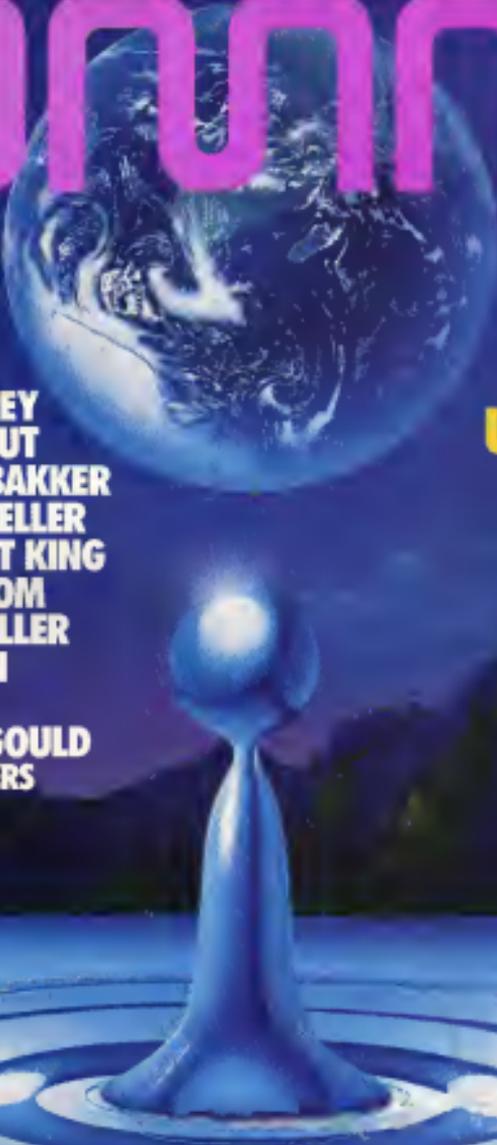


# OMNI



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## UTOPIA

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A WISHBOOK  
FOR THE NEXT  
CENTURY

**EIGHT WAYS  
TO HAVE AN  
OUT-OF-BODY  
EXPERIENCE**







## FIRST WORD

By Mary Stolt

**I believe we need a national health care system that's controlled and managed by consumers, who will act in the interest of the public rather than in the interest of the hospital corporations.**

America has been struggling for decades to formulate a national health care policy. Unfortunately, today's health care system could be described as what H. L. Aschil, a professor at the Wharton School of Decision Sciences, calls "a mess." American health care is clearly not a policy prepared for the future. What we have instead is a patchwork of self-sustained health care delivery systems, duplicating the same programs over and over again.

Our health care strategy is based on the concepts developed under a capitalistic society of free enterprise where hospitalization has become a booming business. This system has offered the public a variety of health care opportunities, but it has also stimulated costs that most people simply cannot afford to pay. Many of these individuals end up with improper care or no care at all.

It is a disgrace when one of the wealthiest countries in the world, which spends \$600 billion to \$800 billion on health care each year, allows scores of people to receive inadequate medical care. This figure exceeds by far the monies spent by other Western countries on their health care systems.

A major cause of these high costs stems from the overexcess purchase of such new state-of-the-art, high-powered, medical equipment as computerized axial tomography (CAT) and magnetic resonance imaging (MRI) scanners, which cost millions of dollars each. The decision to equip medical facilities with these technologies are not usually made in the interest of the public but for the power and the glory of the hospital itself. A CAT scan, for instance, may be available at ten hospitals in a single community where in fact only one hospital needs to provide it.

Not only is the nation's health care policy taking as a whole, but the system is also unaccountable to the taxpayer. The Veterans Administration (VA) medical system, with a \$10 billion budget, serves, in the eyes of many veterans and observers, as a primary training ground for medical school students—not as a domain for the care of service-related illnesses of the veteran.

The tragic aspect of this system of health care is that it has been driven far afield from its original mission. When confronted with combat-related medical conditions, such as those suffered during the Vietnam War and afterward, the system cannot even remember the traditional mission of how to deal with these conditions. It alone cannot provide the necessary resources to meet the demands.

What we have in the overall health care delivery system is a reflection of the state of American man: beleaguered by extraordinary waste, inefficiency and even organizational incompetence involving around totally neglected priorities. We have a maze of confusion in which more and more people are less and less

aware of their personal needs, a situation where more people are extracting their life savings, with a health care, through, strikes.

Against this backdrop, one asks if anything good for the future will flow from the strikes of today's health care mess. I believe changes are bound to come, but it will not be an easy process.

As we approach the year 2000, I have hope that we will begin the mobilization necessary to create a new health care system that will properly care for our sick. Some of the changes needed include a national system providing catastrophic health insurance. National health insurance would create a common delivery system for patient care, a common billing system, and a common strategy for all our health care needs.

I believe we need a health care system controlled and managed by consumers who will act in the interest of the public, rather than in the interest of the hospital corporations. The current trend calls for doctors to run the large health care and medical teaching facilities as well as care for the sick, making their responsibilities far too complicated. A consumer-run hospital system would take pressure off the medical field and directly confront the patients' needs.

The state of the world's health also calls for the development of an international network to solve global health problems that are already out of control. Primarily as a result of misplaced medical care and funding, hundreds of people in the Third World die from such treatable illnesses as cholera, malaria, hepatitis, and measles.

Finally, we need to tackle the ethical issues that have arisen from recent medical breakthroughs. Man has progressed in science at such a rate that he hasn't stopped to properly confront some of the moral issues we now face in the health care field. We have developed ways to transplant organs from one human being to another, and soon we will have the ability to select the sex of our children. Through genetic engineering we can purposefully generate new life. But who's capable of deciding who gets his liver or who gets his heart? Is it ethical to breed more girls than boys, or vice versa? And how far up the evolutionary scale should we be allowed to create new life?

I believe it is possible to create a health care delivery system for tomorrow that is integrated, affordable, interdependent, innovative, and internationalized. A centralized computer information system will instantaneously provide the availability of care for each patient's needs; the remarkable medical breakthroughs being made available to us today will be successfully applied; and the costly supervisors of today's medicine will give way to a patient/consumer-driven system of care for the people. **DO**

Mary Stolt, who served as an Army nurse in Vietnam, is the president of the Veterans Veterans of America.

# CONTRIBUTORS

## OMNIBUS



PARADISE TOSSED



THE DARK SPACE UNIVERSE CATALOG



PORTS OF RECALL: THE NEUROLINK



LADYGAIN



50/50% ABSTRACTION

Where in the cosmos could you get a piece of actual Skylab debris? Grow the ultimate crystal garden? Buy a personal cloning kit? You could spend days seeking out mail order houses, scouring advertising flyers and scanning reader services in the backs of obscure periodicals. Even so, you might not find what you're looking for. Now you can refer to a single source—*Omn's Whole Universe Catalog*, a unique directory overflowing with offbeat items, fantastic artifacts, and super services.

