

2010

Trans-Humanism

Center for Catholic Studies, Seton Hall University

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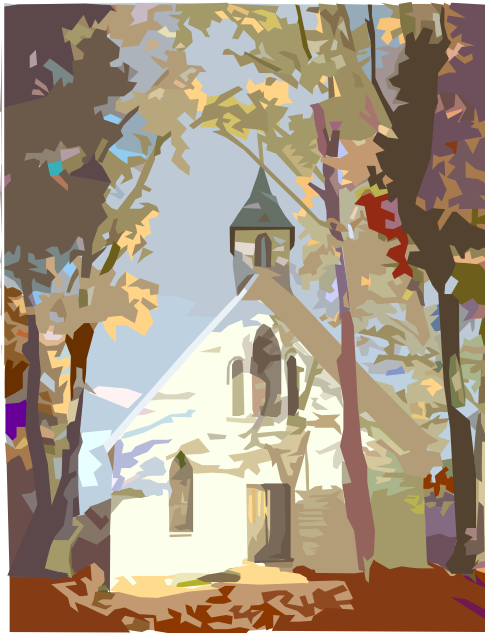
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Trans~Humanism



Faculty Seminar

August 2010

Center for Catholic Studies

Seton Hall University



CENTER FOR CATHOLIC STUDIES
SETON HALL UNIVERSITY

Faculty Seminars 2010 “Trans-Humanism”

Facilitators: Dr. Ilia Delio and John C. Haughey, S.J.

Thursday, August 26, 2010

10:00 AM — 3:00 PM

Regents Suite, Presidents Hall

This seminar will focus on what we are transitioning to as a result of new innovations in technology — bio, nano, neuro — as well as in new methods of communication. This seminar will have us collectively examine what it is we are aspiring to as individuals, as disciplines, as a university, as a species. Delio and Haughey are partners with other academics trying to create an environment that can welcome and discern where our aspirations and technologies are pushing us to go.

John C. Haughey's, S.J., recent book, *Where is Knowing Going? The Horizon of the Knowing Subject*, highlights the contribution faculty research makes to the Catholic intellectual tradition. He is a senior fellow of the Woodstock Theological Center at Georgetown University.

Dr. Ilia Delio has a doctorate in pharmacology and is a senior fellow at the Woodstock Theological Center at Georgetown University. She has written extensively on science and religion and was the winner of the 2000 Templeton Course Aware for Science and Religion. Her recent works include *Crucified Love* and *The Humility of God*.

Since 1998, the Faculty Seminars have provided the opportunity for faculty to reflect in depth on topics central to the purpose of learning and teaching at Seton Hall University. Participants will receive a stipend of \$100 for attending the seminar and writing a short response-paper from the viewpoint of their own discipline. Snacks and lunch will be provided. For more information, please contact Mrs. Francia Peterson at francia.peterson@shu.edu.

Open to all faculty, priority will be given to those who have not attended in the past.

This seminar is co-sponsored by the Center for Catholic Studies, the Center for Vocation and Servant Leadership and the Core Curriculum Committee.

TABLE OF CONTENTS

| | |
|--|----|
| Announcement | 2 |
| Table of Contents | 3 |
| Science and Religion: trans-humanism—where are we going? David Bossman | 4 |
| Lonergan and the Wolf Marian Glenn | 6 |
| Boltzman, Trans-humanism, and P.J. Maloy Joseph T. Maloy | 8 |
| Transhumanist Themes in Gary Shteyngart's <i>Super Sad Love Story</i> Frank Pasquale | 11 |
| Comments on Transhumanism Michael Vigorito | 14 |
| Transhumanism Seminar Response Debra Zinicola | 17 |

Science and Religion: trans-humanism – where are we going?

