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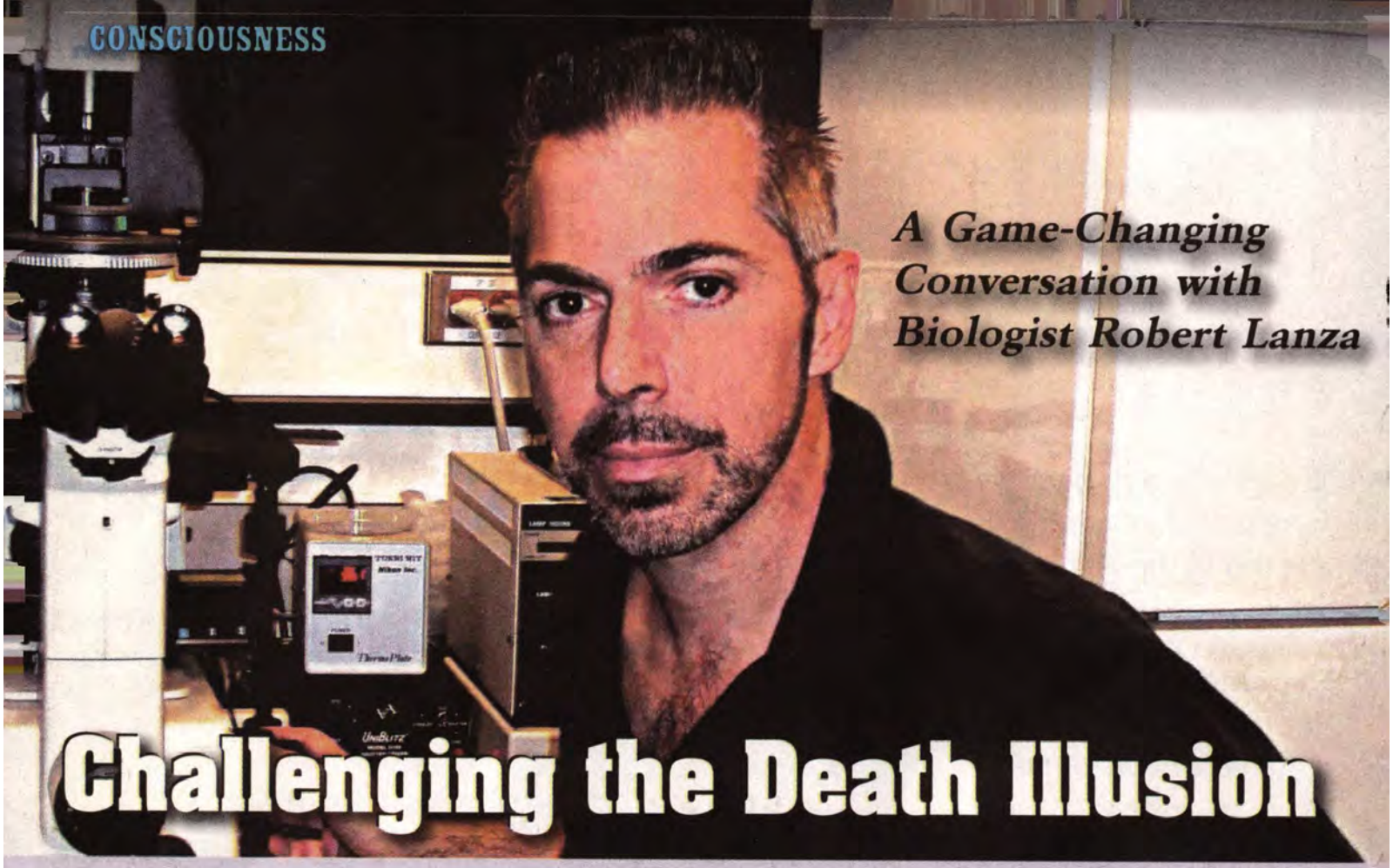

