# A Wesleyan Engagement With The Human Genome Project: Reflections on Creation, Justice and Hope

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## Introduction: The Human Genome as Theological Context

The goal of the Human Genome Project was to map, in comprehensive detail, "the genetic instructions that shape a human being".[1] It has been called the most important biology project ever, biology's "Holy Grail", and "more important than the moon race". The project itself aimed to map the identity of roughly 100,000 genes, and, coupled with additional information about structure of proteins encoded within the genes, to gain new insights into the origins of and susceptibility to diseases. HGP Director Francis Collins and colleagues wrote: *"An understanding of the variation between genetic risk promises to change significantly the future prevention and treatment of illness."*[2] In summary, the maps produced by the HGP have the potential to enhance diagnosis of pathology, prevent the onset of disease, reconfigure molecular defects, and prolong the human life span. The HGP, a fifteen year, three billion dollar international

[1] Francis Collins and Karin Jegalian, "Deciphering The Code of Life", Scientific American, December, 1999, page 86. Collins, who is the director of the National Human Genome Research Institute, identifies himself as a practicing Christian "who is particularly interested in the ethical implications of human genetics research" (page 91).
[2] Francis Collins, et.al., "New Goals for the U.S. Human Genome Project: 1998-2003", Science, October 23, 1998. See also www.nhgri.nih.gov.

research effort, successfully completed all of its major goals in 2003. Analysis of the data and subsequent research is now ongoing.

The purpose of this discussion is to reflect on the Human Genome Project in light of three Christian concepts: creation, justice and hope, from a Wesleyan framework in particular. I hope to create a dialogue between the aims of the HGP, and the broader work being done in the discipline of genetics and these three concepts. A byproduct of this reflection will be the thesis that one cannot understand these concepts—creation, justice, hope—apart from each other. And finally, this discussion is shaped by the Wesley's order of salvation and its implications for human hope and healing.

## 1. Creation In The Image of God

**Then God said,**
**"Let us make humankind in our image, according to our likeness".**

**Genesis 1.26 (NRSV)**

John Wesley's theology was shaped by his understanding of the imago dei (image of God), which was his primary way of describing the process of salvation in our lives. A contemporary theologian in the Wesleyan tradition, Geoffrey Wainwright, speaks of our similarity to God by employing the concept of the "imago Dei", our capacity to commune with God. This is our "*original orientation*". Thus two of Wainwright's favorite theological statements are taken from the first Westminster Confession: "*What is the chief end of man? Man's chief end is to glorify God and to enjoy him forever*". The second is taken from Saint Augustine: "*Thou hast made us for Thyself, and our hearts are restless until they find their rest in Thee*".[3]

[3] Doxology: The Praise of God in Worship, Doctrine and Life (New York: Oxford, 1980), pages 16-17.

We are made for God, and we do not fulfill our humanity apart from the experience of divine presence. We are drawn toward God primarily through God's activity (revelation), yet we resist God. We are apt to ignore our vocation (communion with God, growth in the image of God) precisely because our love becomes self-love; we turn from the worship of God to self-idolatry, sin is the condition of the heart curved in on itself. As in Romans 1, we exchange the truth of God for a lie; we ignore reality, which is, as Wainwright states, "*towards God*". Thus the image of God is distorted. Wainwright's emphasis on humanity understood as the image of God, whose vocation is communion with God, does not imply that he has an exalted view of human nature. The relationship, as it is maintained between God and persons, is understood as divine gift, due to *the "character of God, his intention for humanity, his action to achieve his purpose*". Methodist theology *at its best* has held together a <u>pessimism of nature</u> and an <u>optimism of grace</u>, and this has influenced my own pastoral practice: not to be naïve about the human condition, but also not

The doctrine of creation is at the heart of the Christian faith, both in scripture (Genesis 1-2), and in the creeds. While creation is an important concept in other religions as well, the Christian perspective is unique in several respects. Alister McGrath notes that "*one of the most significant affirmations that the Old Testament makes is that nature is not divine. The Genesis creation account stresses that God created the moon, sun and stars. The significance of this point is too easily overlooked. Each of these entities was worshipped as divine in the ancient world. By asserting that they were*

*created by God, the Old Testament is asserting that they are subordinate to God, and have no intrinsic divine nature."*[4]

