

1. THE HOPE AND THE HYPE ; NO, YOU CAN'T REVERSE AGING WITH GROWTH HORMONE, DHEA, ANTIOXIDANTS OR ANYTHING ELSE, INSIST RESEARCHERS WHO WORRY THAT THEIR LEGITIMATE PROGRESS IS BEING HIJACKED BY HUCKSTERS:[Chicagoland Final Edition]

Jeremy Manier *Jeremy Manier is a Tribune staff reporter. Chicago Tribune.* Chicago, Ill.: Apr 14, 2002. pg. 10

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S. Jay Olshansky paced among the gold statuary and lecture halls at the posh Venetian Hotel in Las Vegas last December, a party-crasher on a mission.

Olshansky, a demographer at the University of Illinois at Chicago, was on the lookout for dubious anti-aging treatments at the semi-annual meeting of the Chicago-based American Academy of Anti-Aging Medicine. He had been approached to speak at the conference, but when he accepted he warned the organizers that he disagreed with the group's view that currently available therapies can reverse aging. "I told them I would give my talk on the topic of why there is no scientific basis for their entire organization," Olshansky says. "They uninvited me. So I went anyway."

Inside the conference halls, Olshansky heard speakers tell the 3,000 physicians, lay people and health-supplement marketers, who paid up to \$850 to attend, how they could make money selling human growth hormone, DHEA, melatonin and other drugs as anti-aging remedies. In the exhibitors' area, marketers hawked more exotic potions, including "clustered water" and "star stuff."

Olshansky's favorite was a woman demonstrating a gunlike instrument with light coming out the front end. "She said, 'This device will channel the energy of the universe into your body,'" he recalls. "It was like a little flashlight. You can imagine the smirk on my face."

But Olshansky and other researchers are not amused by the threat they believe such tomfoolery poses to legitimate scientific progress toward understanding aging and finding ways to slow its ravages. Respectability is an especially touchy issue for scientists who study aging, a field historically linked with ancient alchemists and 19th Century snake-oil salesmen.

These scientists are particularly upset with Dr. Ronald Klatz, iconoclastic president of the Chicago-based American Academy of Anti-Aging Medicine. Klatz, 46, claims that available treatments can "de-age" patients, making what he calls "practical immortality" a real prospect. He dismisses the lack of mainstream acceptance for anti-aging therapies such as growth hormone, which he says can help older patients regain muscle mass and youthful vigor. "If you want to wait until there's undisputed evidence on all fronts, you and I will be remembered by our dusty obituaries," said Klatz, a self-described futurist who says he plans on living to 150.

Mainstream scientists say these claims are premature at best, and often just plain wrong. Some of the therapies have shown promising results in animal tests but have not yet been proven effective in human clinical trials. Others, like growth hormone, have shown only slight benefits in older people.

At the same time, researchers believe they are making steady progress in developing measures that could truly improve the quality of life's later years, based on more precise knowledge of genetics and more refined theories of how cells age. One intriguing strategy, caloric restriction, has been shown to dramatically increase the life spans and reduce age-related diseases in animals but is only now being tested for the first time in humans. Scientists believe studies like this will reveal deeper insights into the biology of aging and better ways to counter its damaging effects.

Yet these preliminary and relatively modest scientific advances already have opened the gates to an onslaught of Methuselah merchants on the Internet and elsewhere who exploit a multibillion-dollar market for dietary supplements and anti-aging drugs by promising a modern-day fountain of youth. Though Klatz's group does not sell anti-aging supplements, their enthusiastic support of such therapies has drawn much of the criticism.

"They just drive me nuts," says Dr. Thomas Perls, a professor of medicine at New York's Beth Israel Deaconess Medical Center who has studied genetic links to longevity. "I think once science began to produce some pretty fantastic real things, those on the fringes kind of glommed on to that," Perls said. "The Baby Boomers are coming to grips with aging and mortality, so unfortunately they're falling for this nonsense."

There is a \$1 billion worldwide market for anti-aging treatments offered by physicians or other health practitioners, Klatz's group estimates. Billions more are spent on dietary supplements and vitamins aimed at halting the effects of age.

Sometimes scams are easy to spot, such as the Las Vegas hucksterism Olshansky encountered, but the line between pseudo-science and the real thing can be blurry. Growth hormone, for example, has legitimate uses for some patients, though there is no proof that it works as an aging remedy. Such issues have created nasty quarrels among doctors and confusion for consumers. The debate also has attracted an odd assortment of characters, including patients with dubious anti-aging testimonials.