"Everything in the catalog had to meet certain criteria," says senior editor Douglas Coligan, who coordinated the project. "Each item had to have an element of *Omn*: whether it related to space, astronomy, artificial intelligence, science fiction, or even UFOs. Some items, like the Sentry Robot, the Cockroach Race-track, and the US Space Camp's space cuisine, feature comments or anecdotes from the famous, semi-famous, or would-be famous." Coligan says.

In addition to goods and services, the *Whole Universe Catalog* includes a test to determine whether you're left- or right-brained. And we supply details for accumulating your own whole-brain tool kit with items like the Hem-Phone, the Idea Generator, and Synchroanagrams. There's even a section on out-of-body experiences (OBEs), with instructions for inducing the journey of a lifetime without ever leaving your home. Whether they prove the existence of the soul or are just

vivid dreams or hallucinations, OBEs are fascinating mental gymnastics.

While compiling the catalog, Coligan contacted numerous mail-order companies and tacked down leads furnished by *Omn*'s staff members, relatives, friends, acquaintances, and probably even strangers. In fact, that guy you saw rummaging through the garbage on the street corner might have been Coligan—who became a mail-order catalog junkie. "It was like shopping without having to buy anything," he says. "With all the products that began serving for our consideration, my office began to look like a shipping dock."

Coligan has been associated with *Omn* since the magazine's inception—first as a freelance contributor and then as senior editor for the last six years. Now he's moving on, and we wish him well in his future endeavors. As a result of his work on *The Whole Universe Catalog*, of course Coligan may have a budding career as a catalog editor. "In my personal Utopia I would probably be surrounded by mail-order catalogs and have a charge card with an unlimited line of credit," he comments. Sure, Doug. And in his Utopia actor Roy Rogers wants to have a raccoon in every backyard.

Rogers, Joseph Kennedy II, Coretta Scott King, Elie Wiesel, Harvey Fierstein, and numerous others—including our hero *Mr. Headroom*—awake their dreams of a Utopian world in "Paradise Tossed" (page 36). For a behind-the-scenes

look at the creation of these Utopias, turn to Forum on page 14.

Authors Edward Bryant, Pat Cadigan, Michael Swanwick, Dan Simmons, and Patricia Highsmith conjure up their own dystopias. Together their nightmarish worlds make up *A Handful of Horror*, a collection of short stories that begins, on page 64. The stories range from high-tech terror to the angst of everyday living. "says fiction editor Ellen Datlow, who commissioned the works. And in "Fragments of Papyrus from the Temple of the Older Gods" (page 64) William Kotseff offers a tale of paradise lost because the Pharaoh misses the boat.

The pictorial "Astral Abstraction" (page 77) displays photographer Dean Himmelreich's world of "imaginary astronomy" experimental art created on a whim. But what good is a vision of another world if you can't remember it? Most of the conundrums that inspire modern science, from quarks to quozars, lie outside every-day experience. Memory is experience somehow saved from the ravages of time. In "Ports of Recall: The NeuroLink" (page 64) Bruce Schacter reveals the strides neurobiologists and other researchers are taking toward creating a memory map. As scientists determine the circuits that wind through the brain, coding information and storing memories, they will not only help those suffering from brain disorders, but might also be able to enhance the abilities of the healthy. And that's not just a Utopian dream. ☐



# IN SEARCH OF UTOPIA

## FORUM

By Murray Cox

I often go to a piano bar called the Duplex, a little place tucked away on the middle of Grove Street in Greenwich Village. Upstairs there's always a cabaret show, downstairs people sing all sorts of songs—numbers from musicals, Motown (Sunday night is the best for that), Fifties and Sixties pop charts. Joan Rivers did a gag here many years ago: So they say, old Woody Allen and Steve Martin. I go to unwind, I say. To meet friends, to talk about everything and nothing, the big stuff the funny things. Nancy Reagan fell off the podium today. Cher was great in *Moonstruck*. That dirty stupid little war in Nicaragua. You see, we decide who's talented and who's not, we decide what should be done all over the globe.

One night I was sitting at the bar—someone's singing Peter Pan's number "I won't grow up, I'll never grow up"—and a friend, Bob Quinn, leans over. I know it's going to be one of those big questions: "How come no one talks about Utopia anymore?"

As I say "Dunno," I imagine—as I often do when I sit there—that I'm in a cabaret in Berlin, it's the late Thirties, pre-World War II, a woman belts out a torch song, cigarette smoke fills the room, couples struggle, soldiers whisper rumors of war—now that's reason to slip away to a dark dive and sing, A Utopia... of sorts?

I hear Bob say "Maybe no one believes in Utopia anymore."

"Maybe wife just too selfish," I say. It's the late Eighties, a greedy era, BMWs, youth creams, second homes, the right number of kids. We're a satisfied bunch.

"So, Bob, do you believe in Utopia?" He is quiet. "There are some givers," he says, "a world without hunger, sickness, poverty. I want a world where children can live, learn, grow, and be nourished in an atmosphere that's fair, decent, and good. Where people are more accepting of others, but more importantly, of themselves. A place where people follow their hearts as well as their heads. And oh, no politicians!"

An idealist, Utopia's farthest? Light talk, far jollier, nothing serious. Really? Utopias not serious? I was deadly serious

about Utopia once—about 20 years ago. The Sixties and Utopia. Why do I make the connection? Because it's the closest I've ever gotten to an ideal. The dawn of Aquarius, I was in Chicago, 1968. The '68 offensive: King shot, Kennedy shot, Prague Spring, Michigan Avenue, Chicago's Loop, looked like pictures from Prague. Devouted Cleaver's Soul on Ice. I ran from the Maze and billy clubs at the Chicago Democratic convention. And I ran from the draft in the years that followed, lived in a lot of places. Hardly Utopian. In Ghazk, Utopia means no place. "Maybe that's where I was, no place, trying to live out ideals that couldn't be made real. Utopia. No more war. What are we fighting for? No more racism, sexism, homophobia. 'We shall not be moved.' Sing, sing, and dance. Join SDS. Really laugh. Utopia."

Later that night, after Bob and I talked Utopia, my boss, Pat Adcock, stopped by. Bob asked her the same question. She saw what I had missed. I know when I looked over at her I had a project coming my way. Find out peoples Utopias, she said. Simple, eh? That was a year ago. You can find the blueprints on page 26.

"Paradise Tossed." At last I was afraid we'd get abstract, heady stuff—everyone trying to make themselves look good, all sounding the same. After I scanned the first few transcripts, I knew we had something. People were serious, yes, but they were letting themselves go. They felt there was a great need for spreading some idealism about what could be. I have almost 300 pages of Utopian visions.

