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The Final Report from the Exploratory Committee on Human Genetic Technologies

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Download date	2026-06-15 00:44:46
Link to Item	http://hdl.handle.net/20.500.12424/216393

REPORT OF THE NCC

EXPLORATORY COMMITTEE ON
HUMAN GENETIC TECHNOLOGIES

TO THE
NCC GENERAL ASSEMBLY

November 2003

Abstract

This final report of the Exploratory Committee was adopted by the General Assembly on November 7, 2003.
The recommendations call for a long term NCC effort in formulating a new NCC Policy Statement, an Educational Outreach program and public policy advocacy efforts in order to strengthen the churches' witness to this important new area of human endeavor. **Budget and timeline were approved.**

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I. Introduction and Background

This report is offered for action as the final report of the Exploratory Committee on Human Genetic Technologies formed by action of the General Assembly in November 2002. The action of the General Assembly in creating the Committee stipulated its purposes to include:

MANDATE OF THE EXPLORATORY COMMITTEE ON HUMAN GENETIC TECHNOLOGIES

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- **Production of a summary of NCCCUSA and member communion statements, studies and other materials concerning bio-technology**

 - **Inventory and evaluate extant outreach, education and advocacy efforts and materials related to bio-technology and public policy**

 - **Evaluate the merits of a long-term effort in this area including engagement with the biotechnology industry, and regional ecumenical bodies and ongoing theological and ethical inquiry**

 - **Estimate the costs of such an ongoing effort and the availability of such program funding and report the Committee's findings to the May 2003 Executive Board Meeting**
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In keeping with the mandate of the General Assembly in establishing the Committee great consideration and effort was taken to assure as much inclusivity and diversity as possible within a small group of persons representing diverse program areas and involvement within the Council. The Committee members included 7 males, 7 females from 9 member communions (Christian Church (Disciples), Christian Methodist Episcopal Church, Episcopal Church, ELCA, Greek Orthodox Archdiocese of America, PCUSA, Syrian Orthodox, UCC, UMC) and two non-member communions (Roman Catholic and Seventh Day Baptist). A majority of the members are 40-55 years of age with two young adults and two over 55 years of age. Racially the Committee includes 3 African Americans, 1 West Indian, 1 Asian, 8 Whites and 1 Middle Easterner. Additionally, the Committee includes university lecturers, scientist, social scientist, disabilities activist, writer and community organizer, pastors and laity, state council director, seminary professors, denominational staff and the liaison of the US Catholic Conference.

In instituting this Committee the General Assembly recognized the challenge posed by human applications of genetic technologies. The Committee both in its own deliberations and in casting a broad net of contact with researchers, ethicists and theologians working in this field. These activities have confirmed our sense of urgency about the ecumenical forum serving as a primary venue for member communions to clarify their own thinking and to develop resources and strategies for education and advocacy.

We have organized our report in order to offer first our **recommendations** that will be before the General Assembly for action. The recommendations are followed by descriptive material that outlines in some detail the ways in which this commission envisioned its work:

DESCRIPTIVE MATERIAL INCLUDED IN THIS REPORT

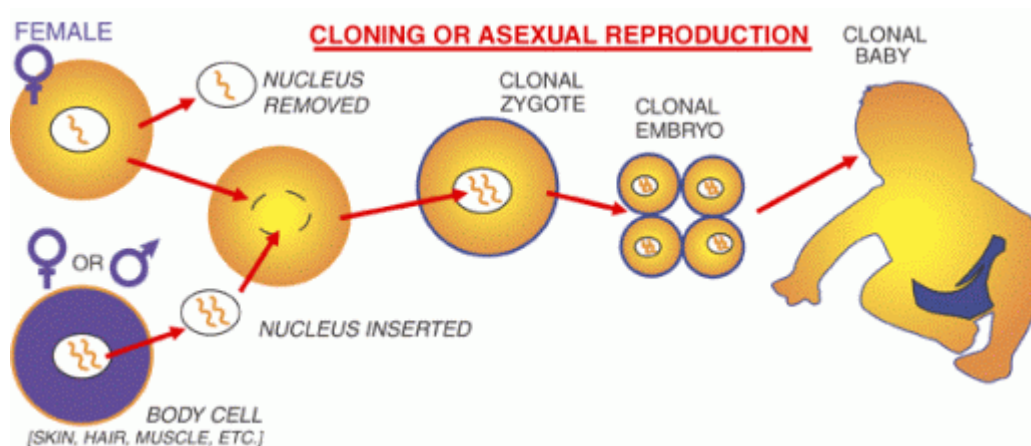
- **The scope and nature of an NCC policy statement**
- **The place of theology within that statement**
- **The role of educational outreach related to the policy statement**
- **The importance of developing a public policy advocacy strategy related to the NCC policy development**

In seeking to better frame the task before the NCC and its member communions we felt it necessary to undertake the more detailed planning suggested by this document. This detailed approach is necessitated both by the extensive natures of the questions posed by genetic technologies as well as the relative newness of most church organizations to these issues. In order to undertake a major effort in the area of genetic technologies the NCCC will want to be aware of the range of both consultants and coalitions now active in this field. We have garnered the preliminary insights of some consultants and share excerpts of their feedback below. The political landscape in which public policy issues concerning genetic technologies are debated and enacted is currently a very dynamic constellation. Below we have begun to identify some of the coalitions and how the churches might relate to them. These materials concerning the nature and scope of the NCC policy to be developed, the educational component, the public policy strategy and the likely partnerships implied in these activities will serve not only to inform the General Assembly's action on the recommendations but will provide a sound basis for the work of the Committee which is proposed for giving leadership to these efforts.

The work of the present Committee was supported by a modest foundation proposal entitled "*Imitatio Dei*". The Committee offers below two timelines and two budgets for future work in this area. **Plan A** consists of a communion-supported effort that is modest in scope and duration but may be possible for the communions to sustain. **Plan B** envisions a broader project which will require foundation funding of an "*Imitatio Dei – Phase II*" proposal. The General Assembly, of course, may choose to implement Plan A, and authorize Plan B only if and when funds are available.

Finally the appendices of this report include the 1986 NCC policy statement that would be superceded by a new policy, and a compendium of extant policies and statements by member communions on this topic. The compilation of these documents is itself a contribution to the field.

The tenure of this Exploratory Committee was, by design, brief and preparatory. Nonetheless, our experience has allowed us to sense the importance and complexity of the ethical and theological questions before the human community in this century. We have glimpsed, as well a sense of what might be possible for persons of faith to contribute to the contemporary debates on behalf of the common good, human dignity and social justice. We therefore commend this work and its substantial challenges to our common effort in the belief that our corporate faithful witness can and will make important contributions.



(Genetics graphics used with permission, Center for Genetics and Society)

I. Recommendations

The Exploratory Committee on Human Genetic Technologies recommends that:

1. **A new NCC policy statement shall be written to replace the statement adopted in 1986 and to shape both the educational outreach and public policy efforts of the Council in the years ahead.** Such a Policy Statement shall address issues related to human genetic technology from an ecumenical perspective.

There have been significant changes in science and society in the fifteen years since the NCCCUSA last addressed issues related to human genetic technologies. These substantial changes in science and society have created an urgent need for an updated Policy Statement on human genetic technologies that speaks to the new circumstances. A new policy statement and related educational resources shall aim to encourage broad engagement of these issues by churches and their leaders, opinion leaders and congregations.

2. **The General Assembly shall establish a “Human Genetics Policy Development Committee” with members to be named by the President and General Secretary of the NCCCUSA. Such a Committee is to consist of between 15 and 20 members. Representation shall adhere to NCCCUSA guidelines for inclusivity.**

The selection of members shall give consideration to diverse representation, including:

- Persons younger than 30 years of age
- Persons representing the diverse religious perspectives reflected in the membership of the NCCCUSA,
- Christian ethicists,
- Persons with scientific backgrounds,
- Theologians who are open to, and familiar with, a range of theological perspectives
- Persons with background in civil rights and/or ecological or environmental struggles,
- Regional or local ecumenical bodies,
- Community-based or grassroots organizations,
- Persons with a thorough knowledge of the needs of seminaries and institutions of higher education,
- Social work or pastoral counseling background,
- A balance of experts and non-experts,
- Consumer advocates,
- Persons with experience in social justice advocacy from both a church and secular perspective.

3. **The “Human Genetics Policy Development Committee” shall be constituted as soon as the \$15,000 preliminary funding is committed by member communions. The membership of the commission shall be reported to the General Assembly and work will commence within the limited budget approved with this resolution.** The Committee will initially work toward fulfilling its mandate within a two-year timeframe, with the understanding that if, and when funding becomes available this project will expand to three years.

Under the initial two-year mandate, the newly formed Committee will give primary attention in the first year to gathering the necessary background to formulate a new policy on human genetic technologies. In the second year, under the minimal mandate and budget, the Committee will complete basic educational material resources suitable for use by member communions for their own educational and advocacy resources, and submit a final policy for General Assembly approval to the 2005 General Assembly.