At the hub of the controversy are two Chicago factions whose scientific dispute has drawn national attention. Olshansky, 47, specializes in what he calls biodemography, using elements of evolutionary biology, genetics and demography to understand how human longevity changes over time, and what its limits are. Crashing the anti-aging academy's conference was just one step in his full-bore campaign against the group's claims. Along with noted researcher Leonard Hayflick, Olshansky and Bruce Carnes of the University of Chicago gave the academy a mock "Silver Fleece Award" in February for spreading the "misinformation" that current therapies can reverse aging.

In response, Klatz and the academy's chairman, Dr. Robert Goldman, denounced Olshansky's gesture as "done for his own personal gain" and "the height of hypocrisy and intellectual dishonesty perpetuated by Mr. Olshansky and the gerontological establishment."

"You can tell the pioneers by the arrows stuck in their backs," said Goldman, 46, a fitness devotee whose professional resume claims world records for handstand sprints and pushups.

Mainstream scientists emphasize that no one, not academic researchers nor Klatz's Academy of Anti-Aging Medicine, has shown how to roll back anyone's biological clock. Taming the underlying biology of aging remains a goal of scientists, but they are not motivated by dreams of immortality. The point of their efforts, they say, is to improve the quality of life in old age, not merely prolong it. What attracts federal researchers to caloric restriction, for example, isn't just that it extends the life spans of animals, but that it also appears to stave off the cancers and immune-system decline associated with old age. If these low-calorie diets have the same results in humans, it would point the way to a deeper understanding of the biology of aging and could yield new drugs or other measures to treat heart disease, diabetes and other ailments.

Discoveries in the last decade have given scientists a tantalizing glimpse of these basic mechanisms of aging. Since the first animal "longevity genes" came to light in the mid-1980s, research has turned up dozens of genes whose manipulation can extend life in worms, fruit flies and rodents. Many of the genes appear to regulate the insulin signals that control blood sugar levels; others increase resistance to stress from heat or ultraviolet light. Some changes may simply slow down metabolism in ways similar to caloric restriction. And just in the last few years, researchers studying centenarians have started to zero in on human longevity genes.

"These pieces are beginning to fall into place," said Huber Warner, associate director of the biology of aging program at the National Institute on Aging. "What we really want is to identify some essential processes and figure out other ways to modify them without actually changing someone's genes."

One solution may come from antioxidant drugs under development in the lab of Simon Melov, a researcher at the Buck Institute for Aging Research in Novato, Calif. Such drugs are designed to slow the body's accumulation of chemical and genetic flaws, which many experts see as the central cause of aging. Much of the damage stems from the way cells use nutrients and oxygen to make energy. That transformation releases free radicals--electron-deprived molecules that roam cells like looters, stealing electrons from other compounds and damaging tissue and DNA in the process. Naturally occurring antioxidants are the cell's defense against free radicals, but they are not perfect, allowing free-radical damage to build up as people age. Thus the very metabolic process that sustains life becomes, over time, the vehicle for life's demise.

As this free-radical theory of aging began gaining publicity over the past decade, health-product marketers were quick to advertise the antioxidant properties of various vitamins and enzymes, suggesting that taking them regularly could supplement the aging body's diminishing supply. But it wasn't until two years ago that Melov's team provided the first solid evidence that synthetic antioxidants could prolong an animal's life by mopping up free radicals. They gave hundreds of worms an experimental drug called EUK-134 that mimics the effects of two natural antioxidants, catalase and superoxide dismutase. Worms that got the drug lived up to 54 percent longer than the untreated group. Melov is now trying the same thing with mice.

"We hope we're getting real insights into how people age," he says. "The eventual goal is

therapeutics that stave off the effects of aging."

Klatz and his supporters believe such tools are already at hand, and should be used now instead of awaiting further testing. "We have a different political position: Aging is not inevitable," said Klatz, an osteopathic physician by training. No longer in medical practice, he sees his mission as "shining a spotlight on technologies that should be developed." The most important anti-aging drug in Klatz's view--the one he believes will spawn an "ageless society"--is human growth hormone.

"What we now call aging appears to be due in large part to the drastic decline of growth hormone in the body after adulthood," Klatz wrote in his 1997 book, "Grow Young With HGH." In it, he calls growth hormone "the first medically proven age-reversal therapy."