It is helpful to be precise about the Christian meaning of creation, because this issue is at the heart of the debate over the ethical warrant for genetic engineering. The debate can be seen in the statement by a number of religious leaders in the New York Times (May 18, 1995), in opposition to the patenting of human and animal life forms, a statement influenced by Jeremy Rifkin, who, without appealing to any specific religious tradition, called for a "resacralization of nature".[5] One perspective on creation in light of genetic development would be to see human life as intrinsically sacred, and therefore not to be altered. Ethicists such as David Smith of Indiana University and Max Stackhouse of Princeton Theological Seminary have alluded to a preservationist model that might negate the legitimacy of interference into the natural order of human life. Stackhouse writes: *"We should never overestimate the hoped-for benefits of the changes or corrections we make. In particular they will never be salvific. Thus, hope for bringing in a new era of human life, for a fundamental change in the human condition, is misguided"*. [6]

Understood in this way, intervention into the genetic framework is an exercise that has potential for good and evil. Our capacity for injustice makes genetic therapy a

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[4] Alister McGrath, Science and Religion: An Introduction (Oxford: Blackwell, 1999), page 111-112. See also John Polkinghorne, The Faith of a Physicist (Minneapolis: Fortress, 1996), page 73: "*An important implication of the Christian doctrine of creation is that it clearly distinguishes the created order from its Creator. Barth says that "Creation is the freely willed and executed positing of a reality distinct from God"….Christian theology…sees the world as a free act of divine decision and as separate from deity*."

[5] See Ted Peters, Playing God? Genetic Determinism and Human Freedom (New York and London: Routledge, 1997), page 117.

[6] As cited in Max Stackhouse, "After Cloning: Christian Ethical Reflections on Creation, Biotechnology and Grace", unpublished manuscript, cited in David Smith, "Creation, Preservation and All the Blessings…" Anglican Theological Review, Fall, 1999, page 572.

likely candidate for "hubris, an infringement on God's prerogatives".[7] Here we are "*playing God*", a phrase helpfully and carefully interpreted by the theologian Ted Peters, and, more recently, Francis Collins.[8]

The doctrine of creation has yet another implication, one noted by both Peters and David Smith, and that is our calling to participate in the creation of God. Peters writes: "*Jews and Christians hold that we humans should be good stewards of our God-given creativity, and out of love for neighbor pursue, among other things, work for development of better ways to relieve human suffering and improve the human experience*."[9] And Geoffrey Wainwright reflects on the similarity between God and humanity as "*the calling of humanity to communion with God… implied in the task of humanity to administer the earth of God's behalf …[and] the human vocation to imitate the loving character of God*". [10]

From this perspective much of the literature of hope in the scriptures is grounded in a new, or renewed creation; the Revelation to John of Patmos, for example:

**Then I saw a new heaven and a new earth; for the first heaven**
**And the first earth had passed away, and the sea was no more…**
**And I heard a loud voice from the throne saying,**
**"See, the home of God is among mortals.**
**He will dwell with them, they will be his peoples,**
**And God himself will be with them;**
**He will wipe away every tear from their eyes,**
**Death will be no more, for the first things have passed away.**
**And the one who was seated on the throne said,**
**"See, I am making all things new".**

**Revelation 21. 1, 3-5 (NRSV)**

[7] Smith, page 571. See also Wainwright's distinction between God and humanity in Doxology, page 33.
[8] See The Language of God (New York: Free Press, 2006), page 272.
[9] Peters, page 117.
[10] Wainwright, ibid.

God's intention for creation is not only in the past but also in the (eschatological) future. The Jewish scholar Jonathon Cohen notes that the possibility of cloning human beings challenges Western beliefs about creation and our relationship with God: "*if we understand God as the Creator and creation as a completed act, cloning will be a transgression. If, however, we understand God as the Power of Creation and creation as a transformative process, we may find a role for human participation, sharing that power as beings created in the image of God*".[11] Randy Maddox speaks helpfully of the "*processive character*" of the new creation which cannot be understood apart from "*cooperative dynamics*", our response to grace.[12]

This transformative process is the work of God, and human beings are participants in that work as, in the language of Peters, "*created co-creators*".[13] Hans Weder's comment is well-taken: "*Hope, although it relies on the creativity of God alone, does not forgo the reality of the world, especially the traces of creation within the admixture of the universe. At this point a dialogue between natural science and theology might prove quite fruitful*".[14] Indeed, attention to this subject is at the heart of the church's theological task itself, as Thomas Langford has noted, "*Doctrine reflects the grasp of the church; theology reflects the reach of the church. To use another analogy:*

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[11] Jonathon Cohen, "*In God's Garden: Creation and Cloning in Jewish Thought*", Hastings Center Report 29, no. 4 (1999), page 7.

