

## Upwingers, Extropians and Transhumanists

*Transhumanism, the idea of using reason to transcend the limitations of the human condition, has ancient roots. On the one hand, religious traditions have long offered ways to push back the bounds of sickness, aging and death, and achieve superhuman powers and states of mind. Millennial traditions promise a radically improved world. In transhumanism these religious aspirations have merged with humanism, rationalism, science and democracy. In the early 1990s, however, one particular brand of transhumanism mixed with Southern Californian anarcho-capitalism and became "extropianism." Although extropianism spread rapidly with the Internet, by the late 1990s transhumanism was returning to a broader, more inclusive form in the World Transhumanist Association, reembracing its democratic and humanist roots.*

### THE HISTORICAL ANTECEDENTS OF TRANSHUMANISM

*I tell you, as long as I can conceive something better than myself I cannot be easy unless I am striving to bring it into existence or clearing the way for it. This is the law of my life. That is the working within me of Life's incessant aspiration to higher organization, wider, deeper, intense self-consciousness and clearer self-understanding.*

—GEORGE BERNARD SHAW,  
*Man and Superman*

Transhumanism is the idea that humans can use reason to transcend the limitations of the human condition. This idea has ancient roots. On the one hand, the transcendent religious traditions show that the desire to transcend sickness, aging, suffering and death is one of the most fundamental aspirations of human culture. The oldest written story of human culture, the Sumerian Epic of Gilgamesh, is about a king attempting to achieve physical immortality. Most religions offer healing, an afterlife or immortality, altered states of consciousness and a variety of superpowers—levitation, astral projection or psychic powers—to those adept at their disciplines. Many religions also promise a coming millennial paradise in which human existence will be incomparably superior.

On the other hand, reason, technology and the scientific method have been slowly extending the human competitive advantage since the invention of speech and stone tools. Rationalist humanism can be found in the earliest recorded schools of philosophy in Europe and Asia. Socrates and the sophists proposed that all human affairs were open to critical thinking, from metaphysics and ethics to the arrangement of society. The fourth-century B.C. philosopher Democritus proposed that the world known through the senses is all there is and that the world works without any prior plan. Confucius proposed codes of conduct to guide society without any referent to gods. Schools of Indian philosophy 2,500 years ago proposed that there was no afterlife and no gods, and that humans had to rely on their own reason, reflection and meditation to understand the world and be happy. The Buddhist tradition argued that each human being could achieve a superhuman state, superior to that accessible to even the gods, solely through individual human effort.

Although we think of the Dark Ages as anti-science, David Noble recounts in *The Religion of Technology* that medieval European monks developed a tradition of technology as a sacred vocation. Noble says that the Joachimite Franciscans, for instance, preached that perfecting the “useful arts” was “an approximate anticipation of, an apocalyptic sign of, and a practical preparation for the prophesied restoration of perfection.” Isolated philosopher-scientists, such as the thirteenth-century Roger

Bacon, conducted experiments and kept alive the pursuit of knowledge of how things worked.

In the fourteenth and fifteenth centuries a group emerged in Europe who called themselves “the humanists.” They were practicing Catholics who believed that human beings were such special creations of God that to celebrate human beings, their powers and creations was the best way to celebrate God. They condemned the theology of original sin and argued that humans should become more like God. In Italian humanist philosopher Pico della Mirandola’s 1486 *Oration on the Dignity of Man*, God speaks to man saying, “to you is granted the power, contained in your intellect and judgment, to be reborn into the higher forms, the divine.”

The European Renaissance and Enlightenment, from the sixteenth to eighteenth centuries, went on to forge humanism as we now know it. Renaissance humanists encouraged human beings to rely on empirical observations, reason and the scientific method, rather than religious tradition and authority. Francis Bacon’s 1620 *Novum Organum* argued for the use of the scientific method to achieve a human mastery over “all things possible.” Eighteenth- and nineteenth-century rationalists and free-thinkers proposed that human beings were the measure of all things. Religious humanists like Thomas Jefferson were central to the liberal democratic revolutions, creating societies that rejected divinely sanctioned rule for free association with civil liberty and separation of church and state. The French Revolution and the nineteenth-century workers movement embraced even more militantly these secular values.

The eighteenth and nineteenth centuries also saw a flowering of scientific medicine and proposals for technological means to overcome death. From Ben Franklin’s wish that he could be pickled in a flask of wine and revived in a century to the immortalist speculations of Condorcet and William Godwin, democratic rationalists began to argue that social, scientific and economic progress might make possible radical life extension. Darwin’s theory of evolution opened the possibility that the current condition of human beings was only a temporary stop between a prior lower and future more advanced state.

## TRANSHUMANISM IN THE EARLY TWENTIETH CENTURY

The first direct intellectual precursors of transhumanism appeared in 1923 with J. B. S. Haldane's "Daedalus, Science and the Future," which proposed extrauterine gestation and genetic enhancement, and in 1929 with the Irish physicist J. D. Bernal's "The World, the Flesh and the Devil," which suggested bionic implants. Biofuturism then began spreading from Britain to the United States. In 1935, the socialist Nobel laureate biologist Herman J. Muller published *Out of the Night: A Biologist's View of the Future*, in which he predicted that humanity would soon "by aid of its ever growing intelligence and cooperation, shape itself into an increasingly sublime creation—a being beside which the mythical divinities of the past will seem more and more ridiculous, and which setting its own marvelous inner powers against the brute Goliath of the suns and the planets, challenges them to contest." Muller was also a militant opponent of racial eugenics like his contemporaries Haldane and Julian Huxley, and proposed instead that parents be able to enhance the well-being of their children through voluntary "germinal choice" (especially by availing themselves of the sperm of Nobel Prize winners like himself, but there weren't many technological alternatives at the time).

It was apparently Haldane's friend Julian Huxley, Aldous Huxley's brother, whose reflections on biofuturism led to the first use of the phrase "transhumanism." Julian Huxley argued that human beings could and should throw off the shackles of dogma and use cultural and biological means to evolve further. In his 1927 book on humanism, *Religion Without Revelation*, he wrote: "The human species can, if it wishes, transcend itself—not just sporadically, an individual here in one way, an individual there in another way, but in its entirety, as humanity. We need a name for this new belief. Perhaps *transhumanism* will serve: man remaining man, but transcending himself, by realizing new possibilities of and for his human nature."