As additional funding becomes available which will allow for a more extensive, three-year project, the work initiated under the limited mandate will serve as the foundation for the longer-duration, more comprehensive project. The fully funded three-year project will allow for a more fulsome fact-finding process that shall include public hearings to be held in geographically diverse locations, the creation of diverse and fully realized advocacy and educational resources, and a more thoroughly vetted and comprehensive policy statement on human genetic technologies.

Under the fully funded three-year mandate, a new policy statement on human genetic technologies shall be presented to the 2006 General Assembly.

4. **The newly formed Committee shall produce educational outreach materials for use in various contexts such as congregations, church judicatories, seminaries and/or colleges.** Educational materials shall include a preliminary theological framework for engaging these issues. The design of educational resources should be cognizant of the various communications media available to disseminate complex information of this kind, and the various ways different people assimilate new or challenging material.

Under an initial mandate constrained by a limited budget and a two-year timeline, a new Policy Statement on human genetic technologies shall serve as the basis for foundational educational materials that can be adapted and distributed by NCC member communions.

If sufficient funding becomes available and the project expanded to three years, the Committee shall develop fully realized educational resources that are usable within several priority contexts, highly readable, appealing and appropriate for reaching broad and varied audiences with diverse learning styles. Educational materials under a fully funded mandate shall include materials accessible to disabled or differently-abled persons. Educational resources shall include a congregational study guide.

5. **A new Policy Statement shall serve as a resource for church and secular leaders, the wider church community, and public policy advocates, and aim to stimulate broad engagement on the issue of human genetic technology.**

Events have moved quickly in the 15 years since the NCCCUSA last addressed the issue of human genetic technology. Scientists have in this period decoded the genome, cloned mammals, and moved DNA analysis to a point where its implications are commonplace in courts and medical practice. As our knowledge increases, we no longer ask *whether* we are able to do things with these new technologies, but rather *which* should we pursue. A tremendous gap exists between the advances of science, and the moral thinking as well as regulations that would control the uses of that science. The church must be prepared to engage public policy questions around public policy and genetic technologies, including patenting of genes, pre-implantation and diagnosis, uses of personal genetic information and privacy, equitable access to healthcare related to human genetic technologies and fair allocation of research monies, implications of these technologies for employment and criminal justice, implications of these technologies to racial/ethnic, female, poor, and/or disabled or differently-abled persons.

6. **The General Assembly approves a preliminary budget plan of \$15,000 to be raised from member communions of the NCCCUSA.** This funding will enable meetings, conference calls, materials and basic support for the Committee that will complete its work toward writing a new policy statement and educational materials, within the minimal mandate as outlined in Recommendation 2 above, over a two-year timeframe.

Staff and the Committee shall report to the Executive Board/General Assembly regarding whether funding for a more comprehensive project may become available, and bring a new budget and timeline recommendation as appropriate for a comprehensive, three-year project.

7. **The General Assembly commends the above recommendations to the staff for implementation. This Committee shall report at each Executive Board and General Assembly on its activities and progress until it has completed its work.**

II. Nature, Scope and Theological Framework of an NCC Policy Statement

The scope of the proposed NCC Policy Statement will shape both the educational outreach and the public policy efforts of the Council in the years ahead. Moreover, such far ranging policy statements are possible given the exceedingly broad application of genetic technologies. The present discussion, shaped by the charge to this Committee at its founding, is exclusively focused on Human applications of genetic technologies. Even this focus leaves a very broad field of exploration which will require more precise focus as the Committee does its work.

People in member communions are at many different levels of knowledge about human genetics, but most people in most communions need to learn more about the new human genetic technologies, decide which applications they believe should be a) affirmatively supported, b) permitted but tightly regulated, or c) banned, and work to educate their fellow citizens and policy makers in these regards. This must be done both domestically and internationally by our member communions.

The National Council of Churches last addressed genetics issues in 1986. Many of our member communions have had study committees on various aspects of these technologies. Most of these communions would ban human reproductive cloning (*see Glossary, Appendix A*) and would place limits or a ban on embryo research (including embryonic stem cells) and have serious reservations about inheritable genetic modifications. The National Council of Churches should convene a study committee to review these issues and related biotechnologies. We need to view these issues in relation to the societal, the health impacts and the long-term and ecological effects of the technologies.

While a new policy is rather urgently needed to provide the basis for education and advocacy, more important goals may be the education of church leaders at all levels and the ultimate “ownership” of the proposed policy statement by member communions. This will best be achieved by taking the requisite time to offer communions the opportunity to review outlines and drafts of the proposals as they are developed. As a result General Assembly action on the policy should not be anticipated until 2005 or 2006. Education and advocacy however will be enabled beginning in 2004.

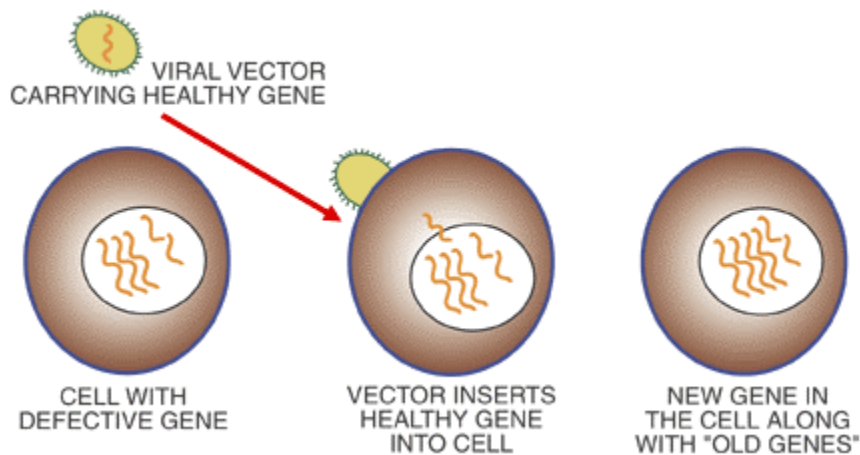
The full scope of the future Policy Statement will grow out of the deliberations of the member communions. Whatever the extent of the scope of that document may finally be, the nature of it as a reflective document based upon articulated theological principles should be assured from the outset.

The thirty-six member communions of the National Council of Churches of Christ in the USA represent an exceptionally broad and diverse range of approaches to theological and ethical thinking. In preparation of a theological basis for a new policy statement a rich, full and candid encounter between these various traditions will be necessary. Great care must be taken to avoid the kind of reductionism that results in a “lowest common denominator” sort

of theological assertion. Rather authors should not shrink from acknowledging the theological range of member communions and their points of convergence and consensus.

An introductory essay that provides a theological framework will provide an important asset to a future policy statement. So, too will it be important to identify theological principles and axioms drawn from theology and applied contextually. Such an approach will allow for broader audiences to utilize the policy statement for study and reflection. Caution will likewise need to be taken so that the policy statement can speak for the churches (even to secular audiences) as well as to the churches.

Moreover, the scope of the policy statement will, of necessity range from theological understandings of the doctrine of creation to the ethical considerations of equal access to medical technologies. Theology, by its very nature, cannot be limited and locked into present social realities. Rather the theological statements will need to be fluid and broadly drawn.



III. Multiple Audience Educational Outreach

The best NCC policy documents have served broad audiences including congregations, theological education, legislators, and the public at large. With such broad appeal these documents have helped shape the national debates related to the specific issues at hand. At the present no highly readable summary is readily available which addresses the theological and ethical questions that accompany the onrushing tide of genetic technology. The proposed NCC policy statement could play an important central role in our national debate.

Care must be given during the development of the policy statement to make it accessible to a broad audience. Proper consideration should be given to the different ways people learn, and to make the materials accessible to disabled and differently-abled persons, and should consider providing materials in appropriate formats including closed captioning, video, or audio. This will have implications for both the style and the scope of the document. A study guide will increase the utility of the statement's use in congregations, seminaries and community groups. Not only the diverse audiences but the diverse functions of the policy will need to be recalled in drafting its theological content. The pastoral care needs, educational needs and public policy advocacy needs of users must be borne in mind in drafting the theological statements.

The issue of human genetic technology has been debated almost exclusively in closed circles of experts, and there is a troubling lack of public (including religious) engagement on this issue of enormous consequence to human life. A fundamental priority will be to bring churches and opinion leaders into functional literacy about the theological, societal, and scientific issues related to human gene technologies.

There is a wide range of contexts through which different communities and individuals must respond to the evolving capabilities and challenges human genetic technologies involve. This makes it difficult to bring home the meaning of broad principles and theological values. The approaches taken should incorporate case studies, stories, and/or other ways that will demonstrate the compelling value of being able to apply religious thought to concrete situations. They should also clearly connect the dots of current religious thinking.