David Bossman

John Haughey (*Where Is Knowing Going?*, 2009), Woodstock Theological Center

- Lonergan's categories provided basis
- Entireties Anticipated: 12 Fragments of a Whole (where our disciplines are going)
- Now: losing footings for an understanding of what humanites/humans are about
 - ◊ Whole as task
 - ◊ Whole as identity
- Ambiguity in technology: each discipline revisits the question, "Can we arrive at something about our humanity, a common understanding of our humanity, that will make us more whole as humans and at one with nature?"
- Transhumanism: imaginary infinite
- New axial age as a result of science and technology

Ilia Delio OSF, Woodstock Theological Center

- Science, health care
- Heuristic term (trans-humanism): following Christ in a scientific age; technology and the human person today within the context of evolution
- Technology: domestic science, craft (as opposed to theoretical sciences) developed in monasteries to unfold the life of the spirit through matter
- Apocalyptic dimension: in preparation for the second coming
- Artificial intelligence: primary influence on culture today. Technology has become more of a craft, more of a defining element of where we're going
- Technology: inherently ambivalent – changing us (unknown) as well as enabling us
- Improve the human condition: pharmaceuticals, transplants, etc.
- New computer provides access to the new axial age: artificial intelligence, "thinking machine"
- Ray Kurtzweil (Age of Spiritual Machines – toward post-human technology) and Hans Moravec (don't worry about death – software of knowledge/intelligence can be preserved and passed on) see link between technology, trans-humanism, religion
- Daniel Previer: Artificial intelligence equivalent to resurrection and transcendence
- 20th century Platonism
- Naomi Goldberg
- Technology and ecology: tech points us toward post-biological world; competing myths
- Young people have a problem with these competing myths: connectivity and dis-connectivity
- Technology also organizes our daily lives: ordering, communicating, etc.
- Technology has Pelagian ring to it – evolutionary process
- Can distort our vision of the cosmic whole
- Technology and violence: studies on teenage boys, 96% are addicted to violent video games; god-role of killing and reshaping. Physiological change taking place.

- Teilhard de Chardin: Christian life in the light of evolution – thought far ahead but not central; unfolding process of consciousness itself -- convergence complexity, deepening of consciousness.
 - ◊ Evolving to the next level of humanity, convergence of humanity, deepening of the whole person, level from biogenesis to nous-genesis.
 - ◊ Human person is the arrow to the next level of humanity; not post-humanity but ultra humanity
 - ◊ Noosphere as a single reality with linking from the evolutionary cosmos
 - ◊ Ultra humanism: greater humanity, greater Soul
 - ◊ Coming to birth of the fullness of Christ – more being, deeper being (through technology)
- Technology in education can help move us through our unifying enterprise; use of technology, way it organizes our lives, can help us see our way through to a trans-humanistic agenda
- Where are we going in the universe itself?

Catholic intellectual tradition: taking the tradition to where it has not yet gone.

How do we deal with the reality of competing myths among peoples of the world? What is a myth and how do myths factor into human understanding of reality? Is the human person changed depending on one's own myth?

Lonergan and the Wolf

Marian Glenn

I've been reading an account of the re-introduction of wolves into Yellowstone Park 15 years ago. The last wolf in the park had been intentionally shot in 1926. Medieval images of the wolf as the devil's dog – they were burned at the stake — modern images of the big, bad wolf in the little golden book, the wolf in sheep's clothing (or Grandma's), the werewolf, the wolfman and accounts of wolves killing innocent lambs, sustained the image of the wolf as an evil "other." Scientific management policy supported common sense and traditional narratives about the good aim of extermination of a predator. By contrast I recalled our visit to Rome, and images of Romulus and Remus being suckled by their wolf mother. The seminar got me thinking about how technology has enabled the re-introduction of wolves to Yellowstone and how technology is being used to forge a loving connection between people and these wild creatures, leading to a deeper experience of the goodness, the wholeness, of the world.

Aldo Leopold writes, in his classic essay, *The Land Ethic*, "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." Leopold, as a wildlife biologist employed by the US Forest Service, participated in the nation-wide campaign to exterminate the wolf. Later, in his essay, *Thinking like a Mountain*, he reflected back on how his understanding changed, triggered by an eye-to-eye communication, that he recognized as the beginning of a new scientific perspective. His transformation as an individual transformed government policy, and is leading to a deeper understanding of the wholeness of the biosphere. Societal values are changing as people reflect more deeply on humanity's relationship with the wild.