[12] Randy Maddox, "*Nurturing The New Creation: Reflections on a Wesleyan Trajectory*" in M. Douglas Meeks, Wesleyan Perspectives On The New Creation (Nashville: Kingswood, 2004), pages 40-43.

[13] Peters, page 156. He continues: "The term created reminds us that God creates differently from the way human beings create. God creates ex nihilo. We have been created by God. We are creatures. So, whatever creativity we manifest cannot rank on the same level as creation out of nothing, on the same level with our creator. Yet, secondly, the term cocreator signifies what we all know, namely, that creation does not stand still. It moves. It changes. So do we. And furthermore, we have partial influence on the direction in which it moves and the kinds of changes that take place. We are creative in the transformative sense" (page 15).

[14] Hans Weder, "*Hope and Creation*", in The End of the World and The Ends of God (Harrisburg: Trinity Press International, 2000), p. 188.

*doctrine is the part of the cathedral already completed, exploratory theology is creative architectural vision and preliminary drawings for possible new construction*".[15]

### *An Excursus on Stewardship*

*To [God] we are equally accountable for the use of our hands and feet, and all the members of our body. These are so many talents which are committed to our trust, until the time appointed by the Father. Until then we have the use of all these; but as stewards, not as proprietors: to the end we should render them, not as instruments unto sin, but as instruments of righteousness unto God*".[16]

The language of stewardship[17], in light of the doctrine of creation, opens new possibilities for responsible Christian vocation. In The Steward: A Biblical Symbol Come of Age, Douglas John Hall helpfully characterizes the meanings of this term. In Old Testament understandings a steward is a servant who displays "*humbleness of spirit, lack of pretension and ostentation*"; the steward identifies with and is accountable to his or her lord (see Isaiah 22. 15ff.). In the New Testament, the term steward is used interchangeably with servant. Hall comments: "*the disciples are warned (in a manner very reminiscent of Isaiah 22) that stewards who forget their place and begin to assume that they are in charge or are at liberty to do as they please with the servants, will be severely punished".*[18] The steward is also a recipient of the grace of God and a responsible manager in the household of God ("the mysteries of God", as in 1

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[15] See "*Doctrinal Affirmation and Theological Exploration*" in Thomas A. Langford, ed., Doctrine and Theology in The United Methodist Church (Nashville: Abingdon, 1991), page 204.

[16] John Wesley, "The Good Steward", in Albert C. Outler and Richard P. Heitzenrater, ed., John Wesley' Sermons: An Anthology (Nashville: Abingdon, 1991), page 422.

[17] I am grateful for this comment by Kent E. Vrana, PhD., a molecular biologist at Wake Forest University School of Medicine: "while I oppose'reproductive cloning', there is the following argument: in cloning human or animal life, we are not playing God. Rather, we are merely recapitulating or copying God's own original creation. Moreover, in modifying that creation through genetic engineering, we are a) acting as stewards of the God-given gift; and b) striving, in a self-deterministic manner, to improve the human condition. In any event, the danger lies, as in all aspects of society, with the human potential to sin and do wrong". I am also grateful to Sheila L. Vrana, PhD., also of Wake Forest University School of Medicine, for her reading of this paper.

[18] Douglas John Hall, The Steward: A Biblical Symbol Come of Age (New York: Friendship Press, 1982), pp. 18-21.

Corinthians 4. 1ff). For our purposes, one of the critical meanings of stewardship lies in its eschatological character.

> **The end of all things is near; therefore be serious**
> **and discipline yourselves for the sake of your prayers.**
> **Above all, maintain constant love for one another,**
> **for love covers a multitude of sins.**
> **Be hospitable to one another without complaining.**
> **Like good stewards of the manifold grace of God,**
> **serve one another with whatever gift you have received.**
>
> **1 Peter 4. 7-10 (NRSV)**

Reflecting on 1 Peter 4. 7-10, Hall writes:

> *Whatever else the eschatological context of the Christian life implies, one thing that appears prominently in this passage is the way the End reinforces the gift character of life. Part of what this means, concretely, is that our human tendency to isolate ourselves and our "talents" pridefully is reduced. The sense of an Ending brings us into a fuller recognition of our own transience and of our creaturely solidarity. We are all in the same boat---and for faith it is God's boat. God's ark! Here the eschatological and the ecclesiastical presuppositions of the stewardship concept are inextricably bound up with one another.*[19]