The Committee identified three strata needing educational materials:

1. Congregations, denominational hierarchies and other faith based community groupings
2. Seminaries and higher education
3. Policy makers, lawmakers and public policy advocates and opinion leaders

Congregations and Local Ecumenical and Interfaith Bodies

The perceived complexity of technological issues precludes thoughtful engagement by most young and adult members of our churches. In the same way that churches were conduits of basic information about ecological issues (energy efficiency, recycling), so must churches become a source of basic information about these new and powerful technologies. Therefore, a primary task will be the creation of religious education materials specifically for congregations to engage these issues. This will include but not be limited to a study guide (printed or electronic) to the policy statement.

**Seminaries and
Higher
Education**

Church leaders will need to be equipped to engage emerging technological issues. A particular concern will be for adjunct materials to the policy statement appropriate for use in seminaries and colleges. This will include treatment of ethical, pastoral and advocacy concerns.

**Policy Makers
and Policy
Advocates**

Lawmakers, policy makers and opinion leaders seeking to understand religious thinking on these issues currently have nowhere to turn for an ecumenical treatment of the issues. It will be important to craft a policy analysis from a theological perspective, as well as to underscore many of the same concerns of the wider society for social justice, access, compassion, and/or moral objection to certain procedures. This analysis must be of the specific scope to serve as an appropriate resource for policy makers, lawmakers, and policy advocates.

**Communication
Media**

The Committee recommends that educational resources be created with attention to the many media available that would most effectively present these complex materials. Therefore consideration should be given to appropriate ways of disseminating this information, including the Internet, presentation software (including hypertext, PowerPoint, electronic texts, etc.), video (including online formats), as well as more traditional printed materials.

These products should engage the senses. Materials on this topic should not be just another statement in two columns on paper. Those developing these materials should draw on the success and best work from our member communions, or other examples of creative work (cf. study guides prepared by the ELCA). By doing so at this preliminary stage of the process, as well, we can also gain important insight into audience needs and resources needed to develop a top-notch resource.

While originality may be important, it may be equally or more important to develop a resource that emphasizes the diversity of breadth and depth of religious perspectives and not simply just the position of the NCC.

IV. Public Policy Advocacy

We are developing remarkable capabilities that will enable us genetically to fragment the human species, to modify human beings to a point where they are no longer recognizable as such. We are developing the power to control what sorts of children we bring into the world and to program genetically how they will develop. We are increasingly able to peer into our individual genetic makeup and predict our medical future, and then alter our inherited destiny. We may someday cure disease, or tinker with our genes to change eye color, or improve our children's attention span. In short, we are on the verge of transforming society in ways even more profound than the computer revolution now well underway.¹

In the context of so much potential change, we hear from too few about how we might grapple with our developing capabilities in ways that will bring wholeness and healing to the human family without destroying it. There are significant gaps in which there is no legal or regulatory framework, and little insight from the religious traditions about how to think about these developments as people of faith. Of significant concern in emerging genetic technologies is the lack of representation within ethics, oversight and review processes of members from the religious community. Also of significant concern is the lack of public dialogue that includes the religious community. Such lack of representation, lack of dialogue and a remarkable lack of regulatory authority constitute significant risks to human life in the fullest sense, and to the natural ecology.

While an exhaustive listing of present and potential public policy matters related to genetic technologies would be impossible a number of issues illustrate well the importance and urgency of developing policy stances for public debates.

- A new policy of the Churches must address the question: Is it permissible under law to *deliberately* change the human genome? Currently there exist only ad hoc ethical guidelines in the USA, but no outright ban. A new policy must address this omission.
- Public health priorities that incorporate concern for health care accessibility, including insurance limitations.
- A public policy must address the issue of experiments that *might* change the human genome. Currently there exist only ad hoc ethical and research oversight guidelines in the USA, no ban, no regulatory framework. Bans or regulation do exist in some other countries.
- A public policy must address the question, What kind of genetic research on human beings is permissible, and what should be banned? While some regulations exist, they are known to be inadequate, and need to be strengthened.
- Human cloning. Cloning is clearly the most visible policy debate at the local, state, and federal level with new laws being considered or adopted every day. These policy debates must be met with a churches' perspective. What types of cloning should be permitted, if any? Should cloning human embryos for research be permitted?

¹ Adapted from comments of Committee consultants; see particularly Dr. Cynthia Cohen's comments, Page 17

- Privacy and confidentiality of genetic information in employment, and insurance discrimination based on genetic testing. A new policy must address the pastoral, ethical and moral concerns related to genetic testing and reporting, not only of fetuses but also of children, adolescents, and adults, for genes associated with current and future disease.
- Promise and deliverables. There are always enormous promises made with respect to new technologies (we are always promised great things, like electricity too cheap to meter from the nuclear electrical industry). A new policy will need to address the moral/ethical or theological dangers if we allow the promised advances to benefit only the few rich or privileged, or satisfy only material ambitions. For example, in the area of pharmacogenetics, will racial, gender, and class bias intrude into the decision-making process that decides which genotypes are “custom fitted” with new medicines? We might insist that the technology be regulated and directed toward the benefit of all, toward the greatest purposes, usefulness, or helping the neediest.
- A new policy must articulate concerns pertaining to the ownership and patenting laws that give economic entities commercial rights over the human genetic legacy. Other countries have banned patenting of genes. In contrast, in a 5-4 decision the US Supreme Court allowed patents on bacteria. Since that decision the US Patent Office expanded patent protections from bacteria to include human genes. How will “artificial chromosomes” or the creation of “designer genes” be understood? A new policy must address the issue of whether genes need to be treated differently than other economic goods.

Genetic Technology and Social Equity

The question of equity of access to genetic technologies and has many dimensions:

- The economic uses of genes must be regulated uniquely to ensure that manipulation is done within the constructs acceptable to society. The concern is that the most lucrative uses for these technologies should not alone determine research directions.
- Competing Uses for Limited Research Funding. Economic resources for medical inquiry are limited and in the mad rush to employ flashy new technologies, resources can be disproportionately dedicated toward treating only some illnesses, or conditions that represent more lucrative opportunities to the exclusion of cheaper inquires that would address the medical problems of a far larger segment of humanity, or of all of humanity. If research directions are left only to market forces, research may well be directed only toward the most profitable applications. The most extreme example might be that genetic science becomes adept at techniques that have “cosmetic” or eugenic applications that interest the richest sectors, to the exclusion of significant public health achievements.
- A public policy must raise concern about poorly conducted or unregulated medical trials.
- Insights from the Disabled Community. In a world of genetic technology a social model of disability that articulates that disability is a natural result of life and living rather than a medical model that assumes disability is something that is "wrong with you" and that "needs to be fixed" must be embraced. It is a mystery of life that some of us are born different, yet each life is cherished for the gifts s/he brings to the human family; which would lead us to

teach better ways to accommodate each other in our differences, even in our broadest diversity, within the productive life of the wider society.

- Insight from the international perspective. There exist treaty and legal resources to help frame many of the extant issues, e.g. the “Convention on Biomedicine and Human Rights”, approved in 1997 after four years of negotiations by the 44 countries of the Council of Europe and the “Universal Declaration on the Human Genome and Human Rights” promulgated by UNESCO.

There are issues concerning the very nature of life and life’s beginning that will need to be revisited including:

- The Embryo Debate. Science and medical technology has led us to debate when life begins, and there remains a wide divergence of theological opinion on this issue. Areas of common agreement need to be fully articulated, widely heard and understood. A new policy should consider what the social consequences of not doing research in this field are, as well as articulate the problems with continuing apace.
- A public policy must revisit the issue of unregulated in vitro fertilization because human genetic technologies are a derivation. Assisted reproductive technologies are licensed in the United Kingdom as elsewhere, but completely unlicensed in the USA.
- Finally a public policy must address the issue of somatic therapy regulation. Existing regulation is too lax and representation within oversight structures overwhelmingly limited to researchers and sometimes ethicists. Committees that review these medical procedures consist of mostly medical researchers, but do not include religious, and other sectors are directly affected by these techniques. There is growing concern that the oversight system to ensure that genetic tests are not introduced into clinical practice until they are deemed to be safe and effective continues to be a strong public policy concern. In addition, there is much discussion about whether additional oversight is needed for gene therapy and assisted reproductive technology.

V. Acting in Broader Partnership

As the Committee took up its work it became aware of a variety of potential partners who might offer experience, insight and specialized knowledge to enrich the inquiry of the churches. Such consultants are to be found within the scientific as well as the theological and ethical communities of scholars.