We saw what we thought was a doe fording the torrent, her breast awash in white water. When she climbed the bank toward us and shook out her tail, we realized our error: it was a wolf. A half-dozen others, evidently grown pups, sprang from the willows and all joined in a welcoming melee of wagging tails and playful maulings. ...In those days we had never heard of passing up a chance to kill a wolf. In a second we were pumping lead into the pack ... When our rifles were empty, the old wolf was down...We reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then, and have known ever since, that there was something new to me in those eyes - something known only to her and to the mountain. I was young then, and full of trigger-itch; I thought that because fewer wolves meant more deer, that no wolves would mean hunters' paradise. But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view.

Since then I have lived to see state after state extirpate its wolves. I have watched the face of many a newly wolfless mountain, and have seen the south-facing slopes wrinkle with a maze of new deer trails. I have seen every edible bush and seedling browsed, first to anemic desuetude, and then to death. Such a mountain looks as

if someone had given God a new pair of pruning shears, and forbidden Him all other exercise. (<http://www.eco-action.org/dt/thinking.html>)

When Ilia mentioned the Franciscans, I recalled the miracle of Saint Francis persuading the wolf to quit menacing Gubbio in return for being fed. Apparently, Saint Francis recognized the cognitive potential of the wolf. In our day, technology – radio collars and airplane surveillance -- provides a means to develop scientifically-validated management protocols to mediate between the wolves and the domestic livestock that live contiguously in the greater Yellowstone ecosystem. The Yellowstone book chronicles the changes in attitude toward the wolf among Canadian trappers, as they were persuaded to join the project and procure the wolves, among sheep and cattle ranchers, whose cooperation, or at least toleration, was essential politically, and among the public, who come from around the world to watch wild wolves through binoculars.

The book's portraits of individual wolves, their behavior toward each other and their varied attitudes toward humans, demonstrate a highly evolved cognitive system in these beasts. And those in charge of managing them are awed by their creative unpredictability. They document wolves' intelligence, infer that they make judgments, and that they act responsibly, within the cognitive parameters of their species. Technology has brought the "other" out of the shadows, and provided a means for people to reach across a species boundary and explore an area of mystery that has traditionally been shunned as "evil." It provides an opportunity to study the cognition of a highly social species, whose domesticated branch has co-evolved with humanity for eons. The scientific study of wolves in the wild is an important corrective to folk "wisdom" about wolves, redeeming the evil twin of man's best friend. Wolves, living out their lives in the wild, add an essential part to the wholeness of the Yellowstone ecosystem. People, watching wolves in the wild, come to appreciate this goodness.

1 Douglas W. Smith and Gary Ferguson, *Decade of the Wolf: Returning the Wild to Yellowstone*. (Guilford CT) Lyons Press, 2005.

2 Aldo Leopold, The Land Ethic, in *The Sand County Almanac*, 1948. <http://home.btconnect.com/tipiglen/landethic.html>

3 Aldo Leopold, Thinking Like a Mountain, in *The Sand County Almanac*, 1948.

Boltzmann, Trans-Humanism, and P.J. Maloy

Joseph T. Maloy

I have always enjoyed the Seton Hall seminars conducted by Father John Haughey, and the one on Trans-Humanism, which he held with Ilia Delio on August 26, 2010 was no exception to this rule. Father Haughey's lectures are always informative to me - I routinely pick up two or three new words for my failing vocabulary - and his treatment of the topic always gives me immediate information as well as food for subsequent thought. When I have had some prior experience with the topic, I am able to contribute to the discussion that always ensues. As for Trans-Humanism, however, I knew nothing about this before the seminar, so I was only able to listen and to jot down a few terms for some web-based research after the seminar concluded. (I have always thought it best to remain silent and thought of as a fool, rather than speaking up and proving it.) I have now conducted this internet research and I have confirmed the suspicions that I formed during the seminar: many of the tenets of Trans-Humanism appear to violate the Second Law of Thermodynamics.

