medical

profession, those aspirations will be attended to. And most likely longer stays in nursing homes will be one of the consequences.

2. With a desire to extend the life span, it is not surprising that there will be large market for solutions (or pseudo-solutions) that claim to extend human life. These efforts are not only designed to postpone mortality, but in their wildest forms, to give us the sense that we can approach immortality. The quest for the perennial "fountain of youth" will continue, and more "snake oil" solutions will be offered such as radical hormonal treatments and severe caloric restrictions. The inability to accept the reality of death makes us gullible candidates for pseudo-solutions to extend the human life span.

From the Christian perspective, when do we affirm that Christ has overcome the sting of death? "… O death where is your victory... O death where is your sting…….But thanks be to God who gives us the victory through our Lord Jesus Christ" (I Cor. 15: 55,57). With this affirmation we can creatively engage the ethical dilemmas posed by the aging process.

The Theology of Aging

The Rev. Douglas Bond

As I imagine myself to be in the mind of God, which is what I imagine "theology" to be, I look at a creation which seems to be at war with itself; that is, a vast and unified self-renewing collective made up entirely of individual units which are desperately trying to exist forever yet which are nonetheless coming and going with great rapidity. They may be atoms turning into energy and back into atoms, or cells dividing out of one another and then individually dying, or individual creatures begetting one another and then individually dying, generally in protest. So, my individual units, which I love, are all desperate to last as long as possible, yet are all on a track of birth and death and renewal outside of themselves. I, indeed, also love my whole corporate creation, as it continues on seemingly indefinitely, albeit in an always changing composition.

As I look at an aging person, one of those units mentioned above, I am filled with compassion for that creature's desperate wish to hold on to the life I have given; and at the same time, I love the new life that comes out of, or in spite of, the death of individuals in the corporate. What am I to do?

Or, stepping back, what are we to imagine God wants us to do in regard to our ability to control different aspects of aging? Evidently, we are to respect both the desire of the individual to live and also the drive of the corporate creation to reinvent itself continually, requiring the coming and going of the individuals.

Evidently, we are to respect both the desire of the individual to live and the desire of the corporate creation continually to reinvent itself.

So, each individual may have the "right" to choose to maximize itself – to live forever richly, if possible. But, the ongoing renewal of "life" demands a constant turnover.

The Darwinian notion of survival of the fittest, or richest, or best situated, is small comfort to someone who is not one of those. However, we all seem to be in that game – the corporate creation is made up of each one of us self-interested individuals. The payoff seems to be that as we die, we still live, as God's creation lives, and even beyond our limited knowing of the bounds of creation. We are reborn with a "more perfect body," as Saint Paul says, however God chooses to have it.

So, I would say that there is nothing inherently wrong with looking after our own interest in lasting forever, in whatever fashion that could physically happen. Nor is there anything wrong with, instead, opting for the best quality of life for ourselves and others, as a delimiter to the actual length of life we may have. Nor is there anything wrong, I suppose, with offering ourselves on the pyre of extinction so that the new may be

revealed. The problem, however, stands that these choices seem to simultaneously exclude one another.

Perhaps this tension is "good" in God's mind. All three options are part of the goodness of life, as it wrestles with itself in God's purview. Our part is to weigh these three possibilities as seems corporately or individually appropriate or valuable, unable to do all three at once. Such wise vision and possibility is God's pleasure, the pleasure that we shall share with God in God's corporate being in the time to come.

Healing, Aging and Hope

Ms. Carole Belgrade

In the last twenty years, the fastest growing segment of our population in the United States is the aging baby boomers, individuals born between 1946 and 1962. On some levels it is hard to imagine icons of this era, Mick Jagger as a grandfather and Jane Fonda, emerging as a social essayist on older women's issues. Yet, these are superficial examples of some serious socio-economic as well as communal issues facing 21st century faith communities. There is a wide gap of lifestyle choices ranging from full service county club senior communities to the more common "barebones" nursing homes and poverty.