In order to sample the interest of such consultants in efforts such as ours the Committee used a simple form to contact the following consultants:

Cynthia B. Cohen, Kennedy Institute of Ethics at Georgetown University

Nancy Eiesland, Emory University, Chandler School of Theology

Judith Gobert, National Tribal Leaders' Diabetes Committee

John Haas, National Catholic Bioethics Center

Richard Hayes, Center for Genetics and Society

Doug Hunt, New Technologies Forum for the International Center for Technology

Robert Elliot Pollack, Center for Psychoanalytic Training and Research, Earth Institute's Center for the Study of Science and Religion, both at Columbia University; Union Theological Seminary

Kathy Hudson, Genetics and Public Policy Center at the Berman Bioethics Institute

Joan Scott, Genetics and Public Policy Center at the Berman Bioethics Institute

The insights generated by these consultants, along with their eagerness to encourage our efforts, enriched our process. A sampling of their comments follow:

I know of the historical role that the progressive religious community played in the civil rights efforts of the 50's and 60's, and in the peace and social justice efforts of the 60's and 70's. I believe that the progressive religious community is in a position to play a comparable leadership role in helping humanity navigate the immense challenges now presented by the new human genetic technologies.

I have three hopes. First, I hope that the church can be a place where individuals and families faced with confusing and conflicting issues around genetics will be able to seek and receive counseling and support from within their spiritual community.

Second, I hope that the church can be a place that encourages education, discussion, and moral reflection on genetics and its implications for us individually and collectively.

Third, I hope that the voice of the progressive religious community can be developed and heard as the public and its leaders make decisions about the development and use of these powerful new technologies. Too frequently the voices that are heard are the most strident and ill informed.

... [we] would welcome the opportunity to partner with NCC in innovative programs to catalyze education and discussion.

[The progressive religious] community is uniquely suited, if it is willing to work 'interfaithfully' - in US society - unafraid of either knowledge of creation or being labeled "luddites," to provide visible and fruitful for a for scientific and medical promises and projections to be screened against basic spiritual and moral values in a broad dialogue that moves far beyond the "experts," to touch and seek the wisdom of God's people.

From Cynthia Cohen

“The current national debate is highly polarized. We hear a great deal from scientists, on the one side, and conservative religious and secular groups, on the other. Few moderate voices have been raised in response to the concerns of those on the right and little has been done to bridge the putative gap between science and religion. What is at stake is what it means to be human. We are developing remarkable capabilities that will enable us genetically to fragment the human species, to modify human beings to a point where they are no longer recognizable as such. We are developing the power to control what sorts of children we bring into the world and to program genetically how they will develop. We are on the verge of transforming our society in ways even more profound than the computer revolution now well underway. Yet we hear from few about how we might grapple with our developing capabilities in ways that will bring wholeness and healing to the human family without destroying it.”

“We need some sort of oversight body of the new genetics that we are developing that carries on public discussion and provides guidelines for the uses of genetic modifications that are efficacious. This is being done in other countries – U.K., Canada, Australia, France, etc., to good effect.”

From Kathy Hudson and Joan Scott

“The debate around cloning is certainly the most widespread debate about science in many years. This debate is deeply divisive as it is framed around very different views of the moral status of the embryo. Other moral and ethical considerations of human cloning have taken a backseat.”

“On other genetic issues, the most prominent voices in the policy discussions are those of the “experts” or those with a vested interest in the advancement of the technology. The voices of scientists, clinicians, and industry currently predominate though some patient groups are very vocal and powerful in some debates. There is a need for new strategies to encourage and nurture the involvement of a broader segment of the American public.”

“State and federal agencies frequently turn to special advisory committees when struggling with genetic policy issues. Examples include the Secretary’s Advisory Committee on Genetic Testing and the National Bioethics Advisory Committee both appointed by the Clinton administration and the President’s Council on Bioethics and the Secretary’s Advisory Committee on Genetics, Health and Society, both appointed by the Bush administration. While professional bioethicists are always represented on these committees, rarely are leaders from the religious community included. John Evans, in the book Playing God, has suggested that the rise of professional bioethics has marginalized religious leaders from policy discussions about science and bioethics and that this has led to a “thinning” of the debate.”

From Robert Pollack

“While neither of [recently announced policies on human embryo research] makes sense on the basis of the science used by President [Bush] to support it, each becomes understandable when seen through the lens of his publicly acknowledged, deeply held religious convictions. It is odd that no one -- not the President, nor the press, nor the many corporate and university ethicists, scientists and doctors who have spoken out in the past few weeks -- has

seemed comfortable admitting the matter of personal religious belief to the discussion of these two decisions. Rather than trying to articulate the President's reasoning -- which would require acknowledging that religious belief has had a place in the national discourse, a fact that they surely already know but apparently cannot say aloud -- most commentators have concluded that these decisions represent no more than the ordinary political compromising.”

“I would ask only that scientists be asked to be good citizens, not that they be paragons individually or as a group. It is a sense of superiority over citizenship that is the risk here.”

“If you mean what you say later about the sanctity of human life, then the issue is not the sharing of genetic benefits, but the sharing of medical care *per se*. There are 40 million Americans with no health insurance. How did that bizarre and cruel denial of care emerge as the dominant system of medicine in this most religious Christian country?”

From Rich Hayes

“Many of the applications of human genetic science identified in the 1986 policy statement as prospective are now close to being facts-on-the-ground. Under this circumstance, people and communities of conscience are often called upon to move from expressing concern to taking substantive policy positions, and then action. This is not often easy, and mustn't be done rashly, but if we believe that technology should flourish in accordance with democratically articulated social and human values, someone needs to do it.”

“The current national debate around human genetic technology has been dominated by a fairly limited set of constituencies. The most active voices have been those of the biotechnology industry and the biomedical research community, on the one hand, and of pro-life constituencies on the other hand. In addition, a new, explicitly eugenicist constituency has emerged, one that sides with biotech/biomedical interests to promote free development of the new genetic technologies and their use to advance a “post-human” future.”

“At present there are very few broadly-based constituency organizations or networks that have made the topic of the new human genetic technologies a key priority and whose commitment is motivated by concern for social justice, human rights, and responsible societal control of technology. In recent months environmentalists, women's rights advocates, disability rights organizations, and other civil society constituencies have become active. It is encouraging to see that the National Council of Churches has chosen to engage these issues.”

“What is at stake is quite literally the future of humanity as a common species with a shared human nature and sensibility. It is difficult to overstate the enormity of what we are contemplating when we talk, for example, about the creation of “designer babies.” Use of this technology would change forever the nature of human life and society, in ways that would feedback upon themselves and be impossible to control.”

From Doug Hunt

“What is at stake is our relationship with the Creator, with each other, and with the rest of the creation, as well as the future of our species and our planet.

The US debate has become polarized along abortion/choice; scientific freedom/luddite ignorance; and healing/suffering lines. I would also characterize it as generally un- or misinformed and subject to and focused by the ability of entities with major financial interests to dominate political and media discussion. The predominant voices to date have been those of the research-medical-university establishment. Ethical and religious questions have been occasionally raised but receive little, if any, attention.”

“Particularly absent from the discussions are people of faith, people with disabilities (as opposed to particular and specialized disease-related groups), people of color, and voices of those concerned over justice and with the spiritual, social and cultural fabric of the society.”

VI. Budget and Timeline

In conjunction with the Council's commitment to only undertaking program for which financial support has been assured, two potential budget projections and timelines are offered below.

Plan A requires commitment of funds in the range of \$15,000 per year for two years. These are understood to be "new" monies, not designation of previously committed funds.

Plan B would provide for the approval by a major foundation of grant for an "*Imitatio Dei* – Phase II" proposal. It is likely that such a proposal would total \$80-100,000 per year for three years.

If the General Assembly approves the recommendations the communion funds will need to be committed before naming a Policy Development Committee. The project may be initiated under Plan A but shift to Plan B if foundation funds become available in the fall. In either case, a budget for the project will be developed.

Plan A

- Assumes a two year project duration
- Policy Development Committee members will need to provide their own support costs for travel, etc.
- NCC will need to assign extant staff
- Communion contributions of \$15,000 will be needed to cover materials, conference calls, etc.
- Educational outreach will be supported only by communions

Plan B

- Assumes a three year project duration
- Modest funds will be available for the support of Committee members whose churches can not underwrite their participation
- Provides for 30-50% FTE staff time assignment
- Educational outreach production costs contained within the grant
- Advocacy efforts and policy dissemination contained within the grant

Glossary

Cloning

The creation of genetically nearly identical “offspring” cells, or entire individuals. A clone can be created by placing genetic information from an adult into an egg whose nucleus has been removed. Human reproductive cloning would result in a nearly identical human offspring.

Embryonic Stem Cells

Immature undifferentiated cells that can be manipulated to become any different cell type. These cells are the products of embryos that have had their cells separated before the embryo has grown beyond 50 or 100 cells. These cells are of particular interest to medical research because they are more easily manipulated into any type of mature cells, can be grown in culture more easily, and may have the potential of replacing lost, diseased or otherwise damaged organs in adults.

Eugenics

Reproductive manipulation with the intent of creating presumed superior or improved human beings or in extreme instances a new “master race”, and/or eliminating “inferior” offspring.