Such claims, at odds with the clinically proven benefits of growth hormone, have alienated many researchers from Klatz and his Academy of Anti-Aging Medicine. Researchers such as Olshansky question not only the group's scientific basis but also its practice of offering anti-aging "board certification" to doctors who pay \$3,400 and complete an examination. The certification is not recognized by the American Medical Association or the American Board of Medical Specialties.

Klatz and Goldman point out that much of the academy's curriculum focuses on uncontroversial routes to longer life, such as exercise and a sensible diet. "Anti-aging medicine is any technology or intervention which has an effect or benefit for the early detection, prevention or treatment of the processes of aging that lead to degenerative disease and death," Klatz says. "Growth hormone is only one tool."

Yet Klatz's writing includes extensive testimonials from people who claim that growth hormone has reversed their aging process. One of the most prominent stories in Klatz's 1997 book was that of Howard Turney, who ran a growth hormone clinic in Cancun, Mexico, in the early 1990s, before the drug was approved for use by adults in the U.S.

Turney started his own growth hormone injections when he was 59, after hearing of a widely publicized 1990 study by the late Dr. Daniel Rudman of the University of Wisconsin. Rudman found that 12 elderly men who received growth hormone replacement therapy tended to gain muscle mass and bone density, and to lose body fat. Turney describes the effects of his self-treatment with the hormone as nothing short of miraculous. He told Klatz it had sharpened his eyesight, improved his libido, rejuvenated his skin--even cured the palsy in his right hand.

But Turney's testimonial rests on nothing more than his own impressions of well-being, not a rigorous scientific process of examination and measurement. Turney, who has since changed his name to Lazarus Long after a character in a science fiction novel, said in an interview that he has no clue what effects his nightly growth hormone injections have had on his cholesterol, blood sugar or any other biological benchmarks. In fact, Long says he hasn't seen a doctor in years.

"I'm doing so well I don't need the doctors," says Long, now 70. "I just float along and act like I know what I'm doing, and it works."

Klatz says he has always urged that growth hormone patients continue to be monitored by a doctor. He has disdain for critics such as Olshansky, saying they simply have not seen what

treatments like growth hormone can do for patients. "These people are critiquing a clinical science of which they know nothing, and of which they have read next to nothing," Klatz said. "Olshansky is a demographer, a statistician. . . . It's like me trying to critique French cuisine, and I can't use a microwave oven."

But growth hormone skeptics also include respected clinical physicians such as Dr. Marc Blackman, director of the National Center for Complementary and Alternative Medicine at the National Institutes of Health. Blackman, who leads the largest study on the effects of growth hormone on otherwise healthy older people, says exaggerated anti-aging claims have encouraged overuse of the drug.

"To have people just seeking out this kind of medication, whether it's a 70-year-old or a yuppie 40-year-old who never wants to look 50, is something that I have a real problem with," he says. It's true that growth hormone decreases with age, he says, but hormone supplements do not turn back the years for elderly patients. Blackman's studies show that growth hormone's effects on muscle, fat and bone amount to "consistent benefits that are relatively modest."

"What hasn't been shown by any study is whether the functional status of healthy older people is improved, such as the ability to use muscles in important ways, like carry groceries or climb stairs," he says. "That means it's not fair in my mind, or in the minds of others actively involved in this research, to claim that the aging process is relevantly slowed down."

Far better understood are growth hormone's side effects, which in Blackman's patients have included diabetes, carpal tunnel syndrome and high blood pressure. "A bigger concern is whether it causes exacerbation of a known or undetected cancer," Blackman says. Some cancer tumors have receptors for growth hormone, and animal studies suggest there could be a long-term risk for people.

Klatz says the anti-aging doctors he knows are able to prevent serious side effects by adjusting the dose of growth hormone. He adds that many substances that can cause cancer in the lab are benign in smaller doses.

But given the clear risks and uneven benefits, Blackman says, growth hormone as an anti-aging remedy is "not ready for prime time."

Experts agree that children and adults with severe growth-hormone deficiency should get the drug. Yet while the anti-aging academy's publications suggest that up to half of men over the age of 65 may be deficient in growth hormone, professional groups put the number far lower. The American Association of Clinical Endocrinologists estimates that only 35,000 Americans have genuine, adult-onset growth-hormone deficiency, making the condition only slightly less rare than hemophilia.