As a contributor to the Faith and Genetics Working Group's study on Extending Human Life, my efforts are not to present a restatement of the challenges facing the elderly, but to examine some of the underlying communal and spiritual aspects of the older generation's interconnectedness to our current healthcare and *ekklesia.* Many ethicists, sociologists and theologians are considering the integration of mind, body and spirit as a way to begin this analysis. Robert N. Butler, MD, a geriatrics specialist, in a recent interview with New York Times writer, Sara Davidson, notes, "A lot of it comes down to our willingness in this country to make an investment in the biology of aging. Historically, we've devoted our energies and money to studying one disease at a time. At the same time, we have neglected targeting the underlying risk factor of aging." [DAV] Yet we, living in a 21st century technologically charged ethos, tend to ignore the underlying causes of illness, particularly in the elderly population. In its place we in general seek instant cures, boxtox and magical surgery to address some very serious issues.

Contemporary theologian Peter Hodgson, reflecting on the nature of *ekklesia,* explains that it "is an anticipatory sign and sacrament of the basileia vision of Jesus, the vision of a new community brought into being by God's transformative presence." [HOD] The catalyst for this transformation is the company of the Holy Spirit, in action in the greater world. This new covenant, formed in one body, members of the household of God, in fellowship, is the primary distinction or mark of this emerging community.

As Christians, given this framework, can we willingly reduce our treasured senior population to a pool for experimentation or can we embrace our biblical covenant and provide an ethos for our elders to continue to be active, spiritually engaged role models for future generations. Modern medicine, in spite of its advances in treatment and diagnosis of some of the more debilitating or chronic conditions facing our elderly generation, in some regards fails to fully recognize the fragile humanity

As Christians, can we provide an ethos for our elders to be active, spiritually engaged role models for future generations?

implicit in the aging population. Many researchers are fascinated with finding the "fountain of youth" and developing life enhancing protocols to maintain a cosmetic "fix" to superficial conditions associated with the natural course of aging.

However, there are physicians who gather as much of their capacity for healing from clinical diagnosis as in an underlying perception of faith and the human spirit. Dr. Jerome Groopman, a noted researcher in the areas of HIV/AIDS and cancer, notes that: "Although I am a scientist who draws sustenance from a rational understanding of the natural world, I am also a person who views life in deeply spiritual terms. I perceive in the intricacy and beauty of science the wonder and gifts of God. I see in the patient's struggle to reclaim and reconstruct his life a process that enhances the sanctity of life." [GR]

On a very personal level, I walked through this pathway with my late mother. I was her advocate, counselor, and often a secondary care giver when it was needed. Though she died in 2002, I find it important to honor and affirm her choices as part of a grieving process that does not just "go away." Earl Thompson suggests, "Recovery is never entirely completed." On the contrary, the pain, issues and meanings of the loss are experienced at deeper and deeper levels of one's mind and spirit throughout one's life and therefore are understood differently as one moves through the life cycle." [THO] I didn't fully understand this complexity enfolding the mind and the spirit until I was needed to comfort my friends when their parents also "passed on." Collectively, we all to some degree experience some form of loss and bereavement; as these aspects of our humanity connect us to those we love and care for the most.

Being mindful of our human nature as well as the theological ethos of creation, created in the image of God, structure the underpinnings of Christian ethics. It is the image of God, the origin of existence [KEL], the *imago dei*, that forms and informs life on earth since the beginning. *In the Beginning, God created the heavens and the earth.* (Genesis 1:1). Since we as human beings are created in the *imago dei*, our collective spiritual and earthly bound reality is directly linked or at least acknowledged in relationship to the Divine. However, in the early 21st century our society in general does not concern itself with the growing population of aging individuals or with their overall wellbeing and their continued roles as productive citizens.

It appears that commerce and technology are fixated to some degree with removing the very human intimacy of community with grand plans for managed health care, enhanced senior living facilities, and making old age appear to be a mythical nirvana. Yet the realities of elders living in poverty, receiving limited benefits, and having little sense of dignity are increasing. According to recent media coverage, there are countless individuals who face serious illnesses, impending changes to existing medical support systems that are taken for granted, and an overriding lack of human caring. Especially in the areas of dementia and Alzheimer's disease, as well as related causes of mental and physical decline, one tends to forget that these patients are persons who are struggling both with their physical limitations and mental/emotional setbacks. Robert Butler explains that "For me, one of the most disturbing experiences is putting a fully