To learn people's ideas of Utopia is to find out a great deal about them: their highest hopes and wildest dreams, their standards and prejudices. Anyone someone speaks about Utopia, it is a way of making commentary on the shortcomings of the present. Maybe what we have here is a cultural index of our unhappiness, our discontent with what is.

I hear—or do I just want to hear?—the echo of past days coming through these Utopias: justice, liberty, brotherhood for all, food, clothing, shelter, education,

medical care for all—no matter, as Michael Harrington says, "if they are lazy, promiscuous, irreligious, rotten people. No one should have to go hungry or cold—scoundrel or not." Sounds like the Sixties to me, that social justice stuff. Perhaps the times are a change, again. "I miss the wonderful passion [of the Sixties]," says Linda Ellerbee, one of our Utopians, "but I am hopeful that in the Nineties we will begin to see people remember that they are not alone in this world and turn around and care about each other."

Which means, of course, as you read these visions, you're going to be faced with your own biases and belief systems. Harrington must be a snowball, no? And Ellerbee? Well, who's she anyway?

Marian Long, one of our contributing editors, overcame a number of obstacles in the course of populating *Utopia's Utopia*. Interviews were completed under a variety of difficult circumstances: from hospital beds (Joseph Kennedy II), movie locations (Lara Wortmüller), campaign trails (Jesse Jackson), tour buses (Phil Glass). People communicated with us from Europe and South America. Mother Teresa wrote her Utopia and mailed it from Calcutta the first week of January. Surface mail isn't, well, Utopian yet. It never reached us. "If Mother's response does not arrive in time," said one serene Missionaries of Charity Sister, "perhaps it is not the will of God."

Not everyone got the idea. Sam Donaldson's initial response, contained in a note scrawled to be secretary, "There is no such thing as Utopia, and there never will be, and these people are crazy if they think otherwise."

For the project is over. Now it's your turn. I sit and hum an old tune. "The long and winding road that leads to your door will never disappear. I hope you're as pleased with our Utopians as they were to participate. "I am flattered," said Thomas Szasz, when he insisted on completing his interview despite the press of overseas work obligations. "Surely," he added, "one who does not keep one's promise could never be a part of Utopia." ☐

# COMRADERY

## SPACE

By Alice's Oberg

**W**hen Soviet cosmonaut Colonel Yuri Romanenko returned to Earth after his record-breaking 325-day stay aboard the space station Mir, he surprised the world press by complaining publicly about one incident during the mission. Midway through the flight, his crewmate and friend Aleksandr Lavchenko was ordered back to Earth because doctors had detected an irregular heartbeat.

"Comrade Lavchenko left the space station with hard feelings," Romanenko said. "It was difficult for me, too." Later in the same interview, he said that Lavchenko's replacement was capable enough, but he landed at other adjustment problems when he noted cryptically: "We didn't have very much in common as far as personal beliefs were concerned."

Months before, while Romanenko was still orbiting overhead, an eclectic group of experts had come together to discuss some of the very problems he was experiencing. To try to anticipate what adjustment problems lie ahead for space voyagers, NASA helped sponsor a special meeting of people who have had similar psychological experiences on Earth. Attending were Antarctic explorers, national-park rangers, and psychologists from NASA and the U.S. Navy. The group probed the internal, pioneering experience, trying to define the mental terrain space pioneers will have to tread.

The logic behind the gathering was simple: Studies of the internal problems people have had in stressful pioneering experiences in this century—long submarine journeys or isolated stays in wilderness—may help those twenty-first century pioneers who will traverse lunar craters or Martian mountain ranges in search of knowledge and meaning.

What those experts have found is that in these frontiers of human experience, ordinary thought processes can change radically: perceptions of reality and danger can be altered; and episodes of confused or altered states of consciousness—drifting of cerebral processes—may all be part of the space experience. Future space explorers may look forward not

only to brain-draining sensory deprivation but brain-enhancing capabilities usually suppressed in ordinary life. The quality of human relationships may change.

For example, most winter-over Antarctic explorers (adventurers who spend at least a year in that region) experience some degree of mental drift—reduced concentration, motivation, and energy levels. Romanenko confirmed this for space explorers with his observation that "the most difficult thing in a [long] duration flight is to retain a high level of ability to work efficiently and to distribute all your forces from beginning to end."

Less apparent but more insidious are subtle changes in pattern recognition. When presented with a pattern of two lines converging on a distant point, winter-over subjects interpreted the lines not as converging, as an adult normally would, but as radiating out from that point, as a three-year-old child would. Subtle changes in pattern recognition like this could have profound implications for space travel, where being able to read technical graphs, diagrams, and charts is crucial.



The Mir. Friends in high places rarely help

Another problem for future space travelers could be more dramatic misperceptions. People in isolated groups have been known to hallucinate. Naval clinical psychologist Benjamin Weylrose, a veteran of many pioneering submarine voyages, found that most hallucinations were auditory—some crew members swore they heard the sounds of malfunctioning equipment. A few though had visual hallucinations. "They thought they saw cracks in the hull," he says.

When real emergencies occur, the response could be equally unreal. "In the Antarctic, people do not always take appropriate action to a perceived danger," notes Kenneth Nulken, a physicist and psychologist. "Once there was a fire inside a tunnel between buildings in the Antarctic. The people inside had ignored safety equipment and hadn't bothered to check out emergency evacuation places," he recalls. "People ran inside that tunnel to fight the fire."

At the same time, that reduced state of alertness enhances other states of consciousness: Movies, dreams, and daydreams become important; flashbacks are vivid; a person's eyesight and sense of smell may become more acute. For example, psychiatrist Anand and Minarino Barabasz noticed a dramatic increase in imaginative involvement in their Antarctic winter-over subjects. The Barabaszes noted that some people got so absorbed in reading a book, they felt they were living the experience of one of the characters and had to be physically shaken to break their concentration.

For others, fantasies became obsessive. One Antarctic veteran admitted spending hours planning the demise of a colleague in evocating detail. After our talk, he told us he was glad to know he wasn't crazy," recalls Minarino Barabasz. "He didn't understand why he'd gotten so engaged in his fantasy."

Besides having a greater capacity for imaginative involvement, these people seemed to become easier to hypnotize. This was surprising, since hypnotizability—the mind's ability to focus intensely to tune in or tune out external stimuli, includ-

CONTINUED ON PAGE 74

# PASTEUR'S PROGRESS

## BOOY

By Judson Gooding

One hundred years after opening its doors, the Pasteur Institute in Paris is gearing up for the twenty-first century and an attack on medical mysteries still unresolved. Ongoing research on the AIDS virus—along with trials of potential treatments for AIDS patients and the search for an AIDS vaccine—commands perhaps the single most concentrated effort at Pasteur today. (In fact, HIV-1, the virus that actually causes AIDS, was first isolated at Pasteur in 1983 by Dr. Luc Montagnier, who was subsequently named to the French Legion of Honor in recognition of his work.)