This concept of stewardship is at the heart of what Francis Collins speaks about when he refers to "*the mandate to relieve human suffering as one of the most compelling of all expectations of humanity*".[20] A part of the rationale for the enormous expenditure of human and financial resources was the hope of more effectively combating diseases such as cancer, [21] with therapies matched to a "patients likely response, as predicted by molecular fingerprinting", according to Collins and Jegalian. They continue: "Within

[19] Hall, p. 22.
[20] Cited in his forward to Peters, page ix.
[21] As reported in William A. Clark, The New Healers (Oxford: Oxford University Press, 1997), page 189.

50 years we expect comprehensive genomics-based health care to be the norm in the U.S."[22]

Any discussion of the concept of creation—our participation in it, our understanding of it--must acknowledge the sense of the mystery of the human person created in the image of God. Creation is not merely an object that we manage. Creation is a mystery in which we participate.[23] Scientists are beginning to speak the language of mystery, as they reach the limits of their own explanatory efforts and seek a theory that will define the larger meaning of their discoveries, and preachers are beginning to engage more fruitfully in their discoveries.[24] The denial of this mystery leads to a reductionistic and mechanistic vision of human life. As Craig Dykstra has noted:

*"We tend to treat evil as a problem rather than a mystery. We assume that there is some set of techniques for ridding the world of evil. By doing so, however, we lay ourselves open to a tendency to become overly cynical and overly optimistic. Either way, we are being unrealistic; both are mechanisms of evasion. We become overly optimistic when we think we have the techniques to rid the world of evil. We become cynical when these techniques fail. This does not mean that we do not try to do everything within our power to resist evil and eliminate what suffering we can. We must do this. But we must not have too high a view of our own power.*[25]

As human beings created in the image of God, we exercise power and responsibility in ways that are not coercive and tyrannical; instead, as Walter Brueggemann suggests, "*it*

[22] Collins and Jegalian, page 90.
[23] For a philosophical discussion of this see Timothy Ferris, Coming of Age in the Milky Way (New York: Morrow, 1988), p. 386. He writes: "*Nature may be counted on forever to retain the mysterious, magical quality that arises from the contrast between her innumerable splendors and the limitations of our metaphors*."
[24] See Francis S. Collins, The Language of God (New York Free Press, 2006), and Barbara Brown Taylor, The Luminous Web: Essays in Science and Religion (Boston: Cowley, 2000).
[25] Craig Dykstra, Vision and Character (New York: Paulist, 1981), p. 43.

*has to do with securing the well being of every creature and bringing the promise of each to full-fruition".*[26]

The Human Genome Project more specifically, and genetic therapy more generally, lead us to new and nuanced understandings of the doctrine of creation. First, we will need to clarify how God, as creator, is in relationship to the natural world, the creation. Second, we must also define the parameters of God's creative activity, and our role as stewards or "created co-creators" in it. Weder draws a distinction between creation, which is the work of God, and transformation, which is the vocation of persons. In so doing he distinguishes between the doctrine of creatio ex nihilo, creation out of nothing, arguing that "the generation of the new is God's work", and the task of scientific research, where "something new and unexpected comes into being by a process of transformation of the old".[27] The dialogue between theology and the sciences will be helped as individuals maintain the distinction between creation and transformation. John Polkinghorne describes the distinction with the categories of creatio ex nihilo and creation continua.[28] Creatio ex nihilo (out of nothing) emphasizes the freely exercised will of God in shaping human life, and is grounded in God's transcendence (otherness). Creatio continua, which focuses on the open-ended character of life, or the "*processive character of the new creation*" and our participation, as stewards, in the unfolding

[26] Walter Brueggemann, Genesis (Atlanta: John Knox, 1982), p. 32. His allusion to the essay by Lynn White, "*The Historical Roots of Our Ecological Crisis*", Science 155:1203-1207, 1967, is also important. The crucial idea is that God's gift of dominion to human beings created in the image of God (Genesis 1. 26) is not permission to subjugate the earth and its resources for (flawed) human persons. Brueggemann also connects the themes of Lordship and servanthood in his discussion of this text.

[27] Hans Weder, "Hope and Creation", in The Ends of The World and The Ends of God (Harrisburg: Trinity Press International, 2000).