incapacitated Alzheimer's patient in front of a mirror and asking him who he is, and he doesn't know. It's just shocking to see that happen to human beings — they don't even recognize themselves." [DAV] Indeed, these individuals lose or are in the process of losing their memory, an emotional as well as mental storehouse of experience, reason and cognition. Butler reminds his readers " Elie Wiesel said 'we are our memories', which I think is a beautiful statement of the significance of memory, because when you're older, you also tend to review your life and to try to come to terms with it, and if you have Alzheimer's, you're denied that opportunity." [DAV] I was reminded of the human experience of memory the other day. My late mother's cousin, Dave M., who lives in Chicago, sent to me an envelope of photos of various family members including my deceased parents. Just having that opportunity to connect with happy, goofy times documented in these photos reminded me of the great sense of closeness and joy we had within our family.

Looking at these old photos – my beloved grandmother, my parents and other family members, sparkling in the prime of life – I remember enjoying special occasions as well as every day activities with them. It is bittersweet to note that my uncle Joseph suffered with complications from un-diagnosed cardiac problems and related aliments. My grandmother enjoyed a full vibrant lifestyle until she was placed in a nursing home with little emotional or spiritual presence. No miracle cure, medical intervention or scientific discovery can replace one's strong ties to family and the bond of love. In response to this spiritual and psychological desert, our faith communities and immediate neighborhoods need to pay attention to our elders' welfare and continued connection to everyday life. Being part of the *ekklesia*, as well as a responsible 21st century citizen, implies caring and '*loving your neighbor as yourself*.' *(Matthew 22:37-40)*

Conclusions

Dr. John Lewis

While it is by no means a certainty, the possibility that human life expectancy and/or lifespan will increase cannot be ruled out. The inherent appeal of the "Fountain of Youth" and the allure of owning the patent rights to it will be irresistible incentives to continue research. Findings with respect to mimicking the life-extending properties of Caloric Reduction show promise. We can assume that progress in curing or preventing cancer and other chronic diseases will continue. In short we can assume that people, at least in developed countries, will be living longer.

We strongly feel that research should be on improving the quality of life, not extending life. Of course, healthier people are more likely to live longer. **But quality of life, not length of life, should be the overriding goal of medical research and social policy**.

The aging of our population presents immense, serious, global challenges.

- Economic: the number of elderly is increasing with respect to the number of working-age adults; who will pay for their care?
- Social: what will be the effect of this added burden on younger adults and on inter-generational dynamics?
- Cultural: how will our youth-oriented culture adapt?

These challenges will confront us even without any increase in human life span; extending the human life span can only exacerbate them.

This situation presents urgent needs.

- **There needs to be a greater awareness of these challenges. Things are currently not promising in this regard.** Other dangers – terrorism, the environment – get more media attention; when issues of aging confront people, they are often seen as personal, inter-family issues. A lot of the research on extending life is privately-funded, therefore out of public scrutiny. When aging-related questions are discussed, the debate often centers on hot-button political questions – for example, privatizing social security – or personalized attacks.[TR] The report by the 1994 Commission on Aging was roundly ignored.
- **There needs to be a paradigm shift in how we view the place of the elderly in our society.** We need to make them feel valued, not marginalized. We need to make use of their experience and wisdom – "productive aging" that includes education and work. We need to maintain families even as the family tree gets longer and narrower. [PET] We need to reverse the stereotype of the elderly as dependent, over-the-hill.
- **There needs to be more open dialog on the fundamental moral and ethical questions.** These questions currently get scant attention in public discussion. We need to begin talking about them before people individually develop their own, hardened positions.

Faith communities can and should address these needs. They can and should help people to become aware of the growing challenges our society faces. And they are the best places, maybe the only places, to model the inter-generational interaction we feel is required. There are many multitude ways they can do this. [WIE]

As to the moral and ethical questions, these are matters of justice and, more than that, they are ultimately matters of our place in God's creation. In other words, they are matters that the church is uniquely suited to talk about. We suggest that framing the issues as reflecting the two urges, survival of self and survival of the larger community, both God-given, is a useful way for people of faith to enter the discussion. Viewing the issues this way, we believe, removes blame and gives hope.

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