A Game-Changing Conversation with Biologist Robert Lanza

Challenging the Death Illusion

• BY CYNTHIA LOGAN

No man is an island, wrote English poet John Donne. Leading-edge biologist and geneticist Dr. Robert Lanza not only agrees, he says we're all One. Still, he lives somewhat sequestered from his fellow New Englanders—on an island not too far from his lab in Worcester, Mass. And, à la Emerson and Thoreau, he shares his 10 acres with wildlife: blue herons, swans, hawks, foxes, and racoons—even 'a fat woodchuck the size of a dog.' A bobcat has recently moved in, a welcome new neighbor, though Lanza says he could do without the beavers. From across the pond, which reflects dozens of the hundreds of trees he planted 20 years ago, the run-down red house he renovated now glistens white, with three-story towers surrounded with widow's walks and capped with copper-domed cupolas. Inside, the spacious living room's glass walls reveal Nature's splendor. Solid white walls sport museum-sized dinosaur fossils.

It might seem an odd décor choice for the author of *Biocentrism: How Life and Consciousness are the Keys to Understanding the True Nature of the Universe* (with popular astronomer Bob Berman) in which he dismisses—some might say 'disses'—Darwin's theory of evolution as 'an enormous oversimplification.' "It's helpful if you want to connect the dots and understand what happened in the past, but it fails to capture the driving force," he writes. And that driving force is what Lanza is after. As Chief Scientific Officer at Advanced Cell Technology and Adjunct Professor at Wake Forest University School of Medicine, he's not only on the cutting edge of 'consciousness science,' but is also a preeminent stem cell researcher. But those bones give him perspective; "they make your mind wander and think on a bigger scale." Lanza has dino eggs and tracks that were laid when Europe was pulling away from the U.S., when the mud was sliding. Among his treasures are a 12-foot dinosaur fossil a quarter-of-a-billion years old. Others lie petrified in layers twice as old. Lanza says living with the remains of these extinct creatures affords him 'the experience of paradoxical emotion.' "It pulls me in to experiencing what life is all about," he explains.

For Lanza, described by *U.S. News & World Report* as the embodiment of Matt Damon's character in the movie *Good Will Hunting*, life is about exploring, helping others—and solving the biggest puzzles of science. As a boy, he spent long hours outdoors, trying to figure out how the universe works. Growing up south of Boston in a severely dysfunctional family, he had to spend time outside, since he was rarely allowed into the house other than to eat and sleep. His father was a professional gambler; his mother was legally declared unfit to parent; and none of his three sisters finished high school. "It touches me painfully even now to look back into the days of my childhood," says Lanza. Initially placed in a 'slow learners' class, the budding young scientist exhibited drive and determination that came neither from nature nor nurture. "Einstein didn't do too well in school, either," he quips. But at 13, he altered the genetics of a chicken to change its color (the experiment was eventually published in *Nature*), then took a bus to Harvard Medical School to share his discovery and quench his thirst for knowledge. Nobel-nominated neurobiologist Dr. Stephen Kuffler (who Lanza took to be a janitor) opened the door both literally and professionally. "I felt like Dorothy in *The Wizard of Oz*," Lanza remembers.

Over the next decade, psychologist B.F. Skinner, immunologist Jonas Salk, and heart transplant pioneer Christiaan Barnard all mentored the youth, describing him as a genius on a par with Einstein. Lanza went on to earn an M.D. from the University of Pennsylvania and received a Fulbright scholarship. He has hundreds of publications and inventions and has written over 30 scientific books. He has been interviewed by nearly every media outlet in the world (Barbara Walters came calling for ABC, pursuing a story about living to be 150), and his work has been featured in scientific and popular magazines alike.