[28] John Polkinghorne, Science and Theology: An Introduction (London: SPCK, 1998), page 80. See also Peters, page 123.

process of creation, is rooted in immanence.[29] Both are held in what Polkinghorne calls "creative tension": the former is necessary if theology, religious studies and faith perspectives are to have integrity in the dialogue; and the latter is essential if we are to come to more mature understandings of the meaning of the functional role of scientific investigations, discoveries and therapies. Our hopes lie beyond death, in the life to come, but our hopes are also resident in the material world, in the creation of God. It is there that we turn to another critical element of the discussion: justice.

## 2. Justice: What does the Lord require of us?

*There is no doubt that significant challenges lie ahead in the proper application of the powerful revelations in human genetics. Right now, for instance, an urgent need exists to provide protections to prevent the use of genetic information to deny health insurance or employment, a situation that should be a moral outrage. The Church, with its powerful tradition of effective advocacy on moral issues, can contribute much to the navigation of these difficult waters.*

*Francis Collins*[30]

**He has told you, O mortal, what is good,**
**and what does the Lord require of you**
**but to do justice, and to love kindness**
**and to walk humbly with your God.**

**Micah 6.8 (NRSV)**

The rationale for the HGP, as we have noted, was largely for its therapeutic benefit to prevent and treat diseases. Another reason given for the tremendous governmental support was competition among nations for the knowledge that would be

[29] See Polkinghorne, The Faith of a Physicist, page 75. There the author quotes Isaiah 48. 6-7: *"From this time forth I make you hear new things, hidden things which you have not known. They are created now, not long ago; before today you have never heard of them, lest you should say, Behold, I knew them"*

generated by such an effort. That such knowledge could be used for less than humane purposes was a given in discussions among scientists, and led to the "Ethical, Legal and Social Issues" study, which from its inception has been in integral component of the HGP.[31] Of course, the possibility, or inclination that human beings could abuse the power of knowledge is as old as the texts in Genesis that speak of the "tree of life", and our prohibition to eat of its fruit (chapter 3), and the hubris of the tower of Babel (chapter 11).

The knowledge created by the HGP has led to reflection on important justice issues. *Who has access to the information? Who owns and controls it?*[32] *Is a disability a disease? What are the implications of genetic enhancement? Who owns the genes and other pieces of DNA? Does genetic makeup determine behavior?*[33] These questions flow out of a concern for justice: what is required of us as we participate in the creatio continua?

Certainly, a first response would be to acknowledge that each person is created in the image of God (Genesis 1). Bishop Kenneth Carder of the United Methodist Church has noted the danger of patenting human life forms as "*the commodification of life and the reduction of life to its commercial value and marketability*".[34] An additional point of emphasis would be to distinguish between genetic engineering in the service of alleviating suffering and genetic therapy in pursuit of a utopian human experience; as

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[30] Francis Collins, cited in the Preface to Peters, page xi.
[31] See the website. With an expenditure of 3-5% of the annual HGP budget given to this area, this has become the largest bioethics program in the world.
[32] See the discussion in Thomas Shannon, Made In Whose Image? (Amherst, NY: Humanity, 1999), pp. 116-117, especially his reflection on the contribution of Karen Lebacqz to this issue.
[33] These are the core questions at the heart of the ELSI , and are taken from pages 1-2, "Ethical, Legal and Social Issues of the Human Genome Project", www.ornl.gov/hgmis/resource/elsi.

[34] Cited in Peters, page 139.

Smith frames the question, “”Say genetic treatments are acceptable for therapy but not for enhancement? Where is the line to be drawn?”[35] In addition, a basic concern for the fruits of the HGP is the question of who will benefit from medical and therapeutic advances. Will some benefit and others not?

Francis Collins speaks of the church’s advocacy in helping the culture to respond to these questions. It is important, at the outset, to distinguish between different traditions within Christianity. Thomas Shannon has noted that Catholic social teaching has tended to be rooted in “natural law that is ahistorical and physicalist in its orientation”, while protestant teachings have been grounded in “Scripture and scriptural themes”, with a focus on “the darker side of human nature”.[36] For this reason, and this is admittedly an oversimplification, Catholic teaching, at least at the official level, has been less likely to be interventionist than that of protestant or reformed traditions; Protestants have been more likely to intervene, but within a framework that questions the positive outcomes of human agency.