From the 1920s to the present, speculative fiction also played an increasingly important role in stimulating biofuturist thinking by portraying

both utopian and dystopian visions of human and robotic evolution. H. G. Wells and Olaf Stapledon proposed far future scenarios in which human beings subspeciated into many different forms. A science fiction subculture around the world began to grow with generally optimistic assumptions about the future, science and technology.

Secular and religious humanism also became increasingly organized and visible in the early twentieth century. *The Humanist Manifesto* was published in the United States in 1933, asserting that humanism sees "the complete realization of human personality to be the end of man's life and seeks its development and fulfillment in the here and now." Therefore humanists should "foster the creative in man and to encourage achievements that add to the satisfactions of life."

## TRANSHUMANISM AFTER WORLD WAR TWO

*Who are the new revolutionaries of our times? They are the geneticists, biologists, physicists, cryonologists, biotechnologists, nuclear scientists, cosmologists, astrophysicists, radio astronomers, cosmonauts, social scientists, youth corps volunteers, internationalists, humanists, science-fiction writers, normative thinkers, inventors. . . . They and others are revolutionizing the human condition in a fundamental way. Their achievements and goals go far beyond the most radical ideologies of the Old Order.*

—FM-2030, *Optimism One*

Transhumanist themes exploded in speculative fiction after World War Two, exploring cloning, genetic engineering, artificial intelligence and the uplifting of animals. Starting in the early 1940s, Robert Heinlein explored the idea of a hidden subculture of people who have achieved extreme longevity through germinal choice in his Lazarus Long series. In his 1946 novel *Slan*, A. E. Vogt portrayed a future where humans violently suppress posthuman mutants. Isaac Asimov portrayed the idea of a self-aware android covertly achieving legal parity with humans in his 1950 *I, Robot*. Arthur C. Clarke pointed to the possibility of posthuman

evolution in his 1953 *Childhood's End*. Even stories of human/non-human conflicts were generally optimistic that all intelligent beings could find some way to peacefully coexist, as in *Star Trek's* Federation of Planets. In Polish writer Stanislaw Lem's 1967 *Cyberiad*, robots have long since replaced human beings.

All of these themes were also springing up outside of fiction, in social movements, medicine and computer science, feeding back into speculative fiction. In 1960, Clynes and Kline propose cyborgs to NASA. One of the goals of the program was to give ground control some way to intervene in case the isolation of space made astronauts mentally unstable. Ten years later Fred Pohl wrote *ManPlus* in which a human being is adapted to live naked on the surface of Mars, and finds he is happier as a posthuman.

As I described in Chapter 3, the cryonics movement was founded in 1962 with the publication of Robert Ettinger's *The Prospect of Immortality*, leading immediately to the founding of cryonics organizations. In 1972, Ettinger wrote *Man into Superman*, in which he made clear that the cryonics agenda was far bigger than simply getting frozen, woken and repaired when technology improves. Sex changes, re-designed digestive tracts and adaptations for extreme climates would all allow humans to transcend the limitations of the human form and a transition to "transhumanity."

In his 1968 *Toward a Psychology of Being*, transpersonal psychologist and theorist of the "peak experience" Abraham Maslow predicted the emergence of a "transhuman" psychology "centered on the cosmos" that would help human beings to become godlike. The counterculture embraced the idea that individuals could use the technology of psychedelic drugs to engineer themselves into more intelligent, integrated personalities. Although Aldous Huxley had condemned the use of the drug soma in *Brave New World* as tool of oppression, his advocacy of psychedelic liberation in the *Doors of Perception* won him a new audience with the counterculture. "Better living through chemistry" was the slogan, and when the era of psychedelics gave way to cocaine and heroin addic-

tion in the 1980s, the bio-utopians began experimenting with biofeedback machines and drugs for memory and intelligence enhancement.

It was while teaching at the New School for Social Research in 1966 that the Iranian-American futurist F. M. Esfandiary first used the term "transhumanism." Like Ettinger, Esfandiary, who later changed his name to FM-2030, used the term "transhuman" to refer to people whose lifestyles, cultural worldviews and use of technology made them transitional to posthumanity. In his 1989 book *Are You Transhuman?*, FM-2030 says transhumans "are the earliest manifestations of new evolutionary beings. They are like those earliest hominids who many millions of years ago came down from the trees and began to look around. . . . Many of them are not even aware of their bridging role in evolution."

It is ironic that FM-2030 became an icon for the 1990s libertarian strand of transhumanism since he was so clearly rooted in the New Left's radical democratic utopianism that later birthed the Greens. Like the Greens he argued that his politics were neither left-wing nor right-wing, but "upwing": "The UpWing philosophy is a visionary new thrust beyond Right and Left-wing, beyond conservative and conventional radical." But also like the Greens, FM-2030's version of transcending both capitalism and socialism involved "the complete elimination of money and labor." FM-2030 argued for direct electronic democracy to replace authoritarianism and representative democracy. In place of fractious nation-states he argued for world government and global citizenship: "We want to help accelerate the thrust beyond nations, ethnic groups, races to create a global consciousness, global institutions, a global language, global citizenship, global free flow of people, global commitments." FM-2030's idea of Up was tilted about 45 degrees to the Left.

The women's liberation movement put germinal choice back on the table by reintroducing the idea of human beings taking direct control of reproduction. The feminist understanding of the scope of "reproductive rights" began with contraception and expanded to a right to abortion. But the importance of using technology to control other aspects of reproduction was immediately obvious to many feminists, from the

nineteenth-century feminists championing anesthesia in childbirth to Shulamith Firestone's 1971 feminist classic *The Dialectic of Sex*, which argued that women cannot be finally free until they are freed from having to incubate children. Debate continues among feminists about whether plastic surgery, chemically suppressing menstruation and the use of in-vitro fertilization (IVF) are extensions of the women's empowerment over their bodies or just ways that patriarchal medicine has duped women into self-exploitation.

Many of the theologians in the emerging field of bioethics were appalled at IVF and the prospects for cloning and genetic enhancement. But some bioethicists defended the new technologies and argued that parents had rights to make germinal choices about their children, both to correct their diseases and to enhance their abilities. In his courageous and controversial 1974 book *The Ethics of Genetic Control*, University of Virginia bioethicist Joseph Fletcher made some of the first post-eugenics arguments for germinal choice. Fletcher's efficacy as an advocate was undercut, however, by a very problematic side argument for the creation of subhuman servants, which reminded many of *Brave New World*.