Consider the following descriptions of Trans-Humanism that Anders Sandberg provides on his popular web site (<http://www.aleph.se/Trans/>):

Trans-Humanism provides "Practical methods and visions of transforming ourselves, achieving longevity or immortality, conquering death and disease, amplifying our intelligence and minds and extending our bodies." Specifically these methods and visions include:

- 1) Transforming ourselves: "The stated goal of Trans-Humanists is to remove all removable limitations, mental, social, biological and physical from ourselves."
- 2) Achieving longevity or immortality: "One of the most important tasks of Trans-Humanism is the pursuit of Life Extension and eventual immortality, since aging and death represents are two of the most immediate hindrances for total self-transformation and personal freedom."
- 3) Conquering death and disease: "While most Trans-Humanists are quite convinced that life extension will be possible, most agree that it will take several years (or decades/centuries) before immortality becomes practical. ... One answer to this problem is cryonics, or rather cryonic suspension; the technique of freezing the body to so low temperatures that it does not decay significantly."
- 4) Amplifying our intelligence and minds: "One of the most promising Trans-Humanist goals is to increase the mental abilities of humans to new levels. This can be done using various cognition enhancing drugs (nootropics). Nootropic drugs are ... still controversial. The main question is whether there exists drugs which enhance cognition beyond the normal level in healthy people, preferably with little side-effects."

- 5) Extending our bodies: "The tools for physical change are manifold ... plain diet and exercise work quite well, while various therapies, surgery, genetic engineering and bionics are necessary for the more radical changes [including] morphological freedom, the ability to alter bodily form at will through technologies such as surgery, and genetic engineering."

Having thus confirmed that I heard what I thought I heard about Trans-Humanism the first time through, I reconsidered the note that I made the day of the seminar: "WWBT?" What would Boltzmann think about this? A little more internet research has convinced me that I was on to something when I thought of Boltzmann during Haughey's talk.

Ludwig Boltzmann (1844-1906) is one of my favorite physical scientists. I first became truly aware of his contributions during my second year physical chemistry graduate course on statistical mechanics (also known as statistical thermodynamics), a field of inquiry that Boltzmann originally developed. The quantitative methods used in statistical mechanics allow one to compute macroscopic properties of matter such as internal energy, free energy, and entropy from microscopic properties such as the kinetic energies of individual molecules. Boltzmann showed us that the same thermodynamic relationships that had been known to govern steam engines for nearly a hundred years also applied to chemical reactions: only part of the enthalpy (total heat) that is released in an exothermic chemical process can be freed to do mechanical work; what remains of that enthalpy can only go to increase the randomness (the entropy) of the universe.

Boltzmann's work, therefore, gives us an economical expression of the Second Law of Thermodynamics: *the entropy of the universe (system and surroundings) increases in the course of any spontaneous chemical reaction*. Thus, a process that occurs spontaneously increases the disorder in the universe, and once this disorder occurs, it cannot - like Humpty Dumpty - be put back together again. (Well, it can, but only at the expenditure of additional energy. Your refrigerator re-orders the refrigerant to a lower entropy state, but only by expending energy to pump away the palpable heat. The energy to drive this heat pump is supplied by a distant power station that uses a spontaneous chemical reaction that makes its own contribution to the entropy of the universe.)

The universe as we know it, then, spontaneously grows more random every day, and there is nothing we can do about it. Boltzmann was one of the first human beings to realize this - after all, it was his research that first presented the Second Law in this fashion - and some historians of science feel that this understanding contributed to the despondency that drove him to commit suicide in 1906.

Turning back to Trans-Humanism we can readily see that the stated goals of this movement are to retard or reverse chemical processes that occur spontaneously. This appears to me to be a violation of the Second Law, and since I believe in the Laws of Thermodynamics, I hold out no hope that the goals of Tran-Humanism will ever be achieved. I think that some of the Trans-Humanists must also be aware of this little problem. A bit

more internet research took me to the site of Max More (<http://www.extropy.org/principles.htm>) who has established the Extropy Institute, a *bona fide* 501 (c)(3) non-profit Educational Organization founded in 1991, in case you wish to make a contribution.

That's right: extropy, not entropy. What is extropy? By definition of the institute it is "The extent of a living or organizational system's intelligence, functional order, vitality, and capacity and drive for improvement." Thus, "extropy expresses a metaphor, rather than serving as a technical term, and so is not simply the opposite of entropy, although it is also considered the appropriate antonym." Moreover, "extropy is an essential element of Trans-Humanism."