Founded in 1888 by Louis Pasteur, who achieved instant stature as an international hero with the introduction of his vaccine against rabies two years earlier, the institute is one of the world's oldest and most revered medical research facilities. Under the auspices of its Epidemiological Reference Center, Pasteur researchers monitor epidemics and help control outbreaks of infection around the globe, working in close collaboration with both the World Health Organization (WHO) and the Centers for Disease Control (CDC) in Atlanta.

Pasteur in 1988 is a private nonprofit foundation receiving 47 percent of its funding from the French government. (The remainder comes from donations, licensing fees, and profits generated by the institute's two commercial arms, Diagnotics Pasteur and Pasteur Vaccines, which market the products of the institute's research.) Although the research in progress at Pasteur is varied, much of it falls into three major fields: microbiology, developmental biology, and immunology. "Biology will develop in an almost explosive way in the next hundred years," says Professor Raymond Dederonck, director of the institute since 1982.

Microbiology is, he says, the most compelling area of research being conducted at the institute today. Microbiologists working at Pasteur have made important contributions to the understanding—and elimination—of diseases like typhus and plague in the same tradition. The institute is

committed to continuing its pivotal research on AIDS. In 1986 Montagnier and his colleagues isolated the second virus implicated in AIDS from West African AIDS patients, HIV-2. They are now attempting to construct a "false" AIDS virus—one that is harmless but capable of inducing protection against infection—for use in a vaccine. Pasteur officials emphasize that it is likely to be at least several years before a vaccine is available for general use. In the meantime, other microbiologists at Pasteur are trying to determine why some people who test positive for AIDS antibodies develop the disease, while others stay healthy.

Developmental biology, an expanding field, is expected to lead to a greater understanding of genetic diseases, afflictions of the nervous system, and cancer. Dr. Maxime Schwartz, the institute's deputy director, explains that developmental biology, or the biology of cellular differentiation, is devoted to understanding how human beings develop from single cells. "All the cells carry the same genetic information," Schwartz says. "But individ-

ual cells express different characteristics.

Advances in developmental biology could result in significant progress in our ability to fight cancer. Biologists already know that the uncontrolled proliferation of cells that characterize cancer results from disturbances in the genetic material of the original cells. Pasteur researchers are now studying the relationship between viruses and cancer. Gerard Orth, head of the institute's papilloma virus unit, has spent 20 years investigating papillomae—viral infections that cause warts, which sometimes turn into cancers. So far Orth's team has isolated 50 different strains of papilloma viruses affecting humans. They're currently trying to identify the mechanism by which the pathogens cause normal cells to become malignant.

Immunology is the third major focus of research at Pasteur, with more than 100 staff members devoted to cracking the complex codes of the human immune system. Difficult as they want to devise a method of manipulating interactions among antibodies, they believe such interactions are one manifestation of an elaborate internal reconnaissance network within the immune system. If they can alter the program, they may be able to encourage it to fight certain diseases. At the same time, other immunologists are at work developing genetically engineered vaccines against such desperate illnesses as malaria—which continues to kill 2 million children each year—and AIDS. In 1986 Pasteur researchers conducted the first clinical trials of a safer synthetic vaccine against hepatitis B, which has since been approved by the Food and Drug Administration and introduced in the United States.

Such challenges are representative of those that researchers at Pasteur expect to face in the next century. Vaccines continue to be our hope for the future in fighting disease, says Dr. Caroline Chaine, spokesperson for the institute. And Dederonck maintains that Pasteur scientists will simply continue to do what they have done since the institute's inception: "We will pursue our mission of conducting research to serve public health." □



Pasteur's legacy: Vaccines for modern life

# ARMED AND AMPHIBIOUS

## EARTH

By R. Edward McNeil

It was a strange way to announce a scientific discovery: Johnny Carson was having a slow night, and knowing animals are always good for a laugh he dragged herpetologist David Barker out of the greenroom. Barker is an attractive, personable guy with silver hair and matching beard who imitates his reptile and amphibian guests to cure red tomato frogs from Madagascar and neotropical lizard and salamanders from Guatemala. Rumors around *The Tonight Show* say that snakes are blacked out because Ed McMahon, that big lug of a toady bear, is afraid of them. Although Barker left his snakes at home, McMahon wasn't around to take any chances. There were none of his famous off-camera guffaws when Barker lifted a four-inch salamander out of a transparent plastic case with a pair of tweezers and held it up for Johnny's approval. The salamander's tiny legs were barely in focus when Johnny asked in that famous nervous stage-voice that elicits laughter from every corner of America: "I have no idea what that is. . . . What is that?" Johnny was

ready to go to a commercial when Barker explained that the animal was just a Mexican lungless salamander. America breathed a sigh of relief.

"The interesting thing is that salamanders are little," said Barker, and a lot of things would like to eat them. So they've become chemical-warfare experts. A man that I work with studies salamander defense behaviors, and for a while he was testing salamander tails. Some of them taste like garlic, some of them taste like onions, some taste like battery acid.

"The man makes a living at this?"

Johnny asked. The audience roared. "He tasted one of these things," Barker said, laughing along with the plebs, and continued, referring to the salamander, "and was away in 10-15 land for hours."

"You mean that it was psychedelic?"

Johnny quizzed.

"Oh, yeah. He said he saw colors. But I don't think there's going to be any big trade," said Barker. "They have enough toxins in their tails to kill fifty people."

Now the word was out. Suddenly it seemed that having this Mexican lungless

salamander on the show had done more damage than any snake could have. Was Johnny Carson, everyone's inveterate late-night inane, guilty of starting a new psychedelic drug fad? If anyone was seriously worried, he needn't have been. The man who had done the "tail testing," Edmund Q. Brodie, chairman of biology at the University of Texas in Arlington, wasn't giving out details on the new herpetological discovery. A guerrilla war in Guatemala had made it impossible for Brodie to continue his fieldwork. Unfortunately, the salamander's habitat is the same as that of the latest reagents. And though Brodie knows where the thing is and that it has unusual defense mechanisms, not enough specimens have been acquired for further studies.