If growth hormone offers any insights into aging, it may be that animals with low growth-hormone levels actually tend to live longer. Mutant dwarf mice that produce no growth hormone grow more slowly and live longer than normal mice, says Dr. Richard Miller, a researcher in geriatrics at the University of Michigan Medical School. "The evidence is that all four mutations that stop growth hormone extend life span," Miller said.

Dog breeders have long known that toy breeds can live up to two times longer than Great Danes and other giants. One explanation may be that prolonged exposure to growth hormone throws off insulin levels, and speeds the growth of cancerous cells that first appear in younger life.

If that's true, then the decline of growth hormone in older people may be no accident. Growth hormone replacement therapy could actually scramble nature's program for long life, says Dr. Robert Butler, former director of the National Institute on Aging and president of the New York-based International Longevity Center-USA. "Rather than extending life, you may get what I call 'shortevity.' "

Butler contends that the Academy of Anti-Aging Medicine ignores such risks and misleads elderly consumers by claiming that current treatments could lead to immortality. Klatz bristles at the charge. "We're not talking about immortality," he says.

Yet the word peppers his books and presentations. "Bridges to Immortality," "Countdown to Immortality," "The Benefits of Immortality" and "Biotechnologies Leading to Human Immortality" are some of his titles.

When this is pointed out, Klatz backpedals. "Immortality is an unfortunate word, but it grabs people's attention," he explains. "When I say immortality, I'm talking about practical immortality. That's anything over 100 years of age."

But in his 1997 book, Klatz predicts the arrival of real immortality by 2052, aided by cloning technology and the electronic storage of personalities in "memory psyche-chips."

"As the leader of a movement, you have to say things that make people think beyond the box," Klatz says. "Sometimes you are a little grandiose, artistic. You use some literary license to make people think."

Adds Goldman, "Ron is a futurist by mind-set, so he likes to talk about what could be."

Goldman and Klatz believe their controversial views helped land them in trouble with the Illinois Department of Professional Regulation, which fined them \$5,000 each in 2000 for placing "MD" after their names. Although both men have osteopathic degrees and graduated from an MD program in the Central American country of Belize, they have never been licensed as medical doctors in the U.S.

"Didn't you find it interesting that ours are the only two cases of this kind in the history of the state?" Goldman asked. Department spokesman Tony Sanders says there was one other case, in 1986, in which an osteopathic physician was disciplined for identifying himself as an MD.

Goldman and Klatz graduated in 1998 from the Central America Health Sciences University, which had opened just two years earlier. Goldman says their unusually quick degrees were possible because they had transferred credit for some osteopathic coursework and completed "quite a number of months" of clinical rotations in Mexico. He says they are licensed as MDs on the island of St. Vincent and some other Caribbean nations. They needed the degrees, he says, because doctors in some countries don't understand that osteopathic physicians can perform many of the same functions as MDs in the U.S. "If we were using it to recruit patients it would

be a different story," Goldman says.

Although an agreement with the state enjoins Goldman and Klatz from calling themselves MDs in Illinois, the title continued to appear after Klatz's name in an essay he published in the February 2002 issue of *The Futurist* magazine.

Even as Klatz has built a following based on his anti-aging medical tips, he has claimed in court that he lacks the cognitive and physical ability to practice medicine because of injuries stemming from a 1992 car crash. Klatz and his insurance company are suing each other in federal court over Klatz's claim that he is entitled to disability compensation for his condition, which he says included a head injury.

"It affects my ability to process new information," said Klatz, who since the accident has written or co-authored four books, filed for 13 patents and started the anti-aging academy, in addition to his medical education. The insurer, General American Life Insurance Co., claims that Klatz's wide range of activities shows he is not disabled under their definition.

As for their anti-aging work, Klatz and Goldman believe their disputes with academics have distracted from what they consider an essentially positive message about aging. "It's very frustrating when you're trying to do everything right, and you know you're making a difference, and you have to deal with this scorn," Klatz says.

Many medical interventions and lifestyle changes--including exercise, cholesterol-lowering drugs and organ transplants--no doubt help many people live longer. But experts say that's a far cry from proving that treatments can slow or stop time's march. The difficulty of implementing caloric restriction--the best-proven intervention thus far--suggests that the road to real treatments for aging will be a long one.

No one has more of a personal stake in research on caloric restriction than Dr. Roy Walford, 77, professor emeritus of pathology at the University of California at Los Angeles. Walford, a published short-story writer and playwright in addition to his career as a researcher on aging, has pursued an off-and-on regimen of caloric restriction since the 1980s when he saw how his diet experiments extended the life spans of mice and fish.

