

THE SINGULARITY IS NEAR
When Humans Transcend Biology
 by Ray Kurzweil
 (Viking Adult, 2005, hardcover \$29.95)

From faster computers to the latest video iPods, from cloning experiments to pioneering genetic therapies, most of us cannot help but notice how our lives are impacted by new technologies. Far fewer of us, claims futurist Ray Kurzweil, realize that the rate of technological progress itself appears to be accelerating at an *exponential* pace. Unabated, this trend will eventually lead us to a period of such rapid technological development that we will see near-instantaneous, near-infinite—yes, *infinite*—development in the cyber-material universe. If you find that impossible to imagine, then welcome to the “Singularity,” Ray Kurzweil style.

As a pioneering technologist and visionary philosopher of the material domain, Kurzweil has made it his business to chart technology growth. His enduring insight—that the “pace of change of our human-created technology” is increasing exponentially and shows no signs of slowing—is the key to understanding his conception of an imminent Singularity. And he begins his exposition by amply illustrating such growth over varying time scales, using examples from biological evolution and technological developments in areas as diverse as microprocessor performance, DNA sequencing, and the decreasing size of mechanical devices.

Thus, Kurzweil defines the Singularity as “a future period during which the pace of technological change will be so rapid, its impact so deep, that human life will be irreversibly transformed.” He even predicts that this moment will arrive sometime around the mid-twenty-first century, because by then, he writes, “the [non-biological] intelligence created per year . . . will be about one billion times more powerful than all human intelligence today. That will indeed represent . . . a profound and disruptive transformation in human capability.”

To illustrate just how profound this metamorphosis is likely to be, Kurzweil takes us on a breathtaking

South India

*Vedanta Course
 and Temple Tour
 Jan 28 - Feb 14, 2007*

worldspirit99@aol.com
 www.worldspirit.org.uk
 ++ 44 161 928 5768

BOWING TO VENUS WILLOW



**TO BE RELEASED.
 NOW.**

“Willow has one of the most beautiful voices imaginable.”

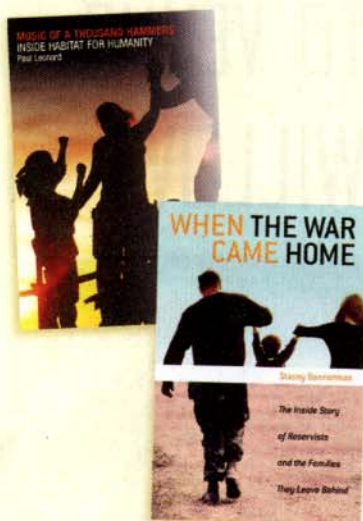
—Ken Wilber,
Integral Naked



Experience the music.
www.lionessroars.org/venus

Stories That Matter

From CONTINUUM



WHEN THE WAR CAME HOME The Inside Story of Reservists and the Families They Leave Behind

Stacy Bannerman

"When the War Came Home is a war story and a love story, passionate and personal, and because of that a more powerful indictment of the war than any cool political analysis."

—Howard Zinn

\$22.95 / 0-8264-1795-7 / Cloth / 232 pages

MUSIC OF A THOUSAND HAMMERS Inside Habitat for Humanity

Paul Leonard

"Paul Leonard rose through the volunteer ranks from house leader to local affiliate president to chair of the international board and subsequently CEO. His leadership in a time of crisis for Habitat gave Rosalynn and me great confidence in Habitat's future and its ability to expand its capacity to serve the housing needs of the poor around the world and invigorate its Christian spirit."

—Jimmy Carter,

Former President of the United States

\$24.95 / 0-8264-1842-2 / Cloth / 208 pages



Available from your usual library supplier or call
1-800-561-7704 • www.continuumbooks.com

and detail-packed tour of his vision of the future, basing his predictions on the current state of technologies and allowing for exponential growth. He maintains that human intelligence can be replicated with sufficiently advanced computing power—and then massively surpassed. He describes "three overlapping revolutions" of the twenty-first century—genetics, nanotechnology, and robotics—which will enable us to fully understand the operating principles of the human brain and thus engineer human-like intelligent processes into nonbiological circuitry. Furthermore, they will allow us to redesign most of our biological systems at the molecular level, enhance our brains with unlimited artificial intelligence, and eventually live as long as we choose—biologically or virtually. In fact, our lives will be permeated from within and without by superintelligence, and as we gradually learn to harness the optimal computing capacity of matter, our intelligence will spread through the universe at (or exceeding) the speed of light, eventually leading to a sublime, universe-wide awakening.

Offering more than just a mind-bending trip to the future, the latter chapters of the book address some of the commonly voiced philosophical and moral concerns about our expanding technological prowess. Should we restrict technology for our own safety, even though millions may die of potentially curable diseases? Can a superintelligent machine ever really be conscious? How will we protect ourselves against malicious or accidental nanobot replication? And could the AIs take over? While the breadth of this coverage is impressive and fair-minded, it leaves important dimensions of the discussion unresolved. Technological evolution

will undoubtedly solve many of our material problems, but what about the age-old *human* failings with which they are associated, such as egotism and greed? Are they likely to be affected? We may understand, as Kurzweil suggests, that "intelligence is inherently impossible to control," and thus strive to imbue our robots with "human ethics and values." The question remains, however, of whether or not those values are sufficiently developed within us to ensure that an intelligence spawned from ours would choose to abide by them when we ourselves often do not.

Nonetheless, Kurzweil excels as a technological visionary with a proven track record of success, clearly believing in the potential power of technology to improve human life. And to his credit, he is willing to comment openly on the dangers involved. See, for example, his ongoing dialogue with Sun Microsystems cofounder and techno-pessimist Bill Joy, with whom he coauthored a *New York Times* op-ed piece last year arguing that the genetic code of the 1918 flu virus should never have been published on the internet.

The Singularity Is Near may not have all the answers to the human implications of our date with technological destiny. However, this highly enjoyable and considered work is sure to make even the most hardened Luddite more than a little curious about its anticipated rupture in the fabric of our lives, looming on the not-too-distant horizon.

Ravi Agarwal



Explore the ideas and inspiration behind this renowned inventor and futurist at wie.org/kurzweil