According to Lanza's theory, life isn't an

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ROBERT LANZA

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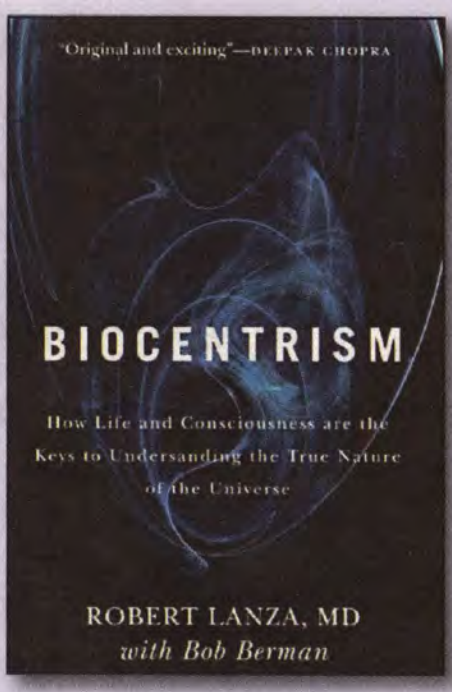
accident of the laws of physics. "The Big Bang has no explanation for why the universe is exquisitely fine-tuned to support life," he says. "Laws and constants are somehow set up just right in order for trillions of events to occur. Consider the meteor that wiped out the dinosaurs–the odds are astronomically against that happening–is it just dumb luck? Us being here is no more an accident than the sun rising." In this view of cosmology neurons, not atoms, form the base of an observer-determined world. Biocentrism is similar to the hypothesis of parallel universes (where everything that could possibly happen is speculated to occur simultaneously across multiple universes). "Think of reality as a recording," suggests Lanza. "You know, the old vinyl record. Depending on where the needle is placed you hear a certain song, yet all the other songs are on the album as well. Like those songs, every moment exists at all times."



Just don't start talking String Theory. Lanza finds it preposterous, though he's too diplomatic to put it that strongly, stating simply: "We have failed to protect science against speculative theories that have so entered mainstream thinking they masquerade as fact." He considers Einstein's space-time in this category, along with "new dimensions blowing up in different realms–not only strings, but bubbles shimmering down the byways of the universe. In some theories, up to 100 unseen dimensions are envisioned, some curled up like soda straws at every point in space!" Nor is he fond of T.O.E. Some scientists (Stephen Hawking and Carl Sagan come to mind) insist a 'Theory of Everything' is just around the corner... "it hasn't happened, and it won't happen, because the underlying worldview is flawed," says Lanza. He goes so far as to state that such thinking is a sacrilege to science itself. "Today's preoccupation with physical theories of everything takes a wrong turn from the purpose of science–to question all things relentlessly. Modern physics has become like Swift's kingdom of Laputa, flying absurdly on an island above the earth and indifferent to what is beneath."

There are literary and philosophical references throughout *Biocentrism*; Lanza is well read and considers science 'a natural philosophy.' "Einstein acknolwedged that Kant's *Critique of Pure Reason* greatly influenced him. Relativity and evolution are just as much philosophy as is Spencer, Kant, Plato or Artistotle," he insists. "Science is about analytically analyzing data in front of you. And just walking down the street you get a lot of data. Now science dismisses philosophy, which is the synthesis of knowledge. We've got a ton of experience from experiments; now, we need to synthesize and put them together. Instead we're sweeping it under the rug."

Adding consciousness to the equation explains why space, time, and the properties of matter depend on the observer. Lanza cites experiments which indicate that space and time are a whirl of information in our heads, including the famous 'double-slit' experiment (when observed, a particle passes through a multi-holed barrier like a bullet traveling through a single slit; when not observed, it moves through both holes like a wave) which proves that particles can simultaneously act as two separate entities, challenging our ideas of time and perception. He explains it in color: "The sky may be perceived as blue, but if the cells in our brain were changed to make the sky look green, was the sky ever truly blue, or was that just our perception?" If time and space are internal constructs, the question of life after death takes on a new context. "It's sad that we've been taught that you just die–it's silly to think we'd just die and rot, that there's a time matrix out there," says Lanza. "Death doesn't exist in a timeless, spaceless world."

As Deepak Chopra puts it: [With biocentrism] "The entire history of the universe is now an imagined history. It existed as probability states, but not as space-time events. The physical universe would not exist unless there was a consciousness in which it could be conceived, constructed, and come into existence." And as Lanza sums it: "Not a single particle exists with real properties if no observer is there to witness its birth. The universe bursts into existence from life, not the other way around."

So what about life bursting forth at conception? "Biocentrism and stem cells don't have much in common other than eliciting controversy," laughs Lanza, who has been criticized for his research by a Pope and more than one U.S. President. In 2006, he succeeded in obtaining stem cells from mouse embryos without destroying the embryos; in 2007, he and his team generated a method of harvesting stem cells without destroying >

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human embryos by using a single cell from a developing embryo in a technique widely employed in fertility clinics. But stem cell foes criticized Lanza's technique, taking the stance that the embryos he used (essentially 'borrowed' from couples undergoing fertility treatment) might have survived the procedure and that Lanza failed to prove the embryos were not harmed. Lanza counters: "I'm a big humanist. The soul and ethics is how you live your life. I was drawn to medicine to help people. In a way, you're as accountable for others' lives as you are for your own. I always look at things from the perspective that you can't have light without the dark. Will and free will are different sides of the equation, like chaos and order. Socrates said it: 'Define your terms.' It's how you're defining the system."