Genes

Instructions contained in living cells that together constitute the “biological blueprint” for living things. Genes are inherited at conception from forebears. Some genes are reflected in our outward appearance, others are implicated in some human diseases, and many more genes are responsible for the underlying biological processes that keep living creatures alive.

Genome

The entire complement of genes that constitutes the “complete biological blueprint” for a particular species or individual.

Human Genetic Technology

A range of new techniques that pertain to the biological blueprint (genes) that determines such things as eye color or predisposition to some diseases.

Human Genome Project

A federally funded project that recently succeeded in “mapping” the entire blueprint of genes in human beings.

Inheritable genetic modifications

Changes to those genes contained specifically within sperm or egg cells; modifications of these cells subsequently become part of any offspring’s genetic endowment and can be passed forward to future generations. Also known as “germ line” modifications.

Somatic Therapies

Therapies that involve intentional introduction of genes into the cells of a fully developed human being, but the new genes are not passed on to future generations. These therapies might, for instance, repair malfunctioning genes in an individual with diabetes with new ones that properly manufacture insulin. Also called “non-inheritable modification.”

Stem Cells

Cells that manufacture new or replacement cells for a body. Stem cells are found throughout the body of humans, in fetal tissues and umbilical cord blood. Research using adult human stem cells from bone marrow has been ongoing. More recently cells from fetal tissues, cord blood, and human embryos have been used for research.

"GENETIC SCIENCE for HUMAN BENEFIT"

Adopted by the NCC Governing Board
May 22, 1986

I. THE UNEXPECTED EVENT AND UNPRECEDENTED CHALLENGE OF BIOTECHNOLOGY.

A. In an era when rapid change and spectacular innovations of science-based technology are common, molecular biologists are accelerating the transformation of human understanding of organic life. Only since 1973 when the technique of recombining genes in the molecules of DNA was made known by researchers, have people been realizing that humanity has entered a new time of immense potentiality for good or ill. A great number of scientists, both famous and obscure, have learned not only to recognize but to manipulate the essential units of organic matter. The public can easily be misled by the extravagant and sometimes distorted announcements of journalists and sensational writers. The positive expectations for a better life through genetic science are widely held, however, even though these are also contested by critics who perceive possible perils and point to past social abuses in the name of genetics. Whichever may prevail in the future, the present activities in this field demand of responsible men and women a serious effort to gain knowledge of genetic engineering and raise questions about its likely consequences. Members of the churches of the National Council of Churches, including many scientists, share this responsibility and bring to its consideration a particular perspective of theology, ethics, faith and experience.

B. Immense numbers of Americans, as well as others throughout the world, are experiencing the effects of genetic science. These are effects upon society at large as well as upon individuals. Many who are Christians are looking for ways to understand the mutual relation or interaction between their theologically-informed faith and the emerging data of genetics. For example, the chemical structure of human DNA is virtually identical to that of all other living organisms, a fact which seems to undercut some traditional beliefs about the uniqueness of human beings. Church bodies need to be informed and careful when pronouncing judgments on genetic science, especially due to their respect for the many scientists and others engaged in occupations touched by genetics who are deeply committed Christians.

C. Reticence on the subject is no sign of wisdom or virtue on the part of churches. Assembled in congregations, special groups, or denominational and ecumenical conventions, Christians dare not remain aloof from the genetic revolution. To love God with all the mind implies a serious regard for new insights into God's creation; and the mandate of love, concern and support for all one's "neighbors" and for the "least of these" likewise requires attention to a scientific and social movement that affects the lives of very many. However provisional it may be, due to expanding knowledge, a statement of churches on genetics is legitimated by present circumstances. This document of the National Council is intended to help its member communions and others seek to understand God's will in this matter and find a common voice to express it.

D. That voice should be modest and restrained. Churches are well equipped to speak of the Bible, the Gospel, Christian doctrines and ethics; but they have no privileged wisdom about science as such. Scientists and others who do the work on genetic manipulation are respected for their knowledge, and their manifest contributions to human welfare and health should be welcomed. Nothing is to be gained by deliberately or inadvertently alienating scientists from religious faith by negative criticisms so long as their work is not contradicting recognized Christian purposes and objectives. The sudden burst of genetic research and application may well be considered an activity of the divinely endowed mind and spirit of intelligent inquiry and will to serve. But appreciation for scientific achievement is not unconditional, for it is tempered always by

humane and ethical considerations, and by awareness that all human endeavor is limited and flawed.

II. SIX AREAS OF CONCERN WHERE GENETIC TECHNOLOGY BEARS DIRECTLY ON HUMAN LIVES.

A. *Genetic Counseling*

The developing modes of gene-splicing technique and their application to human health and therapy demand the greatest attention. This is because Christian theology regards the effect on human life as the primary theological criterion for making ethical judgments about genetic science.

Before 1953, genetics was a statistical science; after the decoding of DNA it became a biochemical science. The statistical knowledge still remains important and useful in genetic counseling of prospective parents. If men and women will consent to consultation on the genetic history of their families and will act upon the professional information given, a great many cases of genetic disease in unborn and newborn babies could be avoided. In this regard, it is a matter of increasing necessity for pastors and other counselors to be well informed about the patterns of hereditary transmission of disease. Without infringing upon the freedom of couples to choose whether to attempt reproduction, pastoral counselors can assist them in thinking through the problems of risk and responsibility.

B. *Ante-natal Diagnosis*

With the advent of ante-natal diagnosis, genetic counseling presents people with a different set of questions. There are now sophisticated techniques for determining the presence of deleterious genes prior to birth. Genetic markers or probes are devised to identify such diseases as Huntington's chorea, hemophilia, neural tube defects and cystic fibrosis. Since gene therapy for these and other diseases is not yet feasible, each positive diagnosis confronts the prospective parents with numerous spiritual, ethical, medical, social and financial questions. Religious communities are frequently called upon to minister to and counsel with families facing such questions. The issues raised are approached differently within the various traditions, but are generally recognized to be of significant pastoral concern.

C. *Pharmaceuticals*

Pharmacology as a science is being revolutionized by genetic engineering, as is the pharmaceutical industry. Gene-splicing accomplished in bacterial growths of large volumes has made possible the manufacture of insulin, which is indispensable for diabetic persons. The boon to hemophiliacs is Factor VIII, the clotting agent in blood; for victims of dwarfism it is the genetic factor which releases growth hormones (GRF); for those with weak immune systems it is T-cell receptors; and interferon of various synthesized types is used for therapy of viral diseases and cancer. Equally to be welcomed from genetic laboratories are the inverse products of the therapeutic drugs, namely the new vaccines against several diseases. An obvious concern is that production should be done safely. In principle, all such efforts to prevent or cure diseases deserve warm approbation.

D. *Gene Therapy*

Gene therapy will be based upon accruing knowledge gained through laboratory research with animals, but it has not yet been given proper authorization to be attempted with human subjects. Whenever clinical trials are made with human beings, they will first be applied to tissues which are affected by relatively simple, monogenic irregularities, such as immune deficiencies, anemias of the bone marrow or Lesch-Nyhan disease. Put simply, unhealthy genes will be replaced directly by healthy ones. Such procedures will have effect upon the patient's somatic cells, or body cells, which constitute almost all of the human organism. The others are the sex, or germ-line cells, which are confined to the reproductive organs. The distinction is categorically important, because somatic cells all die when the individual person dies, but the germ-line cells live on in future offspring. Therefore, any mutation of the sex cells caused by therapeutic procedures with the embryo will pass on irrevocably to future generations. Given the primitive state of this art, as well as the unknown and uncontrollable risks involved in possible genetic mutations, researchers and religious and secular commentators should approach it with extreme caution.

E. *The Gene Pool*

Reference to future generations raises the question of present responsibility for them. Do people of one generation live only for themselves, for their own health, or should they always keep the coming generation in mind? This is the question which summons considera-

tion of the "gene pool." It is a matter of vast implications. Susceptibilities to more than three thousand genetic diseases, as well as other physical and psychological disabilities, are determined by the invisible, sub-molecular arrangements of certain nucleic acids on the strands of DNA in the chromosomes of human cells. Everyone carries eight to ten defective genes. Slight changes, or mutations, in the genes of one's genome (the total information carried in the germ-line cells) will modify those susceptibilities in the offspring, for better or for worse. Also, the more people having genetic diseases or afflictions survive and procreate children, the greater will be the transmission of their harmful genetic material. Thus, the total quantity of genes in a family lineage, or a society, or the entire human race may be thought of as a "gene pool," which may either be "polluted" or "cleansed." Recognizing this process, people have conceived of various schemes to make eugenic progress for the human race. Some plans are respectable but idealistic, such as appealing to men and women to abstain from procreation when they know they are carriers of diseases. Others are contrived and tend toward elitism, such as promoting artificial insemination with germ plasm of outstanding men and women. Still others have been coercive, political or diabolical, calling for mandatory sterilization, or even the killing, of "unworthy" people. In recent years, advocates of eugenic programs have been further impelled by factors of population expansion and economic restraint. In any case, significant effects upon the gene pool require mutations over many generations.

