Eugenics, from the Greek for a “good birth,” is usually considered to be the attempt to improve human beings primarily through controlling the inheritance of desired traits in one’s offspring. Such an attempt raises two key questions: how much control can be achieved in the inheritance of certain characteristics, and what is to be considered an improvement? These questions lead to even more basic questions, such as—what constitutes a good birth, is it the same for everyone, and who decides the answers to these questions? These questions are indeed challenging, and they are the focus of this presentation because they not only apply to human reproduction but also to our more broad concepts of the good of human health and human nature.

The idea that people can take actions in order to increase the chances of a child having a “good birth” is most likely as old as human society. Connecting this desire for a good birth with the concept that one might be able to select for certain features to be inherited by a child is also not new. In fact, Plato observed:

If a courageous character is reproduced for many generations without any admixture of the moderate type, the natural course of development is that at first it becomes superlatively powerful but in the end it breaks out into sheer fury and madness.... But the character which is too full of modest reticence and untinged by valor and audacity, if reproduced after its kind for many generations, becomes too dull to respond to the challenges of life and in the end becomes quite incapable of acting at all. [1]
From this observation, Plato concluded that a program could be created whereby gifted men and women would be selected according to their superior traits to mate and have children with even better combinations of these traits. Acknowledging that breeding alone was not sufficient to achieve the desired excellence of these children; Plato also argued that they should receive special education to fulfill the promise of their good births. In contrast, children born of lesser parents would not be worthy of such attention, and could even be abandoned. [2] It is clear, even at this point in the history of human civilization, that the idea of producing superior human beings, not just avoiding seriously disabled individuals, was given significant attention. Though there may have been some consensus as to the qualities considered superior in Plato’s society, there were no methods for achieving such goals except for the techniques of animal breeding—which obviously were not widely embraced for humans.

Though any attention given to eugenic practices over the next two millennia met with little success due to the multiple obstacles that undermine such attempts, including moral and social problems, developments during the latter half of the 19th century paved the way for the resurgence of interest in eugenic practices in the first half of the 20th century. These developments were primarily due to the work and insights of two researchers: Francis Galton and Gregor Mendel. Both based their breakthroughs on the increasing interest in scientific research of combining empirical observation with improved statistical analysis.

Gregor Mendel’s now famous contribution was the rules of basic genetic inheritance. These laws linked specific probabilities to the likelihood that particular physical characteristics of plants would be transmitted from one generation to the next. [3] Hence, the relationship of character inheritance observed by Plato now could be more precisely predicted, at least for some features. Of course, key considerations would be whether or not the feature that was desired followed the Mendelian pattern, and, again, the fact that only animal breeding techniques were available to pursue an increased probability of inheriting a particular characteristic.

It is at this point that Galton’s contribution had its great impact. Galton’s concept of biometry went beyond Mendel’s focus on physical characteristics and included behavioral features as well. Galton argued that behavioral characteristics also had to have a hereditary component because one could find certain families with such numbers of talented members that their shared environment and upbringing could not account for all the talent. This conclusion of Galton’s was probably influenced by his interest in, and concern for, the British upper class of his time. Galton feared that humanity would lose some of its greatest representatives if these upper class families did not reproduce sufficiently to continue their important contribution to society and the human gene pool.
Perhaps not surprisingly, Galton's idea of a need for more offspring from socially influential groups was embraced by many within the political and scientific arenas. It was then complemented by the converse idea of restricting the number of offspring among undesirable groups. Since Mendel's ideas did not yet have enough supporting research to more fully explicate the power and the limitations of his genetic approach, Galton's perspective held sway in the late 19th and early 20th centuries. Hence, his ideas were employed to undergird eugenic initiatives, including the most infamous programs of the United States and Nazi Germany. However, due to the tragedies and injustices of these programs, and the growth of Mendelian genetics, Galton's ideas and theory lost their credibility and influence.

The irony of our situation today is that the explosion of knowledge following upon Mendel's research into our current pervasive genetic revolution may in fact be renewing interest in eugenic practices or programs. Though this interest has primarily been focused on using our genetic and molecular technologies to prevent diseases and disabilities—often referred to as "negative" or "selective" eugenics, there is also a recent trend to pursue the possibility of a selecting for certain characteristics—though this "positive" or "enhancement" eugenics is presently more attuned to individual preference instead of societal or species superiority.