Salamanders and frogs and newts and toads, all members of the class Amphibia, predate the dinosaurs. Their ancestors were creatures that evolved from the fishes of the early Devonian Period some 350 million years ago. Prolific breeding practices and highly evolved defense mechanisms have kept these vulnerable life forms from being dried out to extinction. In salamanders and many kinds of lizards, the tail breaks off from the body when the animal is faced with a predator. A nerve in the tail can cause it to wiggle about, distracting the predator and allowing the salamander to crawl off unimpeded. To further help the animal escape, some species have acquired unappetizing tails, surviving because after one taste the predator was too revolved to go after the main course.

By tasting the tails, Brodie might understand why a predator would allow this food source to go uneaten. As for the salamander, Brodie says the experience wasn't psychedelic. In fact, he hardly remembers the experience at all.

"I took a droplet of the skin secretions, and I don't remember much after that except that my students found me sitting on a rock a few hours later. The substance that causes this reaction is still unknown, but I would never categorize it as psychedelic," he explains.

Eventually, though, the different toxins



The feeling power: Natural substances that may help combat human viruses



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# CONTINUUM

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## WHAT'S LOVE GOT TO DO WITH IT?

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**M**y first year on the graduate admissions committee for Yale's psychology department a colleague warned me: "You've got to look out for the people who want to go into psychology to solve their personal problems. Zap 'em because they'll spend their time here working out their problems instead of doing research." I smiled. Some people drink to deal with their problems, others take drugs, and others seek advice. I study my problems and even get paid for it...not a bad deal!

For example, my first topic of research was human intelligence, a subject of interest to me because year after grade-school year I bombed out on intelligence tests. In each grade they even sent me back to a fifth-grade classroom to retake the earlier test. Years later, at Yale, I started to wonder why we kept getting students in our program with fantastic test scores who, when they arrived, seemed either to have cheated on the test or to have had brain damage over the summer. Were the tests missing something? Something crucial? Ultimately my research would reveal that conventional intelligence tests tell us next to nothing about insight or creativity, nor do they tell us anything about a person's practical intelligence—what everyone except psychologists calls common sense.

My foray into a second major research topic, love, has followed a parallel path. For a while my personal life wasn't going really well, and I started to ask myself the question: What does it mean to love someone and to be in love with someone? To there a difference, and if so, what is it? Sure, I read the literature on love, but then I started reminiscing, asking who my first love was.

Was it my first-grade girlfriend, together with whom I had formed a modest plan to become king and queen of the world? We were good friends, but there wasn't much passion nor really any long-term commitment—even to marriage. Perhaps my first love was the girl who sat in front of me during tenth-grade biology class. I was smitten, but I never got to know her at all. Infatuation, sure, but first love, probably not. Or was my first love Cindy, whom I met when I was sixteen and left whom I quickly became involved with? And what about them? Was I ever in love? Their test? What were we looking for in each other anyway?

Approaching these (some) questions [or my preoccupations, which come to the same thing] as a scientist, I have been able

to explore love in a way denied the casual observer. For example, in a study with Susan Gosk, then a graduate student in my department, I found that men love and kiss their lovers more than they kiss their best male friends. Women, on the other hand, often like their best girlfriends more than their lovers. It seems that nonsexual intimacy provides comfort and nurturance, as regarded by both men and women, as pretty much a female trait.

Working with my administrative assistant, Sarah Wright, I also discovered that what is considered important in close relationships differs profoundly over time. For example, sharing of values (including religious beliefs) and the willingness to change to accommodate each other's flaws all increase in importance. But it becomes less important to listen closely to be sensitive to each other's parents, or even to be interesting to each other.

In another study, graduate student Michael Barnes and I learned that lovers are as unhappy with too much love as with too little. In other words, we want what we want—nothing less but nothing more, either. Since no one person can ever know precisely what another is thinking and feeling, it is not surprising that we found the degree of happiness a person feels with a lover (or spouse) depends primarily on how he or she thinks the lover feels. In other words, the perception is what counts. We went each other just as in the first grade when a little girl and I turned each other into a queen and a king.

The work I've done in the field of intelligence testing has led me to a new general theory of intelligence and from there to a new and I hope, better, IQ test. I don't know yet where my research on love will lead, though I'm interested in learning more about the way love and intelligence concepts and conflict in each of us. What I do know is that a little science has been uniquely satisfying for me because I can think of no better way to deal with my problems than to study them and, ultimately, hope to understand them. "Know thyself" is the oldest piece of wisdom in the Western intellectual tradition. And for me it makes the best beginning.—ROBERT J. STERNBERG

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Robert J. Sternberg, IBM professor of psychology and education at Yale University, is the author of *Beyond IQ: A Triarchic Theory of Human Intelligence*, which won the 1987 Outstanding Book Award of the American Educational Research Association.



## CONTINUUM

### GAMBLING HORMONE

Why can't a compulsive gambler heavily in debt and on a losing streak tear him self away from a slot machine or the racetrack? Psychologist Peter Carlton bets that a lowered level of the neurotransmitter serotonin could be part of the answer.

Carlton came up with his theory after studying 100 compulsive male gamblers for four years. Although he did not measure serotonin levels in the brain directly, other evidence suggests the men have inadequate levels of the hormone. For example, he found that electroencephalographic (EEG) readings of the gamblers' brain activity paralleled those of children with attention deficit disorder.

Children who suffer from hyperactivity may have lowered levels of serotonin, which has inhibitory effects, explains Carlton, who works at Robert Wood Johnson Medical School in Piscataway, New Jersey.



What does it take chemically to do down gambling?

30 CNN



Arachnophobia? It's hard to tell. Arachnophobia—fear of spiders—may be due to low levels of the neurotransmitter serotonin. People who are afraid of spiders may have lower levels of the neurotransmitter than those people who aren't afraid.

If researchers can prove whether and how inadequate amounts of serotonin contribute to out-of-control gambling, Carlton foresees a day when compulsive gamblers may be helped with brain chemistry-altering drugs. "I don't think you will ever be able to cure pathological gambling with a 'magic bullet' like you can cure pneumonia with an antibiotic," he emphasizes. But there are certainly drugs that will augment serotonin and may turn out to be useful adjuncts to the recovery process and with draws from gambling.

—Sherry Baker

### ARACHNOPHOBES

If Little Miss Muffets brain chemistry had been balanced, a spider might never have frightened her off her tuffet. At least, that's the possibility being raised by researchers at Stanford University who are studying arachnophobia—people who are terrified of spiders.

Psychologist Thomas Merluzzi explains that fear makes the body secrete painkillers called endorphins.

People who are afraid of spiders may produce fewer endorphins than people who aren't afraid—or they

could have reduced endorphin uptake by receptor cells.

Merluzzi and psychiatrist Gunter Golestan plan to give some of their 170 spider-fearing volunteers the drug naloxone, which therapeutically blocks endorphin receptors; others will receive placebos. Then the arachnophobes will be exposed to spiders by gradual stages—first looking across the room at spiders in closed containers and eventually having spiders crawl on their arms. "We think the people whose endorphins are blocked by the drug will exhibit more fear," says Merluzzi.