The advent of genetic engineering seems to have given new encouragement to some persons to believe that the eugenic processes can be expedited. They are supported, further, by the social phenomenon of "health and fitness" enthusiasm, the striving for physical "perfection," and the belief that only "perfect" babies should be accepted. However tempting may be the eugenic ideology, sober reflection shows that Christian concern for personal integrity and value, therefore, makes involuntary eugenic research morally unacceptable.

Some persons advance theories, based upon allegedly scientific or pseudo-scientific evidence, that maintain that people belonging to certain ethnic groups are genetically predisposed to inferiority of intelligence and anti-social behavior. While researchers continue to find causal relation between genes and susceptibility

to diseases, there is manifest danger in an ideology of genetic behaviorism which implies that levels of human action and social worth are genetically determined.

This ideology is especially troublesome for us in the United States, where technological utopianism has a peculiar hold on our thought. We have been too easily disposed to explain away many social, economic, and political inequities in terms of biological destiny. Genetic science has long been used to justify subjugation of ethnic minorities and exclusion of them from full participation in American society. Remembering this, the churches should keep ever alert to the dangers of allowing genetic science and technology to be used as a tool for political, economic, and social domination over any persons.

F. Assisted Reproduction

Concurrent with the sudden rise of skills in genetic modification are the various methods of "technological reproduction" or "non-coital procreation." Radically altered attitudes in the population towards sexuality, the family, the role of women and children in the context of the technologizing of culture contribute to the problem of evaluating what is happening. The laboratory technique of *in vitro* fertilization is understandably welcomed by some infertile, childless couples. It also permits new practices, shocking to many sensitivities, of embryo freezing, embryo experimenting, and surrogate mothering. Furthermore, the *in vitro* method enables researchers to practice "gene surgery" in insects and mice, replacing the nuclei of embryonic cells with chosen genetic material. This may or may not eventually be feasible in humans to prevent genetic disease. Some envision the potential to modify such characteristics as height, weight or intelligence.

Some people reject these reproductive technologies as contrary to Christian faith and morals because they violate the "natural" modes of procreation, wherein sexual union and conceiving children are linked in intention. Others approve the method of helping infertile couples to have children, but disapprove of careless treatment of embryos. Still others justify the entire enterprise as an achievement of human, God-given intelligence, opening the way for populations of the crowded future to be regulated. While the debate continues, the practices develop and spread.

III. WHERE GENETIC ENGINEERING OF NON-HUMAN LIFE AFFECTS HUMAN WELL-BEING.

Being dependent upon the natural environment for water, air and sustenance, human beings cannot avoid the impact of genetic modifications of certain animals, plants and ecological systems. It is not simply the case that non-human organisms are modified for good or ill, but that the changes have indirect effects upon humans, also for good or ill. Modern science confirms that people are more closely bound to animals, plants and eco-systems than earlier generations knew. The bond lies at the molecular level, and not merely in physical appearance, shared space and mutual interdependence.

A. *Animals Bred for Food.*

The breeding and cross-breeding of domesticated animals has been achieved over many centuries. Today it can be done in weeks or months. Artificial insemination of livestock has been practiced for more than a century. Now added to that mode of fertilization is the technique of embryo transfer. Embryos removed from the female by lavage are easily transferred to others for gestation. Or else, the embryos may be quickfrozen and kept indefinitely for implantation wherever desired. Moreover, at its earliest stage of cellular growth, the embryonic nuclei may be cut in two, producing twins or multiples. And the introduction of growth hormones, extracted from humans (!) leads to larger animals, more valuable for food or hides. The potential for "manufacturing" not only livestock, but poultry and fish, for human consumption seems almost limitless.

What might be welcomed as an easing of the food problems of carnivorous humans is nevertheless deplored and challenged by many others, but for differing reasons. Some perceive it as human arrogance when shortcuts of the evolutionary process are devised, thus violating nature as given. Others stress the inherent value of "species integrity," so that experimental efforts to cross species barriers are impugned. The recent birth of a "geep," which at embryonic stage was a mixture of the germ plasm of a sheep and a goat, was unwelcome news to those who honor the natural order of organisms. Added to such concern are the strong feelings of "animal rights" advocates, who claim that animals are not only to be spared suffering but must

be respected for their species identity. On top of these judgments and anxieties is the fear that genetic and reproductive manipulation of animals presages the same with human beings, whose mammalian bodies are susceptible to similar procedures.

B. *Agri-genetics*

The promises of abundant supplies of grains, vegetables and fruits enhanced by genetic engineering seem to be fulfilled just in time to meet the needs of the world's rapidly increasing population. As with animals, the long periods of plant breeding to produce better hybrids or hardier, more edible species have been greatly foreshortened by genetic researchers; and future predictions of achievements can hardly be doubted. Food plants will resist fungi, diseases and pests; they will require less water, draw nutrition from the nitrogen of the air, and even grow on saline soil. The huge savings in resources and costs for making artificial fertilizers may have a dramatic effect upon market costs. Furthermore, non-edible fibres and biomass will readily be transformed into alcohols and fuels for industrial use. Such processes and products seem to be of unambiguous value to humanity. Perhaps so. Research in plant genetics, however, is in a relatively early stage. More remains to be learned. One problem has to do with the reducing and narrowing of the varieties of related species such as those of wheat and corn, making them more vulnerable to destructive diseases. Diversity of varieties protects against catastrophic elimination of species. There is also a serious socio-economic concern about the concentrated ownership of patented seed grains and other seeds, a factor of immense importance for farmers throughout the world, particularly in poor nations where patents are held by rich ones.

C. *The Ecological Impact of Genetic Technology*

Not only those styled "environmentalists," but people everywhere, have been sensitized and educated with respect to the balanced eco-systems of the earth's fragile biosphere. Long periods of deforestation, dehydration, pollution and toxification have resulted in today's global crisis of environment. Now come new threats in the form of genetically engineered bacteria which, if released recklessly, might wreak further damage upon natural ecology and thus on human life. Scientists are divided over the potential dangers, even as they were in 1974 on the hazards of laboratory ex-

perimentation with genetically altered bacteria and viruses. If scientists impelled by curiosity and entrepreneurs by profit seeking have learned anything from the nation's experiences with chemistry and nuclear fission, they will proceed with greater caution, as well as with government oversight, to avoid causing further, irrevocable damage.

IV. EFFECT OF GENETIC ENGINEERING UPON SCIENTIFIC PRACTICE

Taken as a whole, the science of recombinant DNA manipulation is a singular achievement, ranking with nuclear physics, cybernetics and exploration of space. The art of identifying and sequencing genes, and the techniques of recombining them, have contributed significantly to laboratory method. However, the rush to develop marketable products is having effects upon scientific practice which raise questions and engender concerns. If churches are serious about making comments on genetic engineering, they should be equally serious about maintaining standards of good science.

The sudden leap from laboratory to factory has seldom, if ever, been made so rapidly as in the case of genetic research. Within five years of the announcement of recombinant DNA method, a commercial firm was established for the purpose of marketing. Within seven years, a United States patent had been granted on a "new life form" of bacteria. Thereafter, hundreds of genetic corporations have arisen, mostly in America, but also in Europe and Japan. This phenomenon can be condemned in principle only by those who categorically reject capitalism. Even granting the legitimacy of profit-motivation and regulation, there are consequences of the present rush to the market which are disturbing.

A. *The End of Pure Science?*

The distinction has long been drawn and accepted between "pure" and "applied" research. The solitary seeker of knowledge, oblivious to the world outside the laboratory, is a romantic fiction. Even so, "disinterested" research has been well regarded, whether by an individual or a team of scientists. Some of the most valuable discoveries have been unanticipated side-lines of experimentation. While basic genetic research continues, there is increasing temptation for the researcher to think about the financial

rewards which will accompany successful experiments. Competition between laboratory teams, whether in universities or commercial firms, becomes more intense. It fosters secrecy about formulae and methods, which erodes the tradition of openness, cooperation and publication in journals. And prominent biochemists and molecular biologists in the universities and indeed the universities themselves become holders of considerable equity in corporations which have proprietary interest in their research.

B. *Public Support, Obligation and Regulation*

Most biological and biochemical research done in America has been funded by grants from federal governmental agencies such as the National Institutes of Health and the National Science Foundation. When research so funded eventually leads to processes or discoveries which hold most lucrative promise for the scientist, the question of obligation arises. There is uncriticized precedent in many fields of research for the recipients of federal grants to realize profits on their work. Is it now just a matter of scale which calls genetic research into account? A similar question pertains to commercial companies. Should the government lay claim to a portion of individual or corporate profits? Or, at least, insist on satisfactory contributions to public health and well being?