Much more effective, and coolly argued, was Jonathan Glover's 1984 *What Sort of People Should There Be?: Genetic Engineering, Brain Control and Their Impact on our Future World*. Glover defended human genetic engineering, virtual reality and neurotechnology, making clear that a society that permits free individual use of technologies is entirely different from the totalitarianism that people fear. Although Glover distinguished between therapy and enhancement, arguing that the former is safer than the latter, he argues that "to renounce positive genetic engineering would be to renounce any hope of fundamental improvement in what we are like. . . . Preserving the human race as it is will seem an acceptable option to all those who can watch the news on television and feel satisfied with the world."

In the late 1980s, Glover chaired a European Commission Working Party on Assisted Reproduction, which presented the landmark Glover Report to the European Commission on the *Ethics of New Reproductive*

*Technologies*. The Glover report was similar in tone to *Splicing Life*, a 1984 report on genetic engineering regulation produced by the bioethics commission appointed by U.S. president Jimmy Carter. Both the Glover report and *Splicing Life* defended somatic gene therapy as just another medical therapy. Neither report rejected germline therapy, but they considered it to be so difficult and dangerous as to be indefinitely off the table. The pioneering work of Fletcher, Glover and the other defenders of genetic self-determination laid the groundwork for John Robertson's articulation of the principle of "procreative liberty" in his 1994 *Children of Choice*, the idea that reproductive rights include the right to reproductive and germinal choice technology, and Julian Savulescu's articulation of the parallel principle of "procreative beneficence," that parents are obliged to choose the healthiest and most able of their possible children.

In the 1980s, computer scientists involved in artificial intelligence (AI) began to project the consequences of the creation of full, self-aware AI. Hans Moravec's 1988 *Mind Children* and 1999 *Robot* predict that robots are the next stage of evolution, and will establish a separate and incomprehensibly superior civilization. Humans will have the option of uploading their minds into these robots, "going Ex-human," but Moravec is not sanguine about the prospects for organic humanity: "Biological species almost never survive encounters with superior competitors. . . . An entity that fails to keep up with its neighbors is likely to be eaten, its space, materials, energy, and useful thoughts reorganized to serve another's goals. Such a fate may be routine for humans who dally too long on slow Earth before going Ex."

In 1986, the field of nanotechnology was born when Eric Drexler published *Engines of Creation*. In *Engines* he argued that it was not only feasible but inevitable that we will create molecular-scale robotics, capable of building anything we want from the atom up, and of reproducing themselves in great numbers. These nanobot "molecular assemblers" will make possible the complete control of the body and brain. Since Drexler was and is a cryonicist, he also made the point that nanobots will make it possible to repair the ice damage to neurons in the brains of the

cryonically preserved. Drexler founded the Foresight Institute in 1986 with Christine Peterson as a vehicle to promote his vision of safe, ubiquitous molecular manufacturing and nanorobotics. Foresight has been a central node in the emerging transhumanist culture.

The first popular exposé of the emerging transhumanist culture was Ed Regis's 1990 *Great Mambo Chicken and the Transhuman Condition*. Although Regis portrayed Ettinger, Moravec and other transhumanists as humorous fringe figures, he described their ideas in thorough and accurate detail and many people first came to know about "transhumanism" through the book. But the book missed the fact that these disparate ideas had just given birth to a serious, synthesizing transhumanist movement, the "extropians."

#### LIBERTARIAN TRANSHUMANISM: MAX MORE AND THE EXTROPY INSTITUTE

*This is really what is unique about the extropian movement: the fusion of radical technological optimism with libertarian political philosophy . . . one might call it libertarian transhumanism.*

—BEN GOERTZEL,  
*The Path to Posthumanity*

In the 1980s, a young British graduate student, Max O'Connor, became interested in futurist ideas and life extension technologies while studying philosophy and political economy at Oxford. In the mid-1980s, he became one of the pioneers of cryonics in England. After finishing at Oxford in 1988, having been impressed with the dynamism and openness to future-oriented ideas in the United States, O'Connor began his doctoral studies in philosophy at the University of Southern California. At U.S.C he began mixing with the local futurist subculture, and soon teamed up with another graduate student, T. O. Morrow, to found the journal *Extropy*.

The opposite of "entropy," the boundless expansion of "Extropy" was the core symbol for O'Connor and Morrow: life extension, the

expansion of human powers and control over nature, expansion into space, and the emergence of intelligent, organic spontaneous order. O'Connor adopted the name Max More as a sign of his commitment to "what my goal is: always to improve, never to be static. I was going to get better at everything, become smarter, fitter, and healthier. It would be a constant reminder to keep moving forward."

Max More met and married FM-2030's former lover, the artist Nancie Clark, who became Natasha Vita-More. FM-2030 became a friend and supporter of the extropians, who adopted his term "transhumanism." While transhumans were an evolutionary stage for FM-2030, in the extropian lexicon "transhumanism" was a self-conscious ideological leaning. More defined transhumanism in a 1990 essay:

*Transhumanism is a class of philosophies that seek to guide us towards a posthuman condition. Transhumanism shares many elements of humanism, including a respect for reason and science, a commitment to progress, and a valuing of human (or transhuman) existence in this life rather than in some supernatural "afterlife." Transhumanism differs from humanism in recognizing and anticipating the radical alterations in the nature and possibilities of our lives resulting from various sciences and technologies such as neuroscience and neuropharmacology, life extension, nanotechnology, artificial ultraintelligence, and space habitation, combined with a rational philosophy and value system.*

More always made clear that extropianism was but one of the possible varieties of transhumanism.