Well, there you have it. Extropy, while not being the opposite of entropy, is its antonym and an essential element of Trans-Humanism. Let me tell you, the opposite of entropy (disorder) is order, and there is nothing orderly in "The extent of a living or organizational system's intelligence, functional order, vitality, and capacity and drive for improvement." Seldom has a more disorderly thought ever been expressed in correctly spelled words.

Above my desk, hanging on the wall as I write this, is a wooden plaque that once belonged to my grandfather, P.J. Maloy. I never met my grandfather, but I sense that he was the kind of visionary that would have made the Trans-Humanists proud. At the turn of the last century he had the foresight to open a hotel, bar, and restaurant right next to the train station in our hometown. It took only twenty years for the development of the American highway system and Prohibition to make his dream a reality. Nevertheless, he escaped with the plaque that once was over his desk and now is over mine. On it appear these words:

As a rule a man's a fool When
it's hot he wants it cool; When
it's cool he wants it hot Al-
ways wanting what is not.

Somehow, I think these words should bring comfort to Trans-Humanists everywhere.

Trans-humanist Themes in Gary Shteyngart's *Super Sad True Love Story*

Response paper for Trans-humanism Seminar

Frank Pasquale

First, I'll note that the seminar was an excellent introduction to theological perspectives on trans-humanism. As a legal scholar, I have mainly focused on secular critiques of trans-humanism (such as Sandel's, Habermas's, etc.). But over time I am convinced that these approaches are all indebted to religious, and more specifically Catholic incarnational, approaches, as Alasdair MacIntyre and Charles Taylor have suggested (in *Three Rival Concepts of Moral Inquiry* and *A Catholic Modernity?*, respectively). The problem for me is to figure out how to translate the agenda of Catholic social thought into terms that can be accepted by my overwhelmingly secular colleagues in the health and IP law communities. Even to raise the questions posed by trans-humanism—such as the quest for immortality, the total malleability of emotional life, and the enframing of all creation as a mechanism to be adjusted and manipulated at will—is a challenge. For example, I ran a reading group at Yale Law School called “Foundations of Interpretation” to explore these questions, and only two students signed up—one German, the other Quebecois.

One of the few routes to conversations on these topics is literature, as Leon Kass realized when he opened the Bush-films-era Presidential Bioethics Council with a discussion of a Hawthorne allegory about the perils of overreaching medicine. There is a distinguished line of speculative fiction in this realm, ranging from Olaf Stapledon's *Last and First Men* to Aldous Huxley's *Brave New World* to Margaret Atwood's *Oryx and Crake*. I would nominate Gary Shteyngart's *Super Sad True Love Story* as the most recent addition to this distinguished lineage. The book's protagonist (Lenny) works for a division of a multinational corporation that promises a “dechronification procedure” to wealthy people in search of immortality. (Shteyngart directly based this company on the aspirations of Aubrey De Grey and Ray Kurzweil.) While many have written fiction based on this sort of promise (Thomas Nagel catalogs such works in *The Makropolis Case: Reflections on the Tedium of Immortality*), Shteyngart transcends the sci-fi genre by painting a convincing sociological and economic picture of the country that would create such a company. As one reviewer puts it:

[The America] of the novel is run as a kind of war zone by the “Bipartisan” secretary of state. . . who has installed the youthful Jimmy Cortez as a puppet president. The state of emergency is permanent, tanks are all over the place, and in a particularly brilliant invention, people are required to deny the existence of all the weaponry they see and to consent formally to the act of denial they have just performed. The only thing that keeps people really happy is their credit rating, if they have one that's high enough. Scores are publicly available on screens posted on every street and can always be checked on the devices everyone carries, instruments that work like iPhones designed for Orwell, providing instant background checks on anyone you might like to know, along with helpful ratings like that of your perceived desirability for sex or anything else as compared to other members of the group you're

in. The area that used to house the Security Council is now the U.N.R.C. (United Nations Retail Corridor), a mammoth cross between a mall and a North African bazaar. A euro costs you nearly \$9, and by the end of the novel this America, with all its “loud, dying wealth” and its quiet and ubiquitous poverty, has been taken over by a combination of Chinese and Norwegian business interests.