It's hard to gauge the diet's worth in Walford's case. He suffers from a mysterious neurodegenerative disease that he traces to his two years as the physician inside Biosphere 2, a controversial experiment in the early 1990s intended to simulate a space colony in the Arizona desert. Walford says the facility's sealed environment allowed a build-up of toxic nitrous oxide gas.

Walford, who captained the wrestling team at the University of Chicago in the 1940s and once talked of living to 150, now walks with difficulty and speaks in a slurred, raspy whisper. "No one thinks it has anything to do with caloric restriction," he says. "I don't regard myself as an experiment of one."

Still, Walford's stay inside Biosphere 2 with his seven crewmates amounted to a small-scale test of caloric restriction. Eating a low-fat diet of vegetables, nuts and grains, the crew members each consumed less than 2,000 calories a day on average, about one-third less than a normal diet

for people their age and activity level.

Few patients could adhere to such a regimen, and fewer physicians would recommend it. Yet Walford found that most participants' cholesterol and blood pressure decreased by one-quarter or more, while their health and physical activity remained normal.

"It's about as difficult to maintain as any diet," Walford says. Photos taken of him when he left Biosphere 2 reveal a gaunt, almost Nosferatu-like figure.

Scientists have known since the 1930s that reducing the amount of food that rodents eat can extend their lives by up to 50 percent. Studies of caloric restriction in primates began in the late 1980s-- too recently for researchers to have measured the effects on life span. But the first wave of results is encouraging, according to Richard Weindruch, a former student of Walford's.

Weindruch, a slightly built scientist who studies caloric restriction with rhesus monkeys at the University of Wisconsin at Madison, says the approach seems to benefit monkeys as it does rodents. While about half of normally fed monkeys develop Type II diabetes in later life, Weindruch says the condition is completely absent in monkeys on caloric restriction. Those animals also have fewer signs of arthritis in their spines, he said. They get as much protein and other nutrients as the normal monkeys, but far less fat and carbohydrates.

Although monkeys on the diet look much skinnier than the control group, Weindruch says their behavior appears unchanged--with one understandable exception. "The restricted animals are much more excited when it's time to eat," he says.

Weindruch believes that restricting calories may slow aging and stave off disease by altering the pattern of gene activity in organs such as the heart and the brain. He and his Wisconsin colleague, Thomas Prolla, are using devices called microarrays to track the action of up to 30,000 genes over time in long-lived animals. "One can start to ask whether an intervention has the ability to oppose aging on an organ-specific basis, and to what degree it mimics the effects of caloric restriction."

The new NIH clinical trial of caloric restriction in humans is the long-awaited culmination of decades of animal studies. Researchers hope they can finally show useful applications of that work. "The point is not to make this diet a broadly applicable intervention for the public, but to understand the metabolic mechanism by which caloric restriction might benefit people, then to develop drugs that would mimic that," says Chhanda Dutta, a lead organizer of the NIH study.

"Our mission is not to find the fountain of youth," she adds, "but after a certain point you have to look at how you can translate findings in the lab into clinical interventions. It's time for the rubber to hit the road."

Although the NIH trial will not measure life span, it's tempting to wonder how long a person on sustained caloric restriction might live. Huber Warner of the NIH says the 40 to 50 percent increase in mice life spans might be a good guide. "If you could get a similar effect in humans, you'd be looking at an average life span of 112 to 115 years old."

Even Olshansky, who is skeptical of life-span predictions, says he won't be surprised if someone

breaks the current record for longevity--122 1/2 years, set by the late Jaenne Calment of France. But breaking the record by decades within the next century or so would be like someone running a two-minute mile--"not biomechanically feasible," he says.

To back up that assertion, Olshansky made a high-stakes wager two years ago with University of Idaho zoologist Stephen Austad. Olshansky bet \$500 million that no one alive in 2000 will still be around in 2150. Austad believes that advances in antioxidants or therapies based on genetic research will permit at least a few people to cross that barrier.

The huge pot comes from an initial stake of \$150 each, with \$10 more thrown in each year while the two men are still living. Assuming an annual return of 9 percent, the miracle of compound interest does the rest.

"I'm going to have some immensely wealthy descendants," Austad said. He believes the winner may even be one of his two young daughters. Olshansky concedes that "there will be biomedical innovations that allow us to affect the aging process. It's just that I don't think it will happen soon enough to help anyone alive today."