Lanza's first book, *Medical Science and the Advancement of World Health* as well as *One World* focused on ethics. "All that sentiment and money that's poured into high tech and health disasters in the Third World... with immortal cells we can make dosages cheaper than we can make pills or vaccines. In our lab, one technician can make thousands of doses." In clinical trials, Lanza's company is targeting age-related macular degeneration due to the death of retinal cells, a process that he suspects can be slowed or even halted using stem-cell-derived replacements. He believes similar procedures could help those with Alzheimers and neurological disorders, as well as regenerate bodily organs and tissues. "As you age you stop producing certain cells," he comments. "My goal is not to extend life just to extend it. What I'm trying to do is alleviate suffering. If I see people who are blind and I can give them an injection of cells that will allow them to see, well... that's the whole meaning of life, to help others."

The first person to clone an endangered species (a guar), Lanza has also demonstrated that a technique known as nuclear transplantation can be used to reverse the aging process and to generate immune-compatible tissues, including the first organ tissue engineered from cloned cells. Recently he and some colleagues generated 'induced pluripotent cells' from human skin cells by direct delivery of proteins, eliminating the risks of genetic manipulation.

He's comfortable manipulating genes to restore extinct species and regenerate human body parts, but how about genetically modified organisms in food? "We're working on things that could revolutionize agriculture," he says enthusiastically. "As a humanist, I'm more concerned with how technology helps the health and well-being of a population; we need to match that against fears that have no basis in fact. As a doctor, it's easy for me. I have concerns about destroying the environment. I've watched invasive species coming into my backyard, and we've lost portions of forest and chestnuts from bugs that came from overseas. With regard to genetic engineering, I'm the first one putting up a warning not to abuse this. There are serious biological and ethical issues. But if you've gone through the rigors of testing and peer review... [I think it's safe]." Acknowledging different views and opinions, Lanza (who loves Kraft macaroni and cheese) claims the FDA "would be all over it if GMOs were that bad."

Though he hasn't yet turned his extensive backyard into a vegetable garden, Lanza still loves long walks through the woods. And he's a big sci-fi buff. "I can't get enough of that. Reading (anthropologist, science writer, ecologist, and poet) Loren Eisley is like music. And I'm working on a novel with someone involved in Biocentrism." He laughs at the mention of his use of 'science pulling the old Three Card Monte' to gain acceptance of mainstream cosmology. "My father was a professional poker player, so I loved Hearts; I have some friends who want me to play with them and I'm very tempted... as my neighbor and friend Barbara O'Donnell used to say: 'Bobby, you're just like your dad; you just gamble with other things.' Just now, Lanza is betting that the world will embrace the principles of biocentrism, claiming that future experiments, such as scaled-up quantum superposition, will either support or contradict the theory.

"Honestly, science is here to help us understand and comprehend the universe," Lanza importunes. "To make up a geometry and an equation doesn't' help us. Scientific theories of the Big Bang, geology, and evolution are steeped in the logic of time and space. To place ourselves as the *creators* of time and space, not as the subjects of it, goes against our common sense, life experience, and education. He believes the change has to occur from 'outside the Priesthood' (he means mathematicians, and physicists), and points out that the same books most physicists read are now available to the general public. "Those who ask science to provide the ultimate answers or explain the fundamentals of existence are looking in the wrong place," claims Lanza. "It's like asking particle physics to evaluate art. The opinion-makers will shift the paradigm; people who read *Biocentrism* are starting to make this change. The artistic, more creative, most open-minded among us should decide." Winding up biocentrism, Lanza muses as to whether or not there are limits to consciousness, whether boundaries exist in any imaginable way. To answer, he hearkens back to Thoreau, who wrote: 'There is always the possibility... of being all.' ■

Double slit x-ray simulation