The “credit score” conceit is particularly brilliant because it carries over pervasively from the banking sphere to realms of employment, intimacy, and socializing. Lenny’s employer publicly posts his workers’ cholesterol levels, pulse, cortisol levels, and computer-assessed state of well-being. Individuals are consumed by mimetic desire, constantly measuring themselves against one another on various “scores.” In a particularly mordant perversion of language that would amuse the authors of *Habits of the Heart*, groups at bars can “form a community” by setting their gadgets to assess and rank each person on dimensions of “personality,” “credit worthiness,” and other indicia of desirability and power. Moreover, as traditional media has died, individuals only get news of the world from amateur entrepreneurs and Facebook feeds—they have virtually no lifeworld in common.

Shteyngart knows that democracy cannot persist amidst such chaotic and self-seeking individualism. Unlike the film *Gattaca*, where extant social structures somehow persist in the wake of massive changes in enhancement technology, SSTLS describes a world where relatively small changes in self-concept, media, and aspiration in an elite can fundamentally destabilize society. In this “bad decoupling” scenario, a powerful transnational elite’s fate is unmoored from that of an increasing percentage of “disposable people.” The elite’s trans-humanist visions result in subhuman disorder for an ever-larger mass. As Gabriel Marcel warned in *Man Against Mass Society*, the worship of technology has effectively converted an elite to objectify itself (as the self becomes “software” animating an endlessly updated body of “hardware”) and those around it.

As I said of *Brave New World* in my 2002 article discussing the tiering of access to health care, we don’t need fiction to imagine this scenario—we can see it, in embryo, around us. I remember reading Michael Lind’s book *The Next American Nation* as a relatively positive outlook and vision; he’s now outlining the “bad decoupling” scenario in almost despairing tones in a recent Salon essay on offshoring:

The richest few don’t need the rest of us as markets, soldiers or police anymore. . . .The offshoring of industrial production means that many American investors and corporate managers no longer need an American workforce in order to prosper. They can enjoy their stream of profits from factories in China while shutting down factories in the U.S. And if Chinese workers have the impertinence to demand higher wages, American corporations can find low-wage labor in other countries.

[M]any of the highest-paid individuals on Wall Street have grown rich through activities that have little or no connection with the American economy. They can flourish even if the U.S. declines, as long as they can tap into growth in other regions of the world.

Lind's ideas would not be as provocative as they sound if we had better ways of measuring economic productivity and well-being. But measures as crude as "GDP" (in conjunction with ever-widening income and wealth gaps) accelerate our progress toward Shteyngart's dystopia.

Blaise Pascal once said that "Man is neither angel nor beast; and the misfortune is that he who would act the angel acts the beast." The trans-humanist substitution of technologically derived "negative immortality" for the "positive immortality" of conformity of one's life to a recognizably permanent template of virtue is a particularly desiccated Pelagianism. So depleted are ideals in our "present age" that Shteyngart's work projects an imagined world all-too-recognizable to those who understand current trends in politics, medicine, and commerce. The first step toward stopping such a human devolution is getting people to understand where we are heading. That is the great contribution of dystopian literature, and the central reason Shteyngart's book has been so celebrated an intervention.

Comments on Transhumanism

Michael Vigorito

I am quite comfortable with trans-humanism as an intellectual and cultural idea when it is defined as enhancement of human mental and behavioral characteristics through the use of science and technology. But some trans-humanistic thinkers go beyond mere enhancement suggesting that trans-humanism may result in radical change or transformation thereby leading to a “post-human”. It is when trans-humanism is connected to the concept of the “post- human” that I find it to be intellectually lacking. The problem is not with the vision of a transformed future humanity. The problem is with the placing of trans-humanism within the broader context of biological evolution. Post-human suggest a “Scala naturae” - an old but inaccurate metaphor of biological evolution. From a scientific perspective evolution by natural selection is a mechanical process (as opposed to a teleological one) that does not know “for better or for worse”. Natural selection operates on a simple *if-then rule* that generates a magnificent diversity of life:

If [you survive in your local environment to a mature age] **Then** [have offspring that are like, but not identical, to you]

From this simple rule emerges complexity. But natural selection does not demand that change take place. Regardless of an organisms complexity, satisfying this simple if-then rule can result in either *continuity* (i.e., the absence of additional change) when the local environment remains un-changing or *evolution* when the local environment is ever-changing.