We have reflected on the meaning of the steward in light of creation. Stewardship is also related to justice. Peter Block argues that stewards “*choose service over self-interest”*, and he further defines service as including: a balance of power, primary commitment to the larger community, and a balanced and equitable distribution of rewards. When these elements are not present, he insists, service and stewardship are absent.[37] I would add that when stewardship and service are absent, injustice is more likely to be present. Clearly, the Lord requires service rather than self-interest, and the

[35] Smith, page 574. For a comment on our cultural narcissism, see Rebekah Miles, “*Cloning, Theology and Ethics after Dolly: An Overview*”. Quarterly Review, Winter, 2001, pages 382-383.
[36] Shannon, pp. 54-55, 78-79.

example of the life of Jesus portrays this: *"the son of man came not to be served, but to serve, and to give his life as a ransom for many"* (Mark 10.44, NRSV).

The justice question, and our response to it, is also shaped by the limitations of our knowledge. When people of faith admit the limitations of their knowledge[38], we are less likely to absolutize our convictions; and when scientists also recognize the limitations of their knowledge, and their limited understandings of their implications, they have a corresponding tendency. This movement toward greater accountability with others serves the cause of justice. An overconfidence in our knowledge breeds injustice, while a caution about our knowledge leads to humility.[39]

The question of distributive justice is echoed by the prophetic vision of a new heaven and a new earth:

**I am about to create new heavens and a new earth**
**The former things shall not be remembered or come to mind…**
**They shall build houses and inhabit them**
**They shall plant vineyards and eat their fruit**
**They shall not build and another inhabit**
**They shall not plant and another eat…**

**Isaiah 65. 17, 21, 22 (NRSV)**

If, as Karen Lebacqz[40] suggests, taxpayers fund the Human Genome Project, but private corporations and their stockholders benefit financially from the research; and if the therapies that arise from the genetic mapping enhance the lives of some sectors of a society or some nations within the world, to the exclusion of others, then the vision for

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[37] Peter Block, Stewardship: Choosing Service Over Self-Interest (San Francisco: Berrett Koehler, 1993), pp. Xx-xxi.
[38] See 1 Corinthians 13. 12: "*Now we see through a mirror, dimly*…". See also Barbara Brown Taylor, The Luminous Web, and Wendell Berry, Life Is A Miracle (Washington, D.C.: Counterpoint, 2000).
[39] See E. O. Wilson, The Creation (New York: Norton, 2006) for an expression of humility by a scientist who possesses no religious faith, and yet wishes to be in dialogue with the Christian community. For a cautionary response, see Berry, Life Is A Miracle.

good that has motivated this massive project will fail to match the reality. When our human lives do not match our ideals, the scripture offers the guidance of the prophets. The prophetic texts in the Old Testament included lament and hope, all grounded in the vision of the preferred future (shalom) that God had revealed. For this reason, justice is connected with hope, hope in this life and hope in the life to come.

### 3. Hope: Eugenics or Glorification?

**This perishable body must put on imperishability**
**and the mortal body must put on immortality.**

**1 Corinthians 15. 53 (NRSV)**

**I will rejoice in Jerusalem,**
**and delight in my people; no more shall the sound of weeping**
**be heard in it, or the cry of distress.**
**No more shall there be in it an infant that lives but a few days,**
**or an old person who does not live out a lifetime;**
**for one who dies at a hundred years will be considered a youth,**
**and one who falls short of a hundred will be considered accursed.**

**Isaiah 65. 19-20 (NRSV)**

*For what do I hope? Short term goal: that man can survive himself long enough to explore the infinite potential of himself and the world around him…*
*Personal goal: to survive my own had habits.*[41]

Walker Percy

Genetic therapy is emerging as a form of secular hope. Indeed, scientists must sometimes restrain themselves as they envision the possibilities within the near and distant future. Religious language is employed by scientists who speak of the "powerful revelations of human genetics" (Collins). "The average life span will reach 90-95 years, and a detailed understanding of human aging genes will spur efforts to expand the

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[40] "*The Human Genome Project: Ethical and Theological Reflections*", Quarterly Review, Winter, 2001, pages 364-365.
[41] Robyn Leary, "*Surviving His Own Bad Habits*", A previously unpublished interview with Walker Percy, Doubletake, Winter, 2000, page 71.

maximum length of human life", Collins and Jegalian insist.[42] Of course these can be understood as inadequate sources of hope, particularly the latter, which might simply be the denial of death. John Polkinghorne likens the *"eventual futility of the universe, over a timescale of tens of billions of years [to] the eventual futility of ourselves, over a timescale of tens of years."*[43] We can either respond to the theological problem, which concerns the faithfulness or providence of God, or we can engage in denial. Conflict is inherent within our human predicament, as Sondra Wheeler has noted:

"*On the one hand, to accept our status as embodied and contingent creatures is to accept the bodily limit of death…On the other hand, our tradition gives more than a suggestion that death, at least in its power to isolate and alienate us from one another, is a kind of affront: a sign that something in God's good creation has gone awry…Death is rightfully seen as an enemy of sorts".*[44]

A Christian understanding of hope will help us to be truthful to one another, even amidst the necessary conflict presented by our human contingency and finitude, on the one hand, and God's power and providence, on the other. An inadequate hope bypasses the conflict. Richard Hayes argues

> *The New Testament's vision of a final resurrection of the dead enables us to tell the truth about the present, including its tragedies and injustices, without sentimental sugar-coating, without cynicism or despair. It allows us to name suffering and death as real and evil, but not final. Too often, Christians use pious language about how those who have died have "gone to heaven" or "have gone to a better place" in order to deny the reality of death….Against all of this, the New Testament's apocalyptic eschatology offers a sturdy realism that acknowledeges the reality of death, while looking to God ultimately to restore life and set all things right.*[45]

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[42] Collins and Jegalian, page 90.
[43] The Faith of a Physicist, page 163.
[44] Sondra Ely Wheeler, Stewards of Life: Bioethics and Pastoral Care (Nashville: Abingdon, 1996), p. 116.
[45] Richard Hayes, "*Why Do You Stand Looking Up To Heaven*?", Modern Theology January, 2000, pp. 130-131.

We avoid the denial of death as we enter into the drama of human suffering as lived within the context of the cross and the resurrection. Donald Juel has correctly noted that

"*At the center of Christian eschatology is the cross of Christ. While it is the promise of resurrection and the final triumph of God and the Lord Jesus that will furnish the content of Christian hope, a real barrier to Christian hope is not the idea of resurrection---an idea not unique to early Christianity—but the denial of death*".[46]

Our hopes for the life to come, which are fully inclusive of the reality of bodily death, shape our hopes in this life.

Of course, efforts such as the Human Genome Project may well offer hope to persons in this life, through the completion of research. For example Francis Collins and David Galas reported in 1993 that "*genes that confer a predisposition to common diseases such as breast cancer, colon cancer, hypertension, diabetes and Alzheimer's disease have been localized to specific chromosomal regions*". [47] Certainly one gives thanks for those whose vocational lives serve to alleviate human suffering. Here I find Randy Maddox' reflection on Wesley's mature soteriology, encompassing not only the spiritual but also the material, economic and ecological, to be relevant.[48]

Many persons who serve in scientific and medical professions clearly do so from a motivation of hope. And in so doing they seek a concrete and material outcome as envisioned by the prophecy of Isaiah. A stereotype about religious people is that they spiritualize matters in ways that exclude human reality. In like manner, a stereotype about scientists is that they deny spiritual reality in ways that are reductionistic. In addition, Christians within the mainline churches have sometimes collapsed hope into a "realized eschatology" (read most closely from John's Gospel), and have thus minimized

[46] Donald H. Juel, "*Christian Hope and the Denial of Death*", The End of the World and The Ends of God (Harrisburg: Trinity Press International, 2000), page 174.
[47] Francis Collins and David Galas, "*A New Five Year Plan For The U.S. Human Genome Program*", Science 262 (1993), page 46.

its effect. But Carl Braaten is correct in noting that "*not only are hopes the genes of biblical faith, but hope is essential to meaningful existence*".[49] Could it be that scientists, as stewards of considerable gifts, will be used by God in ways that bring fulfillment to biblical passages such as Isaiah 65? If so, surely this could help us to enlarge the basis for our hope, in this life and in the life to come.

## 4. Life and Death, Blessing and Curse: A Note of Caution

**I call heaven and earth to witness to you today**
**that I have set before you life and death,**
**blessing and curses.**
**Choose life so that you and your descendents may live.**

**Deuteronomy 30. 19 (NRSV)**

If one listens to the dialogue between theologians and scientists, within the context of genetic therapy and engineering, there is of course an initial need for rhetorical evaluation. When the question "*Should scientists play God*?" is asked, what occurs is the cessation of argument. When scientists rely upon inadequate religious resources, and ignore them for their inadequacy, a religious vacuum is created.[50] When the church silences the voices of justice, and loses its connection with the prophets, it is unprepared for participation in a matter that will call forth its best strengths in support of human life in the fullness of its creation in the image of God. This is the unfortunate outcome of the separation of personal and social holiness, and the limiting of religious faith to the personal/spiritual dimension.