One example of the growing interest in selecting for or against certain features in one's children can be found in the assisted reproductive technology industry. With the rapid development of genetic screening capabilities, it is now possible to use preimplantation genetic diagnosis to look for an increasing number of genetic characteristics that may be linked to these targeted features. Though many argue that this additional genetic screening capacity is valuable in that it allows for an increased number of genes linked to diseases to be identified in embryos—thereby multiplying the opportunities for selecting out these undesired embryos, there is no clear distinction as to which genetic characteristics are to be considered diseased or undesirable and which are not. Hence, a given genetic characteristic, such as a Y chromosome or a gene linked to deafness, is both desirable to some parents and undesirable to others.

If many genetic characteristics can be considered to be both desirable or undesirable, depending on the parents' desires, and if almost any or all genetic characteristics can be screened during the in vitro fertilization process, then it should come as no surprise that there are fertility clinics now willing to pursue protocols that would allow parents to select for features such as eye and hair color as well as the gender of their children.

In an industry as competitive as the reproductive technology industry, it should also be no surprise if soon there are clinics around the world competing to attract consumers by allowing any and all choices regarding the desired features of parents' children to be attempted. As abhorrent as this scenario is to those of us who decry the destruction of embryonic human lives
for any reason, as well perhaps for those who claim that such embryo screening should be done only to avoid serious disease, it must be acknowledged that it is a logical extension of the current state of affairs in reproductive technology. This logic of individual choice as the premier value in reproductive technology raises serious challenges for the rest of health care, and pulls us all back towards the terrain of eugenic tragedy.

As we will see in the course of this conference, the characteristics that are chosen in eugenic programs as being either desirable or undesirable are often deeply imbued with cultural values. Characteristics such as gender, skin color, height, intelligence, body size and shape, and even projected lifespan are all valued more for social inclinations rather than biological merit—if there is any biological merit to such characteristics at all. Hence, the use of individual choice as the premier value in making purportedly medical decisions can, in fact, result in the undermining of any real physiological concern on the part of the health care professional. Since individual choices are usually significantly influenced by societal and cultural values, one can readily envision various eugenic selection programs tilting back and forth among a myriad of characteristics that continuously go in and out of fashion. One easily imagined future would involve pendulum-like swings between generations where having girls or boys goes in and out of fashion. Is this future one of “good births?” Is it even a healthy future overall for humankind?

This question concerning the future health of humankind is now intimately intertwined with the eugenic questions regarding reproductive technology. This situation is the result of a similarly rapid advance in general medical technology that parallels the rapid advances in reproductive technology. Soon we will be able to sequence each person’s entire genome accurately, quickly, and relatively inexpensively. Placing such information in national and international databases will allow for the generation of insights and connections between each individual’s biology and their health in ways only dreamed of before. This individual detailed information is at the basis of what is thought will be the next revolution in health care—personalized medicine.

Many healthcare experts now firmly believe that “personalized medicine” is the future of healthcare. What is meant by ‘personal’ is an understanding of the unique genetic and molecular aspects of each person’s physiology from the molecular biological levels to the levels of the individual’s interactions with one’s community and environment. With the many developments in medical technology and the vast amount of information that is now accessible because of rapid breakthroughs in obtaining knowledge of our genome, this personalization is becoming more of a reality each day. The possibilities for the healthcare of each person that emerge by having an understanding of each person’s unique biology are endless. Healthcare professionals will be able to predict whether a person will be susceptible to certain diseases by analysis of their genome, and then take preventative measures when susceptibility possibilities are high. Chemical markers for diseases will be spotted earlier than ever before allowing for rapid medical actions. Medications and dosages will be able to be produced and administrated
in a treatment plan designed specifically for each person. The goal of the United States Secretary for the Health and Human Services is to develop a state of the art and secure electronic health records system that will always be up to date and can be accessed universally so that no matter where you are, you can always get the personalized treatment that you need. [6]

The future of personalized medicine is incredibly complex and will extend beyond the medical and health areas to broader societal applications in business, consumer marketing, technology, governmental policy, education, economics, ethics, and also, religion. If the treatment of any given individual becomes so specialized that it is truly caring for the individual person, then the total person must be taken into account. Many questions become relevant when seeking to understand the total person. What are the environmental factors that influence this person? What nutritional factors are important and how should they be supplied by society? What does it mean for the person to be a thriving, flourishing, happy, and healthy human being? At this point, clearly, religious belief also becomes a vital aspect of this inquiry into the way the person lives, and moves, and has being.