Unsolved as these new problems of policy and law may be, they play a role in the discussions of governmental oversight or regulation. In theory, some hold that the scientific community can regulate itself. Certainly the scientists do not wish to be instructed by persons of a bureaucracy whose knowledge and judgment may not be adequate. However, regulation is already a fact. The statutory powers of the Food and Drug Administration, the Environmental Protection Agency, the Department of Agriculture, and the Occupational Safety and Health Administration are sufficiently strong to restrict research or trials which are not in the public interest. Moreover, there is a specific, if limited, authority over genetic research exercised by the National Institutes of Health with the counsel of its Recombinant DNA Advisory Committee. In spite of these, citizens and legislators have been urging the establishment of a Commission on Genetic Engineering, because of genetic engineering's unique potential to affect future as well as present generations.

C. *Military uses.*

Biological weapons, like chemical gases, are generally regarded with abhorrence because, like

nuclear bombs, they kill people indiscriminately. They are formally banned by international treaty, the Biological Weapons Convention, signed by the major powers. Even so, the Department of Defense has been extending the scope of research on genetically engineered pathogenic bacteria and toxins, but always with the justifying explanation that they would be used only defensively. Whether such ultimate weapons of human destruction are intended for offense or defense, their hazardous and repugnant nature is self-evident, and the morality of their being used is highly questionable. With respect to the integrity of microbiological researchers and the branch of science they represent, it is also questionable whether science can keep from being corrupted by employment for military purposes.

D. Global Implications.

Modern science, in all branches, has become increasingly international in scope, cooperation and communication of research data. In a secular sense of the word, the scientific community of tens of thousands of persons has become "ecumenical." This transnational community is inhibited and damaged, however, by enforcement of policies of national interest with respect to one or another branch of science. Thus, embargo is being imposed on some genetic information. In addition, the economic competition of international or transnational biogenetic corporations has a divisive effect.

Variations in national laws governing public health and biological research give rise to another kind of global concern. It is the way American or European companies can conduct experimental trials and market their products in countries which are more lax in restraints. These are mainly countries of the southern hemisphere: poor, populous and subject to exploitation and danger to health and life. If such commercial activities are not deemed wise or ethical toward one part of the world's population, on what basis can they be justified in other parts?

V. GENETICS ON THE SCALES OF CHRISTIAN FAITH.

As representatives of the member churches of the National Council of Churches of Christ in the U.S.A., we feel obligated to speak to the problems raised by

genetic science and technique. This is not our final word, for the problems are too profound and complex; the development of the science is too rapid and unpredictable. Yet there are certain firm convictions which Christians hold and share regarding God's purpose for individual human beings and for humanity as a whole. These matters of faith, informed by experience and reason, include especially: (1) the sacred worth of human life; (2) the values of fairness, justice and love; and (3) responsibility to God through human activity in God's creation. These three affirmations provide the warrant and substance of this policy statement.

A. The Worth of Life and Living.

The emerging powers of genetic engineering, both current and potential, impel us to consider most seriously the nature, purpose and worth of human life. Common phrases like "the image of God" and "the sanctity of life" express the uncommonly important conviction that each and every human being belongs to God as Creator in a special way. What God values in a divine relation is therefore valuable in human relation. That God creates each human being is the belief which attributes value to each. That God's eternal Word once became human in Jesus Christ, ministering, dying and rising for the salvation of all, is the belief which confirms the created value for all humanity. Physical life is not the absolute value, but true humanness is found in the unity of the body with the mind and spirit, constrained by love. So life may be sacrificed for still higher value or for other lives, as symbolized by the Cross. (John 15:13) Valuing all humans, a person may accept grave personal risk for the sake of others, including future lives.

1. The Burden of Sin and the Weight of Mortality.

The high valuation of life does not imply the belief in physical and moral perfectibility. Neither does it warrant an avoidance or denial of the realities of disease, suffering, sin, injustice and mortality. Genetic modification can be used to prevent and cure diseases, to reduce suffering, promote better health, and provide economic benefits. For these purposes it is welcomed as an enhancer of life. However, its promises ought not seduce people into believing, on a eugenic platform, that human beings can be made into perfect specimens of physical form and total health. The concept of human "wholeness" is ever conditioned by the organic and moral disabilities of creatureliness during earthly temporal existence. Human powers are sometimes tragical-

ly distorted and misused. "Life in all its fullness" (John 10:10) is a goal offered in Christ by faith, not a promised possibility of human achievement.

2. Personal Integrity and Non-discrimination.

Because human life is sacred, all reasonable measures should be taken to preserve individuals and communities from involuntary risks to health and life. The right of persons to refuse to be subjects for genetic experimentation must be respected. Likewise, patients offered the choice of treatment by genetically engineered medicines or by gene therapy have the right to decline them. Neither experimentation nor therapeutic treatment should be practiced without the reasonably informed consent of the subject or patient. Some procedures of uncertain risk or consequence should be done only upon societal approval beyond the informed consent of the participant. Gene therapy of germ-line, or sex, cells of human embryos — if ever practicable — will deserve especially stringent control.

The worth of human life is not bounded by race, sex, nationality, culture, age or physical handicap. The ability to manipulate genes should not be used to reduce the rich diversity of humanity nor damage the integrity of the individual.

3. Human Life and the Natural Environment.

Genetic knowledge shows that genes are as much a part of the created order as rivers, soil and forests. The intimate genetic relation of human beings to all other living matter, as well as the chemical relation to all matter as such, means that humans are a part of their own environment, even while transcending it. Ours is the first generation in history which, knowing DNA, can understand this. Greater seriousness than ever thus attaches to the ancient, enduring biblical requirement for men and women to care for the creation as a responsibility to God and to coming generations. While holding to the primacy in value of all human life, we must respect animals for their own worth and do what is possible to preserve the earth's whole biosphere. A certain risk is a concomitant of all experimentation, but the risks of ill-advised or inadvertent abuses of genetic technology dictate a stern prudence. The unbalancing of ecosystems, like the mutation of germ cells, is irrevocable.

B. Fairness, Justice and Love.

We believe that the whole of humankind, created by God, living under God, offered salvation by God, is a

unity. From a belief in this principle arise our cherished concepts of equality of worth, equal opportunity, and participatory social organization. We are not ignorant, however, of the persistence of gross and widespread contradictions of this belief in both theory and practice. Especially do we deny the racist notion that human worth and social acceptability are genetically determined. We affirm our belief in the good creation of each and every person and in the redemptive love of God in Jesus Christ for all humanity.

1. Access to Genetic Benefits

We hold in principle that all people should have access to the benefits of biogenetic innovations. In practice we advocate that as many as possible enjoy the benefits in the form of food, medicine, synthetic and manufactured products. Just as these should not be confined to the rich of the world, so conversely the poor must not be disproportionately put at risk by the developing and testing of therapeutic procedures and genetic products. The poor, many being of ethnic minorities and including countless children, elderly, sick and incarcerated, have too long been victims of exploitation and too seldom benefit from this type of new technology.

2. Profit on Genes.

Scientists, investors and managers who provide the knowledge and capital necessary for bio-technological development and marketing deserve fair compensation for their ingenuity, work and willingness to incur economic risks. Yet, the warnings raised above in IV.A., concerning the threats to science itself, ought to be heeded by researcher and entrepreneur. More serious still is the admonition against monopolistic ownership of genetically modified organisms or substances which are known to be essential to human life for nourishment and health.

We hold, further, that companies and legislators should devise ways for the public at large to share in the benefits or profits made on the sale of products, the basic development of which has been enabled by public funding for research.

C. Responsibility to God through Human Activity in God's Creation.

1. Evolution and the Quest for Knowledge

Creation by divine power is not static but dynamic and ongoing. As creatures uniquely made in God's image and with purpose, humans participate in the creative process through the continuing quest for

knowledge, which now includes unraveling and learning to control the intricate powers compressed in genes of DNA molecules. Respect for the value of life, for fairness and justice, should accompany this quest and if with love, so much the better for all. We recognize that this awesome scientific capability, which will doubtless increase, can impose a deliberate human will upon the process of organic evolution itself. We do not ask scientists to abandon this effort where microscopic organisms, plants, animals and humans are concerned, but only to advance with utmost caution, cognizant that this is a concern of all society.

2. Limits to Knowledge, Limitations on Research and Production

We cannot agree with those who assert that scientific inquiry and research should acknowledge no limits. All that can be known need not be known if in advance it clearly appears that the process for gaining such knowledge violates the sanctity of human life. Remembering its own history, the church should not oppose scientific advance, but it must speak out in judgment when the quest for new knowledge supersedes all ethical concerns. We do not allow this stance to be called, nor to become, one of anti-intellectual or anti-scientific bias. Neither do we imply that genetic scientists are morally irresponsible, or that institutional review boards cannot make proper decisions on research protocols.