One way in which the extropians distinguished themselves from the broader transhumanist milieu was by making libertarianism and anarcho-capitalism central to their worldview. The young, well-educated American men attracted to the extropian milieu saw the state, and any form of egalitarianism, as a potential threat to their personal self-transformation. In the first issue of *Extropy* in 1988, More and Morrow included libertarian politics as one of the topics the magazine would pro-

mote. In early issues of *Extropy*, More began to publish successive versions and expositions of his "Extropian Principles." In the early 1990s, the Principles resolved down to five:

1. **Boundless Expansion:** Seeking more intelligence, wisdom, and effectiveness, an unlimited lifespan, and the removal of political, cultural, biological, and psychological limits to self-actualization and self-realization. Perpetually overcoming constraints on our progress and possibilities. Expanding into the universe and advancing without end.
2. **Self-Transformation:** Affirming continual psychological, intellectual, and physical self-improvement, through reason and critical thinking, personal responsibility, and experimentation. Seeking biological and neurological augmentation.
3. **Dynamic Optimism:** Positive expectations fueling dynamic action. Adopting a rational, action-based optimism, shunning both blind faith and stagnant pessimism.
4. **Intelligent Technology:** Applying science and technology creatively to transcend "natural" limits imposed by our biological heritage, culture, and environment.
5. **Spontaneous Order:** Supporting decentralized, voluntaristic social coordination processes. Fostering tolerance, diversity, foresight, personal responsibility and individual liberty.

More's fifth principle "Spontaneous Order" distilled their belief, derived from the work of Friedrich Hayek and Ayn Rand, that an anarchistic market creates free and dynamic order, while the state and its life-stealing authoritarianism is entropic. In 1991, *Extropy* magazine focused on the principle of emergent order, publishing an essay on David Friedman's anarcho-capitalist concept of "Privately Produced Law" and an article by Max More on "Order Without Orderers."

In 1991, the extropians also founded an e-mail list, catching the wind of the Internet typhoon and its high-tech libertopianism. The extremely high

volume (in multiple meanings of volume) extropian list has since attracted tens of thousands of subscribers. Although there are small groups of extropians who meet together socially in Los Angeles, New York City and London, most people who consider themselves extropians have never met other extropians and participate only in this virtual community.

In 1992 More and Morrow founded the Extropy Institute, which held its first conference in 1994. At Extro 1 in Sunnyvale, California, the keynote speaker was computer scientist Hans Moravec, who repeated his cheery theme that humanity would inevitably be superseded by robots. Nanotechnologist Eric Drexler addressed the conference, and journalist Ed Regis, author of *Great Mambo Chicken*, wrote up the event for the new *Wired* magazine. Subsequent Extros, held in 1995, 1997, 1999 and 2001, have each attracted more prominent scientists, science fiction authors and futurist luminaries.

In the wake of all this attention, the extropians also began to attract withering criticism from progressives. In 1996, *Wired* contributor Paulina Borsook debated More in an online forum on the *Wired* Web site, taking him to task for selfishness, elitism and escapism, arguments she summarized in her 2001 book *Cyberselfish: A Critical Romp Through the Terribly Libertarian Culture of High Tech*. Culture critic Mark Dery excoriated the extropians and a dozen related techno-culture trends in his 1996 *Escape Velocity*, coining the dismissive phrase "body-loathing" for those, like the extropians, who want to escape from their "meat puppet" (body), those who feel a "combination of mistrust and contempt for the cumbersome flesh that accounts for the drag coefficient in technological environments."

The extropians also began to hear dissent from a growing diversity of people on their e-mail list. People sympathetic with transhumanist views but alienated by the list's abrasive, hypermasculine, libertarian politics began to amount to a sizable group. Although Natasha Vita-More has always been given prominent acknowledgment for her transhumanist arts and culture projects, and now directs the Extropy Institute, men outnumber women by at least four to one in extropian culture.

In 1997, the generally nonlibertarian European fellow-travelers of the extropians began to organize and meet under the aegis of the World Transhumanist Association (WTA). Although the WTA founders remained on good terms with the extropians, and Max More contributed to the Transhumanist Declaration and Transhumanist FAQ, the WTA's founding documents were distinctly less libertarian than the Extropian Principles.

Responding to these various trends, and presumably his own philosophical maturation, More revamped his principles in 2000 to a less libertarian Version 3.0. In this latest version More sets aside his earlier, anarcho-capitalist "Spontaneous Order" for the much more moderately libertarian "Open Society: Supporting social orders that foster freedom of speech, freedom of action, and experimentation. Opposing authoritarian social control and favoring the rule of law and decentralization of power. Preferring bargaining over battling, and exchange over compulsion. Openness to improvement rather than a static utopia." More now insists that extropianism is not libertarian and is compatible with a number of different types of liberal "open societies," just not with theocratic, authoritarian or totalitarian societies. In the extensive accompanying commentary on his new principles More even more explicitly departs from the elitist, Randian position of enlightened selfishness and argues for both a consistent rule of law and civic responsibility: "For individuals and societies to flourish, liberty must come with personal responsibility. The demand for freedom without responsibility is an adolescent's demand for license."

While More is attempting to move out of the political fringe, a casual review of the traffic on the extropian lists confirms that the majority of extropians remain staunch libertarians. In an online survey of extropians conducted in February and March of 2002, 56% of the respondents identified with "libertarian" or "anarchist/self-governance," with another 15% committed to (generally minarchist, "almost anarchy") alternative political visions. Similarly, the Extropy Institute's recommended "economics and society" readings still include David Friedman's anarcho-capitalist text *The Machinery of Freedom*, Friedrich Hayek's *The Constitution of Liberty* and the libertarian anti-environmentalist writings of Julian Simon.

As the Simon readings suggest, most extropians are ardent opponents of the environmental movement, believing that the eco-system is either not really threatened or, if it is, the only solution is more and better technology. There are occasional discussions on the extropian list about the potential downsides of emerging technologies, but these are usually waved off as being either easily remediable or unavoidable and acceptable risks given the tremendous rewards (which is not my position by the way).

The extropians have also cultivated important allies in libertarian politics such as Virginia Postrel and Ron Bailey, sympathizers with their militant defense of personal liberty and hostility to regulation and environmentalism. In 1999, Postrel, author of the technolibertarian manifesto *The Future and Its Enemies* and then editor of the libertarian magazine *Reason*, assigned *Reason's* science correspondent Ron Bailey to focus on the defense of genetics against the Luddites. Bailey had written *ECOSCAM: The False Prophets of Ecological Apocalypse* in 1993, which argued that whatever ecological problems might have existed in the past were all being repaired now. Since focusing on biopolitics Bailey's weekly columns for *Reason* have been some of the best and most insightful critiques of the emerging Kass-Rifkin bioLuddite axis. Bailey is publishing his own technolibertarian manifesto this year, *Liberation Biology*. Postrel has now organized Bailey and other technolibertarians, such as *Tech Central Station's* editor James Glassman and prolific InstaPundit.com writer Glenn Reynolds, into The Franklin Society. The first project of the Society has been to campaign against attempts to ban embryonic stem cell research.

