

Synthetic immortality

by [Carol Zaleski](#) in the [October 3, 2012](#) issue



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Lately the news has been full of dramatic new findings that, if valid, would overturn our understanding of life, mind and cosmos. We're on the threshold, it is claimed, of the great "singularity," in which superintelligent machines or human-machine hybrids will take charge of our future and the big questions will be answered or silenced not by those old maids philosophy and theology, but by newer, edgier visionaries with the genius and funding to redescribe or remake the world after a better plan.

In a recent article for the *Chronicle of Higher Education*, managing editor Evan R. Goldstein profiled one such visionary: Kenneth Hayworth, a neuroscientist engaged in mapping the synaptic connections of mice. His next move will be to canvas the entire "connectome" of the human brain. New techniques for chemically preserving the brain, plastinating it and harvesting minute slices have made this mapping project seem feasible, and it's possible that it will contribute to a better understanding of diseases like Alzheimer's.

But Hayworth has a more startling application in mind. He's opposed to death and thinks he has a solution. On the assumption that memories and identities are written into the brain's synaptic connections (in philosophy of mind, this would be called eliminative materialism), Hayworth plans to have his brain preserved by the same technique, trusting that in the not too distant future it will be possible to upload his memories, restore his identity and kick away the biological stepladder for good. An "Open Letter to the Medical, Scientific and Government Communities" on Hayworth's website calls for recognition of the right of individuals to have their brains preserved upon natural death—or (chillingly) even sooner. It has elicited over 200 public signatures with comments like "Better be a suspended brain embedded in a plastic block awaiting possible future revival than be a decomposed, liquefied corpse" and "I want to live forever. If that means existing as software, so be it!"

Perhaps the best known of the techno-immortalists is Ray Kurzweil, inventor of music-synthesizing technology and co-founder of Singularity University. He's convinced that we are fast approaching the time when it will be possible to digitize all the information that makes up a human being—at which point immortality becomes a subspecialty of robotics.

Crossing the barrier between life and nonlife at the other extreme are the stories we hear about synthetic biology. The journal *Nature Biotechnology* recently published the findings of a group of biophysicists and bioengineers working toward the worthy goal of designing better artificial hearts. Placing cells from the hearts of rats onto thin sheets of silicone polymer in an arrangement that matched the protein patterns of a juvenile moon jellyfish, they created a jellyfish facsimile they called Medusoid. Animated by a jolt of electricity, Medusoid swims around in salt water, forming currents exactly like those that enable a real jellyfish to sweep food into its mouth. "Morphologically and functionally, it's a jellyfish," one of the researchers said, "genetically, it's a rat." Unfortunately, popular reports could not resist the sensational but entirely misleading suggestion that scientists had created a jellyfish in the lab, a suggestion that quickly reproduced itself in likes and tweets on the part of newer, edgier visionaries eager to demystify organic life. *O Medusoid, where is thy sting?*

Of course the newer, edgier visionaries have been with us for a very long time. If you've read C. S. Lewis's dystopian satire *That Hideous Strength*, you will think of the National Institute for Coordinated Experiments and its artificially preserved "Head," and of the enlightened social planners who look forward to the time when

organic life can be replaced by something more efficient—like the virtually immortal, synthetic jellyfish.

Then there are the newer, edgier visionaries who, surveying the universe, pronounce philosophy and theology obsolete. A cosmologist proposes to answer the question, Why is there something rather than nothing? by evoking the vastness of empty space—apparently empty, that is, but actually teeming with virtual fields that are as full of “something” as my grandmother’s cheese blintzes. The real nothing with which philosophers are concerned is a much stranger beast, and the ex nihilo of theologians is as great a wonder as creation itself.

Scientists achieve mastery in their fields by observing a disciplined restraint. Trouble happens only when they stop doing science and start playing at philosophy. Then they are like the racketeer played by Burt Lancaster in the Louis Malle film *Atlantic City*, who says, “You should have seen the Atlantic Ocean back then.” They mistake the depths for the boardwalk; and if they are not pining for an imagined past, then they are dreaming of an unrealizable future.

We’re all familiar with the plaint of C. S. Lewis’s professor: “It’s all in Plato, all in Plato: bless me, what *do* they teach them at these schools!” I rather think, though, that it’s not all in Plato. It’s all in C. S. Lewis, Mary Midgley, Thomas Nagel, Hilary Putnam and the other really deep thinkers of our age who have seen the immortal jellyfish and drawn its sting.