What bothers me most about trans-humanism as “post-humanism” and its suggestion of evolution as a “Scala naturae” is the idea that there is a “pinnacle of evolution”. From this perspective more defining ideas that emerge from trans-humanism, such as the AI concept of “singularity” threatens. A machine better than our embodied selves—oh my! But evolution is about diversity and complexity - not about a race to superiority. Even if one concedes that intelligence, for example, is merely routine calculation, there is more to us than speed and capacity of our computational abilities. Labeling this moreness with the word “soul” would be fine except that the word brings with it excessive and scientifically incompatible philosophical baggage. Nevertheless, I do not see a machine or future trans-human with greater computational power than modern humans as better; but I do see them as different.

There is little doubt that our human complexity is tied to the very expansive “local environment” that we have ventured into. Natural selection suggests that this transformational expansion was a gradual one rather than as a result of a sudden event such as that implied by the story of the technological debacle of tower building at Babel:

And the Lord came down to see the city and the tower, which the children built. And the Lord said, Behold, the people are one, and they have all one language; and this they begin to do; and now nothing will be restrained from them, which they have imagined to do. Go to, let us go down, and there confound their language, that they may not understand one another's speech. So the Lord scattered them abroad from thence upon the face of all the earth: and they left off to build the city. Genesis 11:1-9 (KJV)

Nevertheless, the idea of trans-humanism does appear to enhance the lingering fear that our technological creations will occasionally get us into trouble with God. For me this fear is lessened by reminding myself that humans are created in the image of God - - as such only we among all of the animals can reflect on ourselves and the environment and participate in the creative process. Placing the role of creation solely in the hands of God suggests that we are a finished product and that as the created all we should do is to resist change as we obediently wait for an ultimate future to come. The gift of creating, however, means that humans are ever-changing and that humans are empowered to contribute to their own change.

If humans are always changing as a result of this gift of creation then does this mean that we are currently unfinished? From a scientific perspective this is not a useful question because it is not testable and because natural selection - science's best explanation for biological change - is not teleological. But as suggested by John Haught, having faith that the evolution of the universe (and the life within it) is not yet finished need not interfere with what science tells us about natural selection and the other truths about nature.

Now faith is the assurance of things hoped for, the conviction of things not seen - Hebrews 11:1 (ESV)

A scientific understanding of nature works whether a faith in an ultimate future is superimposed upon it or whether it is left out. Whether or not science and faith are incorporated into one's life depends on the needs and hopes of the individual.

Trans-humanism's emphasis on disability, disease, and aging as undesirable and unnecessary aspects of the human condition suggests that through technological change humans can improve by overcoming biological limitations. Although human change through technology may impact on the if-then rule of natural selection (and therefore on our biological evolution) when applied to still maturing individuals, change in the post-reproductive human does not follow the if-then rule of natural selection. This is another reason why trans-humanism should not place emphasis on the evolutionary perspective but instead on how we can develop physical and mental technologies to get through life fully so that we can experience personal growth and celebrate all that is good in the natural world.

Notwithstanding our resemblance to God as creators, it also helps to remind ourselves of our legacy of the fall of Adam and Eve - with knowledge and choice come the experience of both good and evil. Despite our good intentions science and technology is influenced by the "law of unintended consequences." Although human transformation through technological (and cultural) change may proceed largely independent of natural selection, it is still constrained by our biological legacy. Technologies would not be developed and adopted if they were not attuned to the characteristics of at least some members of the human population. For example, the printed word is a human technological invention that changed the demands placed on our cognitive capacities. The technologies for creating the printed word would not have developed if at least some humans did not already possess the neural plasticity needed for learning how to read. Like the force of natural selection, therefore, the creative force of technology does not create from scratch, but tinkers with what is already there. Although the human invention of reading has transformed the human condition by enriching and improving our lives immensely, it has also created a disorder among a smaller section of the population. Dyslexia and related attention deficit disorders appear to be inventions of human technology. This is because of our differences. The normal curve that accurately describes many of our individual differences exists partly because of the constraints of our biological legacy -- we have offspring that are like, but not identical to us.