There is a starkness that borders on the apocalyptic in the mapping of the human genome and the subsequent effects upon human life, for good and ill. There is "life and

[48] Maddox, *"Nurturing The New Creation*", page 32.

death, blessing and curse". The novelist Walker Percy, himself a scientist and also a man of faith, could write, "*If the first great intellectual discovery of my life was the beauty of the scientific method, surely the second was the discovery of the single predicament of humanity in the very world which has been transformed by science*". He continued, "*You don't have to be a sage or a prophet to point out the fact that the 20th Century, which should have been the greatest triumph of civilization of all time—the triumph of science, technology, consumership---has been the most murderous century in all of history*."[51]

Will the HGP issue in a triumph of science and technology? Without seeking to halt scientific progress, voices speaking a cautionary word will need to be heard. Percy speaks of "*science, technology and consumership*"; there is in these words an echo of cautions voiced by others: the limitations of science; the allocation and misallocation of technological advances; the temptation to reduce human life to a commodity. The potential triumph lies in the human hope for the alleviation of unnecessary suffering. The potential curse is evident in our capacity for self-deception, and in the sin that leads to a distorted vision. Within the Christian tradition, renewed attention to the concepts of creation, justice and hope will help us to contribute to the present and future dialogue about the wonderful possibilities and the tremendous challenges arising from the Human Genome Project. We will also benefit from a humility on each side of the science/religion debate, and an accountability to one another. Christians are called neither to be silent, nor careless in our rhetoric.[52]

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[49] Carl Braatan, "*The Last Things*", Christian Century, December 1, 1999, p. 1175.
[50] Note the very recently published works by Richard Dawkinds, Christopher Hitchens, etc.
[51] More Conversations With Walker Percy, edited by Lewis A. Lawson and Victor A. Kramer (Jackson: University Press of Mississippi, 1993), page 242.
[52] The best discussion of this tendency among non-Scientist, Christian leaders is found in Peters, Playing God. A crucial step in this direction is to heed the advice of Kent Vrana, a research scientist at Wake Forest University School of Medicine, Winston-Salem, North Carolina and a lay

Creation, justice and hope are at the core of what we as Wesleyan Christians, can contribute to the discussion about human genetics. An inadequate understanding of creation, grounded in an explicit or implicit gnosticism,[53] might lead to a disregard for the body. An inadequate account of justice might lead to an egocentrism or anthropocentrism. An inadequate hope would deny the power and providence of God, for whom we have been created and in whose image we are being restored.[54]

Ultimately, God chooses to operate within the contingency of our creation, in ways that are mysterious to us; God challenges us to live justly and mercifully with one another; God plants within us a hope for a life that transcends our present human experience or imagination (Ephesians 3. 20-21). In our tradition, the hymn text of Charles Wesley expresses hope and confidence in the creatio continua:

> Finish then thy new creation, pure and spotless let us be.
> Let us see thy great salvation, perfectly restored in thee;
> changed from glory into glory, till in heaven we take our place,
> till we cast our crowns before thee, lost in wonder, love and praise. [55]

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member of the United Methodist Church: "As Christians, we should encourage and seek out the counsel of scientists of the Christian faith. In so doing, we grow in our faith through understanding a perspective of compromise in seemingly disparate beliefs".

[53] Gnosticism was a dualistic heresy among early Christians, which held that flesh was evil and spirit was good (see John 1; I John 1). In commenting on our need for the apocalyptic, Richard Hayes writes in "*Why Do You Stand Looking Toward Heaven*?": *where Christian theology has remained most closely in touch with its Jewish apocalyptic roots, it has most firmly insisted on the value and importance of embodied existence, in contrast to forms of hellenized piety that regard the material realm as evil or inferior. The gospel proclaims the resurrection of the body, not the immortality of the soul…The alternative to the apocalyptic vision, then, is some form of Gnosticism that denies God's redemptive intention for creation and the body"* (p. 129).

[54] See Jurgen Moltmann, The Coming of God (Minneapolis: Fortress, 1996), pp. 324ff; and Geoffrey Wainwright, Doxology: The Worship of God in Praise, Doctrine and Life (New York: Oxford, 1980).

[55] Charles Wesley, "*Love Divine, All Loves Excelling*", The United Methodist Hymnal (Nashville: United Methodist Publishing House, 1989), page 384.