Could the fear of spiders be entirely physical? No," emphasizes Merluzzi. "But once learned, fear could have an effect on the quantity of endorphins produced."

Learning to understand and treat arachnophobia can't come a minute too soon for some people whose lives are constrained by their fear of spiders. One man told us he doesn't go camping or even sit on his terrace. He's afraid he's poisoning his family with pesticides," Merluzzi comments, "but he doesn't care what he kills in the process, as long as he kills the spiders that annoy him."

—Sherry Baker

## NEW DRUNK TEST

The traditional names of the drunk driver has been the "breathalyzer," the balloon-powered device that measures the alcohol content in a suspect's breath. But the breathalyzer, though accurate enough, has its problems. It can't be used effectively on people with severe injuries or lung disease, or, in the words of chemist H. G. Giles, on those who are simply "pissed out of their minds"—in other words, unconscious.

Giles has a possible solution: Working at the Addiction Research Foundation in Toronto, he has come up with a gadget he calls the Eyoalyzer. Basically it's a funnel that's placed over one of the subject's eyes for 15 seconds or so, during which time it gathers vapors emitted by the eyes' lachrymal fluids. The vapors are then passed to a gas sensor



The Eyoalyzer, which measures alcohol vapor being exhaled.

that measures their alcohol content. So far, Giles has tested the device on ten elderly alcoholic patients, checking the Eyoalyzer measurements against results from both breathalyzers and blood tests. Not only is the Eyoalyzer "quite sensitive," Giles reports, it is also "a little more accurate than the standard balloon."

Giles cautions, however, it's going to be quite a while before the Eyoalyzer finds its way into the nation's cop cars. Most of the current drunk-driving laws were written specifically for the breathalyzer," he explains. All those laws would have to be rewritten. If they are, though, Giles thinks that his invention could someday have a "significant impact" bringing over greater numbers of drunk drivers to the bar of justice.—Bill Lawren

Researchers have already begun to worry about what is going to replace automation.—John Zucchi

## THE CASE OF THE SUICIDAL SCIENTISTS

Five British scientists, all involved in national security-related research, have died within the past year and a half in circumstances that seem taken from a spy thriller.

First Vimal Dajibhai, an engineer working on topod guidance systems for Marconi Underwater Systems, was found dead in August 1985, his body sprawled beneath Clifton Bridge near Bristol. Two months later, computer systems analyst Ashraf Shah, another Marconi worker, was also found dead near Bristol. He had apparently had a rope to a tree, looped the other end around his throat, and driven off in his car at high speed strangling himself.

The odd coincidences continued to mount. In January 1987, computer-design expert Richard Pugh was found dead in his home, a few weeks later Peter Paspal, a lecturer at the Royal Ma-

itary College of Science killed himself with carbon monoxide. The next month David Sands, who worked on air defense for a sister firm of Marconi, packed his car with gas tanks and drove straight into a vacant restaurant—incinerating himself almost beyond recognition.

The Ministry of Defense, however, has not launched an investigation into these cases because there are no causal links: just coincidences, "involved" says Martin Stott, assistant to defense specialist and House of Commons member John Carlwright. "We've had people come forth with all sorts of theories, including Soviet plots—but nothing holds water. Stott points out that the real cause of the scientists' deaths was probably stress. "If you are working on a project that falls under the Official Secrecy Act in Britain, you can't discuss your work with anyone—not your spouse, not a court-seller."—Sherry Baker



One British air-defense scientist packed his car with gas tanks and drove into a vacant restaurant, thus incinerating himself.



## CONTINUUM

### GIANT ANTEATERS IN NORTH AMERICA

The giant anteater, a creature up to seven feet long, had never been known to live in North America until now. A bone identical to the metacarpal of the modern giant anteater native to South America, has been discovered at a site in Sonora, Mexico.

The sediments in which the fossilized bone was found are 700,000 to 1 million years old, according to Christopher Shaw of the George C. Page Museum in Los Angeles. The bone, says Shaw, actually was discovered about 15 years ago by a La Mesa, California couple, who only recently decided to bring it to the notice of a colleague of Shaw's at the San Diego Natural History Museum.

The discovery is significant, according to Shaw, because it indicates that the climate in the Gulf of California (also known as the Sea of Cortés) 1 million years ago was much more tropical than it is today. And since modern giant anteaters live in various tropical climates, the fossil discovery reveals that what is now a temperate desert in northern Mexico was once teeming with vegetation. Shaw believes "There had been no evidence of large termite mounds or ants [being present] near the Sea of Cortés 1 million years ago," he says.

As for the fossil itself, Shaw describes the two-and-one-half-inch-long middle digit of the creature's digging paw as a "real bone." It

you were to find any bone other than the skull of an anteater," concludes Shaw. "I think this particular bone would be the one to find. It really nails down the identification to a giant anteater."

—Michael Dale

"Each time we changed our environment, our environment changed our behavior, and our new behavior demanded a new environment."

—Lawrence J. Peter

"For most people, watching television may be what psychotherapists call the 'presenting symptom'—the visible disturbance that stands in for a deeper lament. It's possible that many people turn to television not in the hope of entertainment, but in despair after all else has failed."

—Anatole Broyard

"The toxicity is present even in the broken pieces."

—Aldous Huxley



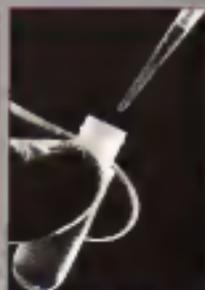
The giant anteater, which lives today in the tropical climates of South America, may have once roamed in the Northern Hemisphere.

### PUTTING AIDS IN A COMPUTER

The current version of the common wisdom on AIDS holds that only education and the practice of safe sex will slow the spread of the disease. But will these dual prophylactics work? A new computer model developed at Trinity College in Hartford suggests that the answer is a qualified yes.

Working with a group of students, engineering and computer science professor David Ahlgren used STELLA, a powerful computer modeling program, to predict what impact safe sex practices, decreased promiscuity, and expanded testing programs would have on the spread of AIDS. His test population of 100,000 sexually active New Yorkers included homosexuals and bisexuals, heterosexuals, and intravenous drug users.

The results showed that by 1995 a combination of safe sex, a significant reduction in



The computer joins the test tube in the fight against AIDS.

new partners, and increased testing could reduce the numbers of infected male homosexuals by as much as 16 percent, and the number of deaths in that group by 12 percent. A combination of safe sex practices and an ultra-aggressive testing program (100 percent of the population would be tested on an annual basis for the presence of AIDS antibodies) would reduce the number of infected male homosexuals by as much as 32 percent.