As a longevity optimist, Austad might seem a natural ally of Klatz and the American Academy of Anti-Aging Medicine. But Austad said he agrees with Olshansky that the means to reach 150 do not yet exist, and that no available therapy can reverse the aging process. He turned down an opportunity to speak at the academy's conference last December. "I refused to have my name associated with that group," Austad says.

Even Roy Walford, who received the academy's "Infinity Award" for progress in aging research, said the group's approach to the topic is unscientific, and none of the supplements touted as anti-aging medicine have ever been shown to lengthen life. "I think they deserve to be marginalized," he says.

One of the anti-aging academy's few strong allies among academic researchers is Dr. William Regelson, a professor of medicine at Virginia Commonwealth University School of Medicine and author of "The Superhormone Promise." "They have a different attitude, and I have to compliment them for it," Regelson says. "They have good people, but also a lot of hustlers who are trying to sell product."

Much as Klatz has drawn fire for his views on growth hormone, Regelson has become a controversial apostle of the drugs DHEA and melatonin.

"I'm 76--I'm trying to save my ass," says Regelson, who has explained his research interest in those terms for more than a decade.

DHEA's main function is to help the body produce sex steroids such as testosterone and estrogen. Melatonin is a hormone that regulates sleep rhythms. Regelson asserts that the two drugs, in addition to reducing the effects of aging, could be effective against a puzzling variety of ills, including anthrax, Alzheimer's disease, lupus, radiation damage to bone marrow and West Nile virus. He claims his melatonin regimen has even halted the macular degeneration in his right eye.

"I can see big letters now. It's a one-man clinical study," says Regelson, who acknowledges that his unorthodox ideas have made him "an isolated force within my own institution."

Most researchers say melatonin can help prevent jet lag, but little else. DHEA has shown few benefits in trials on humans, says Richard Miller of the University of Michigan. "It makes people feel better in about half the studies. That's not surprising, because it's an androgen, and androgens have mood-elevating effects," Miller says.

Many mainstream researchers said they agree with some of what Klatz's academy preaches. For example, Miller said he broadly agrees with Klatz's contention that the National Institute on Aging spends too little for basic research on the biology of aging. The NIA puts the figure around \$100 million per year--a liberal estimate, Miller believes.

"Fundamental aging research doesn't have the same sort of lobby that other diseases have," Miller said. "It gets only a small portion of the government's research dollars. I would be delighted if it got more." But Miller stops well short of Klatz's view that the message to seniors from mainstream gerontology is to "drop dead and make room for the next guy."

Olshansky also praises some of the anti-aging academy's stances, such as its advocacy of the long-established notion that exercise and proper diet can lead to a longer and healthier life.

"Their underlying message is that we can and should take control over our own health status--and that part I completely accept," Olshansky said. "It's basic preventative medicine, of a sort that's been known since Hippocrates. But then they add claims about stopping or reversing aging, which are not justifiable."

Whether such claims are valid or not may ultimately be beside the point. What the anti-aging pitchmen are really offering the nervous multitudes of aging Boomers is not medicine so much as hope. And all it takes to market that commodity is self-confidence and persistence.

"At the end of the day we know we're right, and what we're doing is right and just," says the anti-aging academy's Goldman. "Time will prove us out."

Olshansky thinks the passage of time holds another lesson. "A lot of people are living in a dream world--they want to deny that aging occurs, or believe it doesn't have to occur. They'll hold on to this belief until the moment they die. The reality will eventually hit them."

[Illustration]

PHOTOS 2 GRAPHICS 2; Caption: PHOTO (color): S. Jay Olshansky, a demographer of aging at the University of Illinois at Chicago, and two other researchers recently gave the American Academy of Anti-Aging Medicine a mock "Silver Fleece Award" for spreading the "misinformation" that there are therapies available to reverse the aging process. Photo: Bill Hogan. PHOTO (color): Dr. Ronald Klatz, president of the American Academy of Anti-Aging Medicine in Chicago, poses with a human brain specimen at the academy's North Side headquarters. He dismisses Olshansky as a "statistician" and says the researcher and similar

critics "are critiquing a clinical science of which they know nothing." Photo: Phill Snel.
GRAPHIC (color): Illustration by Matt Mahurin. GRAPHIC (color): ON THE COVER:
Illustration by Matt Mahurin. (Magazine, Page 4.)