These emerging more personalized concepts of what are “normal” and “healthy” and “good” for human beings radically change any attempts at generating superior human beings. How will proponents of eugenic programs, be they based on negative or positive selection, set clear population-wide standards for what is desirable and what is not when the health of each person is based more on each person’s individual characteristics? If individual choice instead becomes the standard, as in reproductive technology, then the concepts of health and normality become empty with no referent other than what one decides for oneself or one’s children at any given moment. Though this latter scenario may not fit the classic mold of government-run eugenics, it can readily be categorized as a more marketplace type eugenics with health as just one more commodity to be purchased again and again with each change in the health fashion season. It is easy to see how both these logical eugenic extremes end up destroying the very benefits personalized medicine is thought to bring. Therefore, the challenge before us is to bring to the world a more complex and nuanced understanding of human health and the human good that will allow the real benefits of personalized medicine to be made available to each and all while avoiding the eugenic-like tragedies of our past.

Ultimately, this understanding of health, and the related concepts of what is good for human beings, will need to be resolved within more comprehensive theories of human nature—traditionally constructed as philosophical and theological anthropologies. These anthropologies always rely, in part, on the scientific knowledge of a given time. The problem is that the use of philosophical or theological concepts based on dated or inaccurate biological information can undermine a solid analysis of the human condition. This problem arises because the contemporary scientific knowledge that makes genetic and genomic interventions
possible may challenge or contradict some ideas of what is normal or good for human beings found within a given worldview of human nature and the human good.

If a scientifically flawed anthropology is used as a basis for the ethical decision-making of human genetic or molecular interventions, the conclusions concerning what is to be considered as healthy for any given human being, as well as which medical interventions to try and which to avoid, may be at odds with the best scientific knowledge of the time. If in reaction, one attempts to carry out this ethical analysis solely on the basis of the “best” scientific knowledge of the time, then one’s ethical conclusions about the appropriate uses of medical technologies will still be flawed because one has not included the significant non-scientific components that are part of any given individual’s situation that greatly influence that individual’s health.

In response to this daunting challenge of bringing together science, philosophy, and theology, in some way that is applicable for all people, many opt for the position that people will just have to do this integration for themselves. Indeed, each competent adult should be given all the relevant information they need to make a decision, but in the end the decision is for each person to make AND, with little or no restrictions, whatever decision is made by the person is the correct one. Once again we have arrived at the tyranny of individual choice that in the end undermines the very benefits that are being pursued.

Hence, the type of philosophical and theological anthropology required to achieve the best understanding of what is healthy and good for any and all human beings is one that will integrate the new genetic information, and its subsequent technologies, into the complex concepts of health and human nature already at work in medicine and society. In one sense, such a project has always been at the heart of Christian reflection concerning the human condition, and it remains an important focus of reflection today.

Such anthropological investigation and reflection is a main focus of the STOQ project (Science, Theology and the Ontological Quest) being pursued by the Pontifical Council for Culture in conjunction with several Pontifical universities. As stated on the project’s website:

The goal of the STOQ project (Science, Theology and the Ontological Quest) is to build a philosophical bridge between science and theology in such a way as to make a real contribution to confronting the urgent concerns of our day. John Paul II spoke about the necessity of a new school; that is a renewed dialogue between the natural sciences, philosophy and theology. His successor, Benedict XVI, expresses the necessity of integrating reason and faith in such a way
that reason doesn't pretend to be absolute and thereby becoming a cause for oppression rather than freedom for humanity, and that faith doesn't succumb to superstition. [7]

Projects such as the STOQ will need to continue to engage the rapid advances in genetics, genomics, and biotechnology, in order to realize the promise of personalized medicine and avoid repeating the tragedies of the past—such as those that resulted from the misguided and misanthropic pursuits of eugenic agendas. Therefore, it is also the challenge and the promise of this meeting, and the continued good work of the Academy for Life, to help develop and promote an understanding of human health and the human good that will direct the use of our rapidly advancing technologies towards real benefits for each and every human being from the beginning until the end of their God-given lives.


After their announcement regarding this proposal in February, 2009, the Fertility Institutes suspended the pursuit of this program in March, 2009, due to the negative public response. See, http://www.fertility-docs.com/news_events.php?ID=23

See: http://www.hhs.gov/myhealthcare/

See: http://www.stoqnet.org/