#### UNIVERSAL IMMISERATION EXTROPIAN-STYLE

In 2003, one member of the new Franklin Society, extropian economist Robin Hanson, a professor at George Mason University, achieved his full fifteen minutes of fame. Hanson was the author of the abortive experiment by the Defense Advanced Research Projects Agency in aggregating



intelligence information in a Middle East futures trading market, the so-called "TerrorDAQ." The political brouhaha around TerrorDAQ led to the cancellation of the program and the resignation of DARPA director John Poindexter.

Reporters were incredulous at Hanson and his colleagues' inability to predict how their experiment would be perceived and demagogued. While I think the experiment had merit and would not have encouraged terrorism, the episode does illustrate some of the moral and political blindness that the unreformed extropian anarcho-capitalist perspective lends itself to.

Ten years before the media lambasted Hanson for TerrorDAQ he published a now often-cited essay "If Uploads Come First—The Crack of a Future Dawn" in *Extropy* magazine. The article attempts to extrapolate the economic consequences of a breakthrough in the technology of copying human personalities into machines. He argues that the capabilities of machine-based persons would be so much greater than those of organic humans that most non-uploaded people would become unemployed. Among the uploads there would be rapid population growth and severe job competition. Eventually the enormous population of uploads would be forced to work at very low subsistence wages—the cost of their electricity and disk space—ruled over by a very few of the most successful of the uploads.

Hanson basically recapitulates Marx's vision of universal immiseration, but this time in the Matrix. In the section of the essay titled "Upload Politics" Hanson dismisses the idea that governments could impose redistribution on uploads since there would be large economic benefits of an unfettered transition to Matrix life. The average quality of life of the subsistence upload and the unemployed human would allegedly be higher than before. So the best we future residents of an uploaded society can do is become as versatile as possible to maximize our chances of ending up as one of the lucky ruling or employed classes. Hanson dismisses the idea that people will fight the division of society into a mass of well-fed plebes and a superpowerful elite since the growth in the

gross domestic product is the sole measure of his utopia, and the elimination of the weak will select for "capable people willing to work for low wages, who value life even when life is hard."

With a dismal, elitist utopia like this who needs a Luddite's dystopia? Russell Jacoby has this to say of Hanson-style libertopianism: "The most imaginative futurists foresee a utopia with war, money, violence and inequality. Their future looks very much like the affluent enclaves of today, only more pleasant and commodious. They paint a picture not very different from contemporary luxury suburbs, grassy subdivisions with homes and computer and work stations set off from a larger terrain of violence and injustice. The futurists are utopians in an anti-utopian age."

#### THE SINGULARITY AND THE GLOBAL BRAIN

On the other hand, some extropians do have more optimistic utopian visions and expectations, or at least more optimistic versions of the liberation of human beings by machines. The idea of a "TechnoRapture," a coming utopian rupture in social life brought about by some confluence of genetic, cybernetic and nano technologies, has very old roots in the panmillennial impulse. In science fiction we have examples like Arthur C. Clarke's 1956 *The City and the Stars*, in which a paternalistic computer ensures utopia and immortality, and Heinlein's 1966 *Moon Is a Harsh Mistress*, in which an artificial intelligence helps an anarchist revolution.

Similarly the idea of a coming apocalypse is ancient and has many echoes in science fiction, from world wars, alien invasions and plagues to imperialist superintelligent machines. In the 1969 film *Colossus: The Forbin Project*, a defense department computer becomes self-aware and self-willed, takes control of nuclear weapons, hooks up with the Soviet Union's defense computer and begins issuing edicts to human beings. Again in the 1984 and 1991 films *Terminator* and *Terminator 2*, defense department computers become self-aware and decide simply to wipe out human beings.

For transhumanist millennialists and apocalypticists the seminal document is a 1993 paper on "the Singularity" by science fiction author Vernor

Vinge. Vinge projected the millennial/apocalyptic consequences of the emergence of self-willed artificial intelligence, which he estimated would occur within the next couple of decades. In physics singularities are black holes within which we can't predict how physical laws will work. In the same way, Vinge says, greater-than-human machine intelligence, multiplying exponentially, would make everything about our world unpredictable. Vinge suggests that human beings need to begin enhancing and augmenting human intelligence in order to stay one step ahead of the machines.

Transhumanist millennialism has been bolstered as a legitimate obsession for the secular technogeek by the field of nonlinear systems dynamics. Chaos and punctuated equilibrium modeling have made linear predictive models seem absurd in comparison to exponential growth models punctuated by "phase transitions" to entirely new kinds of systems with new dynamics. The concept of the sudden systemic change was popularized in Malcolm Gladwell's 2000 book *The Tipping Point*, which he defines as "that moment in an epidemic when a virus reaches critical mass, the moment on the graph when the line starts to shoot straight upwards," a phenomenon he finds in all sorts of social dynamics. Cyberpunk theorist Bruce Sterling's influential transhumanist *Schismatrix* stories in the late 1980s were inspired by Ilya Prigogine's theory that systems can abruptly self-organize into a higher level of complexity.

Not all transhumanists today believe in the immanence of a Singularity. Nor do all those who believe things will get very weird in a short space of time all focus on superintelligent machines as the *deus ex machina*. Some, like Sterling and the National Science Foundation's NBIC program, look for the seeds of exponential change in the convergence of many technologies and cultural trends. In a 2002 poll of extropians, the average year they expected "the next major breakthrough or shakeup that will radically reshape the future of humanity" was 2017, but one in five said there would be "no such event, just equal acceleration across all areas." As to the source of the next big shake-up, for those who believed a big change was coming, only a quarter of them believed it would come from artificial intelligence, while the rest believed it

would be precipitated by nanotechnology and a variety of other technological and political events.