We have noted above (III., B) that governmental agencies are already empowered to oversee and regulate certain developments, procedures and products of gene-splicing. Some such powers are limited to projects receiving public funding, others to private enterprise as well. We believe that the responsible exercise of freedom of research and production will be promoted by a federal regulatory commission, consisting of members drawn from a variety of scientific and non-scientific fields. The commission should possess sufficient powers to exercise reasonable public review and to establish guidelines as required by the public interest. Such an agency should be responsive to public comment as well as professional proposals. It should keep in mind the protection of individuals, various groupings of people and the environment. And it should foster the free flow of information derived from genetic research, while advocating the continuing funding by the government of needed research.

3. The Role of the Church and the Churches

As Christians, we recognize the distinctive place of

humankind in the whole chain of life which God has created, and we profess our belief in the unity of humankind as indicative of God's purpose. Moreover, we see the Church of Jesus Christ as having a special role in the historical human venture of finding healing and wholeness of life in freedom and fulfillment. Scientific techniques which affect both the organic substance of human beings and their environment are matters of concern to Christians.

We believe that churches can contribute to the public awareness and understanding of issues relating to biotechnology. They should undertake programs of research and education on the scientific, sociological and political aspects of it, as well as on the theological, ethical and moral ones. Theological seminaries in particular should provide basic education in genetic counseling and its pastoral implications. Furthermore, men and women of advanced theological knowledge should be challenged and encouraged to become involved in the urgent study and discussion of genetic issues. The churches should especially assist local congregations in their role as forums for discussion of these issues.

Acknowledging that the National Council of Churches represents only one large segment of Christian teaching, doctrine and opinion, we think it is urgently important to join in study of genetic engineering questions with persons of other religious bodies. The aforementioned "ecumenism" of the world's scientific community deserves nothing less from ecumenism of religious faith.

Member Communions' Official Statements on Human Genetic Engineering

as of April 2003

Antiochian Orthodox Christian Archdiocese of North America

- *Currently working as part of the SCOBA "Social and Moral Issues Commission" (to report in April 2003 for adoption in May)*

Church of the Brethren

- 1987 Passed "[GUIDANCE IN RELATION TO GENETIC ENGINEERING](http://www.electronicchurch.org/Genetics/church_of_the_brethren.htm)"
[www.electronicchurch.org/Genetics/church_of_the_brethren.htm]
- 1997 Update was considered but REJECTED.

Episcopal Church

- [Resolution of the Task Force on Ethics and the New Genetics](#)
- [Report to the Executive Council](#)

Evangelical Lutheran Church in America

- NO OFFICIAL STATEMENT
- 1998 Recommended Study Document "[Genetic Testing and Screening: Critical Engagement at the Intersection of Faith and Science](#)"
[www.elca.org/dcs/genetic.html]
- 2001 Recommended Study Document "[Human Cloning Papers From a Church Consultation](#)"
[www.elca.org/dcs/humancloning.html]
- 2001 Congregational Study "[Genetics! Where Do We Stand as Christians?](#)"
[www.elca.org/dcs/genetics.study.html]

Greek Orthodox Church

- *Currently working as part of the SCOBA "Social and Moral Issues Commission"*

Moravian Church

- 1986 [Resolution and Election of the Provincial Synod of the Northern Province of the Moravian Church](#)
[www.electronicchurch.org/Genetics/moravian_church_in_america2.htm]
- 2002 [Report on Bioethics of the Committee on Church and Society](#)
[www.electronicchurch.org/Genetics/moravian_church_in_america.htm]

Appendix C – Compendium of Member Communion Statements

Orthodox Church in America

- Statement of Oct. 2001 “EMBRYONIC STEM CELL RESEARCH IN THE PERSPECTIVE OF ORTHODOX CHRISTIANITY”
[www.electronicchurch.org/Genetics/reformed_church_in_america.htm]
- Statement of January 2002 “THE CLONING OF HUMAN EMBRYOS”
[www.oca.org/pages/ocaadmin/documents/pastoral-letters/2002-cloning.html]
- *Currently part of the SCOBA “Social and Moral Issues Commission”*

Philadelphia Yearly Meeting of the Religious Society of Friends

- “Statement of Faith and Practice”

Presbyterian Church (USA)

- 1970 Statement PCUS Minutes p. 80
- 1974 Statement - UPCUSA, 1974, Minutes pp. 199 & 618
- 1980 Statement - PCUS, Minutes p. 218
- 1983 Statement - PC(USA), Minutes pp. 363-367 “The Covenant of Life and the Caring Community”
[www.pcusa.org/oga/images/abortion_policy_1983.PDF]
- 1983 Statement - PC(USA), Minutes pp. 97 & 846
- 1990 Statement - PC(USA), Minutes p. 776
- 2001 Overture (01-50) “On Adopting a Resolution Enunciating Ethical Guidelines for Fetal Tissue and Stem Cell Research from the Presbytery of Baltimore”
[www.pcusa.org/ga213/business/OVT0150]

Reformed Church in America

The Commission on Christian Action of the Reformed Church in America, General Synod has issued the following papers on Genetic Engineering:

- 1986 (provisional study) *Minutes of General Synod 1986*, pp.58-70
- 1988 Genetic Engineering (revised) *MGS 1988*, pp. 61-74
- 1999 Genetic Engineering: An Update MGS 1999, pp. 87-98
[www.electronicchurch.org/Genetics/reformed_church_in_america2.htm]
- 2001 Genetic Testing and Screening *MGS 2001*, pp. 376-385
[www.electronicchurch.org/Genetics/reformed_church_in_america1.htm]
- 2002 Creation and Use of Embryonic Stem Cells *MGS 2002*, pp. 91-100
[www.electronicchurch.org/Genetics/reformed_church_in_america4.htm]

Other Documents: Report of Commission, November 16-17, 2000
[www.electronicchurch.org/Genetics/reformed_church_in_america3.htm]

Serbian Orthodox Church

- *Currently part of the SCOBA “Social and Moral Issues Commission”*

Ukrainian Orthodox Church

- *Currently part of the SCOPA “Social and Moral Issues Commission”*

United Church of Christ

- 2001 Resolution: “Christian Response to Development in Genetic Technology”
- 1989 Pronouncement and Proposal for Action: “[The Church and Genetic Engineering](#)” [www.ucc.org/synod/resolutions/res30.htm]
- 1987 Resolution: “The Church and Genetic Engineering”
- 1983 Resolution: “Concern about the Moral and Ethical Implications of Genetic Engineering” [www.electronicchurch.org/Genetics/UnitedChurchofChrist.pdf]

Additional Resources, Testimony: [News Account of Testimony of Ronald Cole-Turner](#) to the National Bioethics Advisory Commission [www.ucc.org/justice/stemcell/paper.htm]

United Methodist Church

- 1984 General Conference Resolution declared genes to be a part of the common heritage of all peoples
- 1988 General Conference Resolution affirming the positive prospects and warning of the potential dangers of genetic technologies, and authorized the establishment of a representative task force
- 1988 Social Principles: amended to oppose procedures resulting in ‘waste embryos’
- 1992 General Conference Resolution adopting Resolution on Genetic Science

- 2000 General Conference Resolution on Human Cloning
- 2000 General Conference Resolution directing General Board of Church and Society to Investigate Stem Cells, Transgenic and Other Issues
- 2000 amended and Readopted previous statements [www.electronicchurch.org/Genetics/UMC-Book_of_Resolutions_Genetic_Science_and_Cloning.pdf]

Other Documents: [Working Paper of the Bioethics Taskforce of General Board of Church and Society](#)

Executive Summary of Recommendations

The Exploratory Committee on Human Genetic Technology Recommends:

- 1. A new NCC policy statement shall be written that will replace the statement adopted in 1986 and will serve to shape both the educational outreach and public policy efforts of the Council in the years ahead.**
- 2. The General Assembly shall establish a “Human Genetics Policy Development Committee” with members to be named by the President and General Secretary of the NCCCUSA.**

The “Human Genetics Policy Development Committee” shall be constituted as soon as is possible. Work shall commence within a limited budget approved with this resolution. The Committee will initially work toward fulfilling its mandate within a two-year timeframe, with the understanding that if, and when funding becomes available this project will expand to three years.

- 3. The newly formed Committee shall produce educational outreach materials for use in various contexts such as congregations, church judicatories, seminaries and/or colleges.** Educational materials shall include a preliminary theological framework for engaging these issues.
- 4. A new Policy Statement shall serve as a resource for church and secular leaders, the wider church community, and public policy advocates, and aim to stimulate broad engagement on the issue of human genetic technology.**
- 5. The General Assembly approves a preliminary budget plan of \$15,000 to be raised from member communions of the NCCCUSA.** Staff and Committee shall report to the Executive Board/General Assembly regarding whether funding for a more comprehensive project may become available, and bring a new budget recommendation as appropriate for a comprehensive, three-year project.
- 6. The General Assembly commends the above recommendations to the staff for implementation. This Committee shall report at each Executive Board and General Assembly on its activities and progress until it has completed its work.**