Ahlgren is the first to admit that even this very sophisticated computer model is only as good as the information that feeds it. "We need more real data," he says, "from more real people."

—Bill Lawson

"I believe now that we are all psychic to some degree, but that some of us welcome these experiences, while others fear them and shut them out."

—Vanna White



The Raiders in action. Do clothes make the athletes? When it comes to penalties, black seems to live up to its reputation.

## BAD GUYS WEAR BLACK

It is no wonder football's Los Angeles Raiders and hockey's Philadelphia Flyers have such mean reputations: They wear black.

Cornell University psychologist Thomas Glöwack and doctoral candidate Mark Frank have found that pro football and hockey teams wearing black uniforms are considered more aggressive and are penalized more than other teams. In addition, referees are more than likely to characterize aggressive plays as malicious when players wear black.

In studying penalty stats for compiled from 1970 to 1985, the researchers found five teams in each sport with uniforms that were at least 50 percent black and all ten were penalty-prone. The Raiders averaged more penalty yards per game than any other NFL team. The Pittsburgh Steelers and Chicago Bears (whose dark blue uniforms are perceived as black) were among the top five penalized teams. The Flyers, Pittsburgh Penguins, and Vancouver Canucks, all black clad, were hockey's three most penalized teams. Even more striking was the transforma-

tion of Pittsburgh and Vancouver when they switched to black. Pittsburgh changed in the middle of the 1979-80 season, and its average penalty minutes per game jumped 50 percent. Vancouver went from seventeenth to third in penalty minutes.

After viewing films of violent football plays, experienced high-school and college officials, as well as fans, were more likely to call infractions against players wearing black than they were against those in white. And Glöwack believes that on the field the advantages of aggressive play are nullified by the propensity of officials to call penalties against teams in black. He says teams in black uniforms do not win more games than they would by chance, with one big exception: The NFL's five teams in black have won the Super Bowl in eight out of nine appearances.

—Joel Schwartz

## CARNIVOROUS DEER

Deer are confirmed vegetarians. But you would never know it by watching the white-tailed deer of North Manitowish Island in Lake Michigan each spring. In the first documented case of its kind, two wildlife biologists, writing in the *Journal of Mammalogy*, report that deer have been plucking down slivers by the hundreds as the small sardine-like fish, which die off each spring and summer wash up on the beach.

"I was just amazed," says David Case, who first noticed the phenomenon in 1980 as a student at the University

of Michigan. Case and Dale McCullough, research director and wildlife biologist at the University of California at Berkeley, report that the average doe ate 235 fish during each of three daily trips to the beach. Bucks averaged 212 fish.

The white-tailed deer were introduced to the island in 1926. The first fish die-offs, meanwhile, began in the late Fifties. Other wildlife biologists say they have never heard of deer eating meat on a regular basis, although occasional occurrences have been reported. Someone once spotted a deer eating a dead salmon in a spawning area. There's even a case in which deer on the basis of tracks "were presumed to have eaten birds" from an ornithologist's nest. He continues: They know how to do it [eat meat]. They just don't get the opportunity to do it very often.

—Michael Doko



Deer on Manitowish Island in Lake Michigan are eating dead fish.



## CONTINUUM



Does it look a bit more crooked to you? The famed Leaning Tower of Pisa tilted another sixteenth of a gradian last year.

### MORE LEAN FOR PISA

The famed Leaning Tower of Pisa, which sank out of plumb shortly after construction was begun in 1172, is now at least 16 feet out of the perpendicular—but no one in the Italian government seems unduly upset.

"The hazard of the tower is good," says Umberto Assan, director of the government tourist office in Pisa. "We have more than one hundred years and we see the tower really in danger." Nonetheless the government recently allocated \$25 million to keep the lucrative tourist attraction from tilting any farther. The

work is wistfully blamed on a glacial effect: earthquakes over the centuries, sandy soil, and seeping water from the adjacent Arno River.

The marble tower is 180 feet high, and the real problem, according to Assan, is that no one really knows much about the foundation, which is only seven feet deep. The latest plan is to sink an immense, stable concrete wall around the tower and connect the foundation to it by spikes—but no one seems in any hurry to begin the work. Meanwhile the tower continues to drift as many as 1,000 inches daily.—George Nisbo

### COLD CALCULATION

One way to stop shivering on a cold winter day may be to try balancing your checkbook in your head. Following up earlier leads, physiologists at the University of Minnesota School of Medicine have found that mental computation consistently quells shivering in subjects chilled to the bone.

Chattering teeth are frequently heard in Robert Pozos' hypothermia lab, where he and graduate student Cheryl Kiewow are studying the way low temperatures trigger bodily oscillations like tremors, shakes and shivers. Pozos pays students \$25 to dress in shorts (and a hat if appropriate) and lie down on a table in a small, frigid room for nearly an hour, with electrodes taped over the various muscles known to quake in the cold.

When the eight subjects in one recent experiment began to shiver, they were

asked to add up sets of double-digit numbers printed on a card. "When they do mathematics, shivering shuts off," Pozos says. After they completed the number crunching, or if they were given a blank card, their teeth clacked as vigorously as ever. But math may be only part of the equation.

"When you calculate in your head, you don't breathe as much," remarks Pozos. But when shivers were asked to suck on empty bottles to change their respiration rate, the shivering did not stop, leaving the mystery intact. Pozos probably will have to reel a dozen worth of students before learning if it is mind, breath, or a combination of the two that inhibits shivering.—Ivan Anisko

I have long considered it one of God's greatest mercies that the future is hidden from us. If it were not, life would surely be unbearable.

—Eugene Forsey



Anti-note to shivering: A frigid subject in Robert Pozos' hypothermia lab tries to add up a set of double-digit numbers.

## VERY OLD FROG

A minor who unearthed the intact remains of a 40-million-year-old Caribbean tree frog from the bowels of the La Ceca amber mines in the Dominican Republic may have unwittingly helped rewrite theories of how and when animal life arrived in the Caribbean region.

George O. Poinar, an insect pathologist, and David C. Cannatella, a vertebrate zoologist at the University of California, Berkeley, say the now-long frog with a broken hind leg apparently died some 20 million years before massive land shifts formed the island now called Hispaniola and shared by the republic and Haiti.

"At the same site, we found three bones from another frog, some feathers and mammalian hair from a native creature all embedded in pieces of amber," says Poinar. He theorizes the frog had been caught by a bird and either fell or was dropped into the resin that eventually fossilized it during the Eocene Epoch. Sedimentary rock dating and nuclear magnetic resonance tests established the fossil's age.