The Singularity has a special appeal for libertarians because it does not require any specific collective action. Acquiring wealth, working individually to stay on the cutting edge of technology, transforming oneself into a posthuman—these are the extropian's best insurance of surviving and prospering through the Singularity. Most Singularitarians are like pre-millennialist Christians who believed that Christians had only to prepare themselves for salvation and the millennium would be established for them, versus the "post-millennialists" who argue that Jesus will not return until the righteous turn back the tribulations and establish a kingdom of heaven on earth. TechnoRapture will elevate the techno-savvy elite who have toiled to warn and prepare the world for its coming, but found mostly derision. The unbelievers not prepared to take advantage of the TechnoRapture and be born again into new eternal bodies are likely to suffer the Tribulations of being impoverished, wiped out or enslaved. Responding to a challenge from Mark Dery about the socioeconomic implications of robotic ascension, Hans Moravec responded: "The socioeconomic implications are . . . largely irrelevant. It doesn't matter what people do, because they're going to be left behind like the second stage of a rocket. Unhappy lives, horrible deaths, and failed projects have been part of the history of life on Earth ever since there was life; what really matters in the long run is what's left over."

Again demonstrating a turn away from the libertopian fringe, extropian leader Max More has rejected the idea of a Singularity precisely because its quasi-religious millennialism contributes to passivity. According to More: "The Singularity idea has worried me for years—it's a classic religious, Christian-style, end-of-the-world concept that appeals to people in Western cultures deeply. It's also mostly nonsense. . . . The Singularity concept has all the earmarks of an idea that can lead to cultishness, and passivity. There's a tremendous amount of hard work to be done, and intellectually masturbating about a supposed Singularity is not going to get us anywhere."

There are hints of a less passive "post-millennial" or even liberation theological interpretation in some Singularitarians' work, however. For instance, extropian Eliezer Yudkowsky's central concern is building "friendliness" into the architecture of the first AIs, and convincing AI researchers to incorporate friendliness into their designs, so that the first Colossus is more Second Coming than Terminator. Although that does make friendliness research a messianic life mission for Yudkowsky, it would require collective action to be successful, and his Singularity Institute for Artificial Intelligence is devoted to the cause.

Singularitarian John Smart, director of the Institute for Accelerating Change, is more influenced by the "global brain" school of thought—that all the minds on Earth will link together through telecommunications and create a meta-intelligence. Many global brain thinkers like Smart are inspired by the writings of Jesuit paleontologist-mystic Teilhard de Chardin, who wrote in his 1940 *The Phenomenon of Man* that our increasingly dense web of thought and communication, and our technologies, are moving humanity toward integration into a "noosphere" or thoughtspace, and eventually to a spiritual telos, the "Omega Point." In 1983, New Age writer Peter Russell's *The Global Brain* suggested that the interconnection of human brains will create a global self-aware consciousness in the same way that connected neurons created human mind. Gregory Stock's 1993 *Metaman: The Merging of Humans and Machines into a Global Superorganism* provided a more materialistic and less spiritual projection of the same dynamic. The idea of the World Wide Web as the neuronal structure of a global brain quickly became a popular metaphor in the 1990s, giving extropians spending all day on e-mail and Web-surfing the sense that they were helping to build that global brain.

The global brain theorists have, in turn, converged with a school of dissident social evolutionary theorists, organized by independent scholar Howard Bloom, who argue that evolution occurs not just through the selection of individual characteristics but also through the selection of increasingly large social structures. Bloom's *Global Brain: The Evolution of Mass Mind* argues that this phenomenon would lead to

global self-awareness and self-governance. Robert Wright's similar group-selectionist account of human history, *Nonzero: The Logic of Human Destiny*, suggests that world government will be an inevitable product of the trend toward larger and larger forms of cooperation and coordination.

Ironically the global brain idea has also crossbred with a central idea of the deep ecologists, the "Gaia hypothesis" pioneered in the 1980s by James Lovelock and Lynn Margulis. The Gaia hypothesis suggests that the global ecosystem has homeostatic feedback mechanisms that keep it in balance just like an organism, and ecomystics have stretched the idea to suggest that the Earth has an organismic intelligence. TechnoGaian global brainers suggest that the emerging cyborg MetaMan will incorporate or at least take collective responsibility for protecting the ecosystem, which is close to being the antithesis of the deep ecological vision.

Although the global brain, like an AI-driven Singularity, requires no specific individual or collective action, it will supposedly involve collective action. It is easy to imagine a liberation theological version of global brainism, involving social movements and organizations working toward the most liberal and egalitarian meta-human intelligence. Will the global brain have reflexes from the military-industrial complex and an appetite designed by McDonalds, or will it be built around a democratized UN and new forms of grassroots empowerment?

#### THE WORLD TRANSHUMANIST ASSOCIATION: LIBERAL DEMOCRATIC TRANSHUMANISM

Max More and the extropians made clear from the beginning that extropianism was but one of the many possible transhumanisms. In 1994, Anders Sandberg, the founder of the Swedish transhumanist group Aleph, noted that transhumanist ideas could be mated with many political ideologies, and that the hybrid of extropian libertarian transhumanism was just one, particularly robust, form that transhumanism could take: "Extropianism, which is a combination of transhumanist memes and libertarianism, seems to be one of the more dynamic and well-integrated

systems. This has been successful, mainly because the meme has been able to organize its hosts much better than other transhumanistic meme-complexes. This has led to a certain bias among transhumanists linked to the Net towards the extropian version of the meme since it is the most widely spread and active." One European transhumanist, reviewing a conference of European transhumanists, noted: "The official program started with . . . a bleeding heart humanist socialist and a nice person. I am glad that we have that diversity among the European Transhumanists. It makes for much more refined discussions than is often seen on the Extropy mailing list."

In 1997, the Swedish philosopher Nick Bostrom (now at Oxford University) organized the World Transhumanist Association (WTA) to represent a more mature and academically respectable form of transhumanism, liberated from its "cultish" baggage. The WTA would share the techno-liberatory concerns of the extropians but allow for more political and ideological diversity. Bostrom is an academic philosopher, and the WTA project attracted several of the academics in the extropian milieu to establish *The Journal of Transhumanism* and work toward the recognition of transhumanism as a topic of academic investigation.

In 1998, Bostrom and several dozen far-flung American and European collaborators began work on the WTA's two founding documents, the Transhumanist Declaration (see Figure 10.1) and a Transhumanist Frequently Asked Questions 1.0 (FAQ1). Leading extropians, including More, contributed to the documents, but they were most heavily influenced by the Swedes Bostrom and Sandberg, the feminist and disability rights activist Kathryn Aegis and the British utilitarian thinker David Pearce. The first drafts of the documents were published in 1999.