Technological change will invariably affect people differently. I suppose that a transhumanist might argue that genetic and behavioral technologies can be used to minimize individual differences so that we are all more alike. But I find this somewhat disconcerting. Human diversity is one of the attributes of humankind that we celebrate. Moreover, variation is key for the survival of life when local environments change. The biological evolution of a species through natural selection cannot work without variation among its population.

Trans-humanism Seminar Response

Debra Zinicola

What does it mean to be a human person? What are the goals for which we strive as humans? This question has plagued my mind before. Why do we struggle so to extend the years we spend in our earthly, bodily lives? One has only to look at the products the health and cosmetic industry promotes from anti-aging creams and performance pills to cosmetic surgery and supplements to know that living longer, rather than better, is often the desired goal. How much of what is presented to us in the media and through computer and smart phone technology occupies our waking hours? Yet, can we avoid some of these vain pursuits and seek Truth in our lives without having to live as monks in a monastery or become hermits on a hill?

While I seem to have more questions than answers, I think back to a man I met at a workshop over a lunch table in 2008. During our conversation, he told me that he stopped reading the newspaper, magazines, listening to the radio, watching television, including the news, over the last five years. He did not own a computer and did not want one. I asked him how he knew what is going on in the world, and he said that if there was something he really needed to know, he would find out somehow. The reason he gave for disconnecting from technology and media was “distraction.” He believed that people create these distractions to keep themselves from thinking about God, about Truth, and about ourselves and our place, our purpose and our relationship to the world. I do not remember much about the workshop I had attended, but I do remember my conversation with this gentleman. I agree that much of what we do each day is about creating distractions or diversions, and I am no stranger to this practice. While I do not watch television, I am in front of the computer too often each day. I am one of those people we talked about at the Transhumanism Seminar who would rather email someone than speak on the phone or in person. I’d rather receive emails than phone calls. I’d rather type than talk. The more time I spend on the computer, the further I distance myself from my fellow human beings.

I have not abandoned my search for Truth, yet I feel as a university professor, I must stay connected to the world in ways that the world seems to be working – via the media and computer technology. I have, however, limited my hours on the computer. I am concerned, however, for the youth, as a parent and teacher. Our young people are more wired than ever before, so much so that I wonder if they can conceive of a life without such devices as laptops, smart phones, video games or DVD’s. With so much going on to take their attention, will they make time to pursue questions that will lead them to develop the spiritual side of their nature – the most important part of their being? How much time will they give to contemplating God or Truth with the perpetual noise and blast of visual stimuli hitting them from all directions? I know for me, it is only in the silence, even the loneliness, that spiritual matters come to light, and I remain in that uncomfortable silence and stillness by choice. It would be easier to fill those voids with music, movies, commercials, online shopping, and email, but what is the point of living our lives at all if such activities comprise all of our free time? I fear then, that we are going nowhere.

Other thoughts provoked by the Trans-humanism Seminar are about integrating science and faith. Does science bring us closer or take us farther away from God? The more I learn about how the world works scientifically, the more miraculous it is to me. Niel Bohrs stated that those who are not amazed by quantum mechanics do not understand it. I tend to think that when we do discover or begin to understand the inner workings of an occurrence in nature, only then can we separate it from magic and mystery and develop appreciation. If we are not awestruck by the miracle of life and the numerous manifestations of ingenious design in nature, then we are not paying attention. I have been at conferences in my field where biology professors have told me that some students will walk out of their classrooms if they start teaching about evolution. Why would they not just listen? Why do many of us shut doors to learning science because of religious beliefs and vice-versa? As a teacher and avid learner of science, I am often contemplate the chasm between science and religion and wonder if the two will discover one day, that they are really one. I believe they are and hope that we will integrate the separate disciplines that deal with the human person and arrive at a singular Truth.