The Transhumanist Declaration is notable in its departure from the Extropian Principles in several significant respects. Rather than calling for an unfettered technological manifest destiny, the Transhumanist Declaration specifically noted the possibility of catastrophic consequences of new technology. In the Transhumanist FAQ the authors discussed the responsibility of transhumanists to anticipate and craft public policy to

1. Humanity will be radically changed by technology in the future. We foresee the feasibility of redesigning the human condition, including such parameters as the inevitability of aging, limitations on human and artificial intellects, unchosen psychology, suffering, and our confinement to the planet earth.
2. Systematic research should be put into understanding these coming developments and their long-term consequences.
3. Transhumanists think that by being generally open and embracing of new technology we have a better chance of turning it to our advantage than if we try to ban or prohibit it.
4. Transhumanists advocate the moral right for those who so wish to use technology to extend their mental and physical capacities and to improve their control over their own lives. We seek personal growth beyond our current biological limitations.
5. In planning for the future, it is mandatory to take into account the prospect of dramatic technological progress. It would be tragic if the potential benefits failed to materialize because of ill-motivated technophobia and unnecessary prohibitions. On the other hand, it would also be tragic if intelligent life went extinct because of some disaster or war involving advanced technologies.
6. We need to create forums where people can rationally debate what needs to be done, and a social order where responsible decisions can be implemented.
7. Transhumanism advocates the well-being of all sentience (whether in artificial intellects, humans, non-human animals or possible extraterrestrial species) and encompasses many principles of modern secular humanism. Transhumanism does not support any particular party, politician or political platform.

FIGURE 10.1 The Transhumanist Declaration

prevent these catastrophic outcomes. Rather than suggesting that all social coordination can be accomplished through the market, the Transhumanist Declaration explicitly addressed the need "to create forums where people can rationally debate what needs to be done, and a social order where responsible decisions can be implemented." Here, unlike

the elitist, anti-political extropians, the WTA founders took seriously the need for responsive democracies and democratic technology policies. With the Declaration transhumanists were reembracing their continuity with the Enlightenment, with democracy and humanism, and setting aside the antisocial, free-market anarchism that had briefly held sway in transhumanist circles in the unique circumstances of mid-1990s bubble economy, Southern California-based, net culture.

#### THE POLITICS OF THE WTA FAQ

In the last line of the Declaration, the authors make clear that the WTA is not committed to a particular political ideology. As Bostrom explained in the Transhumanist FAQ1, there are transhumanist "liberals, social democrats, libertarians, green party members." Nonetheless there are implicit political parameters to the Transhumanist Declaration and FAQ1.

The Transhumanist FAQ1 asked, "Won't new technologies only benefit the rich and powerful? What happens to the rest?" The FAQ1 acknowledged that "some technologies may cause social inequalities to widen. For example, if some form of intelligence amplification becomes available, it may at first be so expensive that only the richest can afford it. The same could happen when we learn how to genetically augment our children. Wealthy people would become smarter and make even more money."

FAQ1 argues that the answer to these inequities is not to ban the technologies, but "to increase wealth redistribution, for example by means of taxation and the provision of free services (education vouchers, IT access in public libraries, genetic enhancements covered by social security, etc.). For economical and technological progress is not a zero sum game. It's a positive sum game. It doesn't solve the old political problem of what degree of income redistribution is desirable, but it can make the pie that is to be divided enormously much greater."

Similarly, when addressing whether transhumanism is simply a distraction from the pressing problems of poverty and conflict in the world,

the FAQ1 argued that transhumanists should work on both these immediate problems and futurist concerns. In fact, the FAQ1 suggests that transhuman technologies can make the solution of poverty and conflict easier, improving health care, amplifying intelligence and expanding communication and prosperity. The greatest happiness of the greatest number is a transhumanist goal in itself, and a peaceful, liberal democratic world is the best for nurturing transhuman diversity. "Working towards a world order characterized by peace, international cooperation and respect for human rights would much improve the odds that the dangerous applications of certain future technologies will not be used irresponsibly or in warfare. It would also free up resources currently spent on military armaments, and possibly channel them to improve the condition of the poor."

The FAQ1 addresses the issue of overpopulation caused by life extension technologies, arguing for both family planning and the aggressive pursuit of advanced, sustainable technologies, such as agricultural biotechnologies, cleaner industrial processes, nanotechnology and ultimately space colonization. It also notes that the best way to control population growth is to empower women since "giving people increased rational control over their lives (and especially female education and equality) causes them to have fewer children."

In response to a question about how posthumans will treat humans, the FAQ1 notes, "it could help if we continue to build stable democratic traditions and constitutions, ideally expanding the rule of law to the international plane as well as the national." Here the transhumanists are anticipating the need to build political and cultural solidarity between humans and posthumans, to minimize conflicts and to have global police institutions that can protect humans from posthumans and vice versa.

In short, the WTA documents establish a broad political tent, with an explicit embrace of political engagement, the need to defend and extend liberal democracy, and the inclusion of social democratic policy alternatives as legitimate points of discussion.

## TRANSHUMANISM RELOADED

In the fall of 2001, the WTA began its next phase of growth. After publishing my paper on "The Future of Death" in the *Journal of Transhumanism*, the editor, Mark Walker, a philosopher at the University of Toronto, asked me to serve on the editorial board. Then Nick Bostrom, who was teaching at Yale at the time, Mark Walker and I organized a panel on transhumanism at the Society for the Social Studies of Science meetings in Boston in October of 2001. For that meeting I prepared a paper on "The Politics of Transhumanism" that laid out the historical circumstances that led to the accidental association of free-market libertarianism and transhumanism. Out of that meeting, Bostrom, Walker and I began to plan the expansion of the WTA.

We adopted a constitution and elected a Board of Directors. We renamed the journal the *Journal of Evolution and Technology* and launched a webzine, *Transhumanity*. I was elected secretary of the WTA in 2002. The Extropy Institute and the existing transhumanist groups in Europe became WTA affiliates, and by 2003 the WTA had two dozen mailing lists reaching thousands of people, and local groups were being organized in dozens of cities around the world. In June 2003, we hosted the first international conference on transhumanist bioethics at Yale University with sixty papers. The keynote presentations were from bioethicists Gregory Stock and Greg Pence, the libertarian science writer Ron Bailey, NSF official and co-founder of the NBIC program William Sims Bainbridge and the Yale historian of eugenics Daniel Kevles.

The WTA has been especially successful at attracting a broader swath of political views than the extropians. A membership survey conducted in December 2003, found that only a fifth of the WTAers identified with libertarianism, anarcho-capitalism or even Euro-Liberalism. On the other hand, a third of the WTA's members identified with leftist politics, ranging from labels like "libertarian socialist," "democratic socialist" and "radical" to "progressive" or "U.S.-style liberal." Conserva-

tives of any stripe accounted for only 3–4% of members, while the plurality of WTAers were "moderate," "upwinger," "other" or "none."

## TRANSHUMANISM'S INCOMPATIBILITY WITH SOCIAL CONSERVATISM

In my chart of possible ideologies in a biopolitical future (see Figure 6.3) I didn't have a letter in the corner for culturally conservative "populist transhumanists," and indeed I don't expect this ever to be a very popular variety. But that doesn't mean that there won't be some cultural conservatives, or even neofascists, who will be enthusiastic advocates of cyborgization, eugenic engineering or technotranscendence. We need only look to the origins of European fascism to see the possibility of such a phenomenon.

In 1909, the Italian writer Filippo Tommaso Marinetti published his "Manifesto of Futurism" in the Parisian newspaper *Le Figaro*. In it he called for a new aesthetic approach to life:

We intend to exalt aggressive action, a feverish insomnia, the racer's stride, the mortal leap, the punch and the slap. . . .

We want to hymn the man at the wheel, who hurls the lance of his spirit across the Earth, along the circle of its orbit. . . .

We stand on the last promontory of the centuries! . . . Why should we look back, when what we want is to break down the mysterious doors of the Impossible? Time and Space died yesterday. We already live in the absolute, because we have created eternal, omnipresent speed.

Marinetti believed Europe had become stagnant and he called for a new art glorifying modern technology, energy and violence. Artists, writers, musicians, architects and many others flocked to the Futurist banner in Italy and from across Europe, and began issuing their own manifestoes. Many of the founding Futurists, including Marinetti, were anarchists. Nonetheless, most Futurists went on to urge Italy's entry into World War One, which ended the movement and its romantic calls for

heroic violence and war. After the war, Marinetti befriended Mussolini, who mixed Marxist and anarchist politics with Nietzsche and heroic nationalist romanticism. Marinetti and many other Italian Futurists joined Mussolini's new fascist movement, and the fascists in turn adopted Futurist ideas and aesthetics.

Today, when a social movement emerges, such as the extropians, which scorns liberal democracy and calls for an *ubermenschlich* elite to free themselves from traditional morality, pursue boundless expansion and optimism, and create a new humanity through genetic technology and the merging of humans with machines, it is understandable that critics might associate the movement with European fascism. Nor has this problem escaped the attention of the extropians. In 1994, Anders Sandberg wrote: "many people associate ideas of superhumanity, rationally changing our biological form and speeding up the evolution of mankind, with unfashionable or disliked memes like fascism . . . partially because many transhumanist ideas had counterparts (real or apparent) among the fascists."

Extropians and transhumanists have repeatedly and forcefully insisted that transhumanism is incompatible with fascism, pointing to the transhumanists' rationalist, tolerant and libertarian values. The Transhumanist FAQ1 says:

Racism, sexism, speciesism, belligerent nationalism and religious intolerance are unacceptable. In addition to the usual grounds for finding such practices morally objectionable, there is an additional specifically transhumanist motivation for this. In order to prepare a time when the human species may start branching out in various directions, we need to start now to strongly encourage the development of moral sentiments that are broad enough to encompass within the sphere of moral concern sentiences that are different from current selves.

In March of 2002, as its first official position statements after the adoption of FAQ1, the World Transhumanist Association voted to formally denounce "Any and all doctrines of racial or ethnic supremacy/inferiority [as]

incompatible with the fundamental tolerance and humanist roots of transhumanism." The strong transhumanist condemnation of racialism appears to have succeeded in dissuading racist groups from trying to join or recruit among transhumanists.

The anti-racist implications of widespread germinal choice technology have also given racists pause. In a thread on the neo-Nazi Stormfront Web site titled "Is Transhumanism Good for White Nationalists?" one poster notes:

What's wrong with this form of egalitarianism? After all, if everyone is genetically engineered with superior intelligence, blacks, whites, yellows and all, then the world would be a much better place. The problem with egalitarianism today is that people are trying to make equal that which is simply not equal. But if everyone were truly equal, there would be no need to make everyone equal, and therefore no need for egalitarianism.

But another poster objects:

I have some real concern about the ability of the White race to use these technologies wisely in the present situation. Eugenics in recent decades has largely meant going to a sperm bank to have the child of a Jewish medical student.

#### TRANSHUMANISM AND DEMOCRACY

Speaking to the Extro 5 conference in 2001, extropian leader Greg Burch argued that transhumanists were culturally and politically encircled by religious fundamentalists, Greens and socialists: "We do not seek to force our plans on anyone, but ultimately, our basic values of individual autonomy are fundamentally incompatible with the kinds of limitations desired by Guardians of both culturally conservative and 'progressive' tendencies."

The transhumanist perspective is indeed outnumbered by much better organized and more influential opponents, and libertarian extropians like Burch are partly to blame. The ideological narrowness and sectarianism of the briefly ascendant libertarian transhumanists of the 1990s are striking in comparison to the ideologically diverse coalitions forged by the bioLuddites. While Burch and the extropians argue that they are fighting to save the Enlightenment, in fact they are fighting to extol only one-third of the Enlightenment—liberty—to the exclusion of the other two-thirds—equality and solidarity. In the process they have crippled their ability to defend all three values. Insisting that reason can only be expressed in market relations and not in rational civic debate and democratic self-governance leaves the anarcho-capitalist transhumanists self-absorbed and alienated from serious political engagement, unable to respond to either the public's legitimate or illegitimate anxieties about the future.

On the other hand, a much broader spectrum of thought is expressed by the World Transhumanist Association, more reflective of the political and cultural diversity of the popular transhumanist constituency waiting to be heard. As twenty-first-century biopolitics matures, the WTA and the term "transhumanism" may not be important players in the struggle for individual rights to use human enhancement technologies. But the shift of the transhumanist subculture away from libertopianism to movement-building and serious engagement with public policy is a hopeful sign that transhumanists may be able to play an important role.

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SECTION III

## FREEDOM AND EQUALITY AMONG THE CYBORGS