Whether you believe in the theory of dispersal, which holds that the frog swam to Hispaniola, or vicariance, which says it was carried along on the shifting land, it appears that the Caribbean region had a diverse animal population far earlier than anyone suspected, says Poinar, who admits, "We're creating a lot of puzzles for ourselves here."

The amber frog, complete



The measuring rig (shown in the name of science) has two loops (left) slipped around the penis shaft and apply a squeezing force every ten seconds when a color-contrast pressure in girth is detected.

with eyes and some skin, is now in an Ashford, Oregon, bank vault, valued at \$25,000. It will probably go into a museum collection as the oldest complete frog fossil ever dug up in the Americas.—George Nobbs

"We seem to believe it is possible to ward off death by following rules of good grooming."

—Don DeLillo

"The trouble with the rat race is that even if you win, you're still a rat."

—Lily Tomlin



Forty million years ago, the frog embedded in amber.

## PENILE RIGIDITY AND NONLINEAR DYNAMICS

While most men view the failure to get an erection as an embarrassment, Daniel A. Frohnh of the Mechanical Engineering Department at the University of Minnesota sees it as a provocative engineering problem.

The bugaboo of impotence research, says Frohnh, has been inadequate measurement of penile erection. The methods used so far have quantified only girth, but Frohnh claims circumference itself is not the best indicator of erection. Rigidity is

that is where "nonlinear tissue constitutive" laws come into play. In other words, a turgid member may look erect but not be rigid. According to Frohnh, it's only in the last almost-undetectable millimeter, or two, of lengthening that internal penile pressure rises enough to cause stiffness.

To demonstrate this, Frohnh and his colleagues first brought a subject's penis to erection by infusion of drugs and saline solution. Then they carefully rammed a "bucking force gauge" against it and measured

"axial rigidity" by recording the amount of force required to make the penis buckle.

Next, a microprocessor-controlled machine called the Rigsman measured circumferential pressure—the internal pressure that keeps the penis "inflated," somewhat like air inside a balloon. The machine consists in part of two loops that are slipped around the penis shaft. When the loops detect a one-centimeter increase in girth, they apply ten ounces of squeezing force every ten seconds. The degree to which the loops are able to indent the shaft provides a reliable measure of circumferential rigidity. In this case, an IBM PC provided graphic representation of the data.

Frohnh and his group "want to know more about the tissue laws that underlie erection and the physical constants of the actual member, in the hope that this knowledge will eventually contribute to the treatment of impotence.—Paul McCarthy

"The author of the liad is either Homer or, if not Homer, somebody else of the same name."

—Aldous Huxley



## CONTINUUM

### PICKLED BRONZE AGE BUILDING

Although it lasted some 1,500 years, so little is known about Britain's Bronze Age that historians have dubbed it the black hole of British history. But a recently discovered 3,000-year-old building from that era, found pickled in a peat bog near Peterborough in eastern England, may soon help fill in some of the historical gaps.

According to archaeologist Frances Pryor, who led the excavation, the remains of the building were found 30 feet under a Roman road in waterlogged ground. "We think it is potentially one of the best-preserved prehistoric finds in Europe," Pryor says. "To have wood survive three thousand years is most unusual, and we estimate that there are about four million pieces of prehistoric timber on the site."

So far, the remains of a building about 20 feet wide and 80 feet long, constructed with heavy timbers and scarce wooden posts, have been uncovered. The structure was part of a settlement built on two acres of land. Covering the floor of the building are objects—including pottery, flint debris, seeds, pollen, and animal bones—that may help historians piece together what life was like in ancient Britain.

"We know relatively little about the period because there is no literature from Britain's Bronze Age, no written descriptions of what life was like," notes Tim Burnes, professor of ancient history at Emory University.

He adds that until now, most knowledge of the period has been derived from excavations of burial sites and from studying outlines of wooden buildings left by postholes—since wooden structures built thousands of years ago normally have long since disintegrated.

Burnes thinks the pickled prehistoric building could add "a substantial amount of knowledge to the little bit of data we have about the domestic surroundings of the British Bronze Age."

—Sherry Baker

*The world stands aside to let anyone pass who knows where he is going.*

—David Star Jordan

*Cynicism is an unpleasant way of saying the truth.*

—Lilian Hellman

*"Behind every successful man is a surprised woman."*

—Maryon Pearson

### PUSSYCAT WARRIORS

Ever been to a *Soldier of Fortune* convention? You'd see a lot of apparently mean dudes in camouflage and combat gear, swapping stories about their latest mercenary forays in Angola, in the meantime pumping themselves up for the next war. Not exactly fertile ground for academic analysis.

Yet sociologist William Gibson of Southern Methodist University has been attending these shindigs for three years, doing research for a book on the making of the paramilitary mind. And Gibson has come to the fol-



Goading (above) a *Soldier of Fortune* convention. Some may be a bit less than mighty, according to one sociologist.

lowing conclusion: Far from being bloodthirsty psychopaths, many of these Rambo clones are actually a bunch of lonesome noddies pussycats far more interested in dressing up to play war than in actually fighting one.

"These men," Gibson explains, "see the warrior as the epitome of manhood. So going to a *Soldier of Fortune* convention is like a true rite of passage for would-be warriors." In a broader sense, Gibson sees all this posturing as a way of reclaiming the American ideal in Vietnam and trying to restore a mythic world order in which elites and males

are on top and the United States is the number-one country in the world."

The rate of violence among the *Soldier of Fortune* types, Gibson says, is "probably tiny. The real reason he thinks is for status advantage and for the mock mercenaries, the real adventure is in attending the conventions. What's ironic," he says, "is that the convention is really a controlled environment: a sort of package tour."

—Bill Lawren

*"We should distrust any enterprise that requires new clothes."*

—Henry David Thoreau

ARTICLE

*Flights of fancy, leaps of faith, hope  
without end... anything  
goes on the rocky road to Utopia*

## PARADISE TOSSED

BY MARION LONG



Does anyone dream about a Utopia—an ideal society, a land where perfection reigns? Orms has asked more than two dozen citizens of the world to draw with us their personal blueprints for Utopia. No matter how impractical or narrow their visions may appear, our Utopian architects understand

PAINTING BY MICHAEL PARKES

what Oscar Wilde meant when he said, "A map of the world that does not include Utopia is not worth glancing at." Eisie Wiesel, Grace Slick, David Rockefeller—to name just a few of our Utopians—are wildly diverse yet they all possess certain common characteristics. They know what it means to strive for ideals in their own lives. Their goals might have seemed impossible to them, but each has achieved a remarkable record of accomplishments.

Explore these imaginary commonwealths, enjoy the landscapes, ponder the options. At least relax in paradise long enough to envision your own perfect place. After all, summoning the vision is the first step in bringing it to life.



**Coretta Scott King**, president and CEO of the Martin Luther King Center for Nonviolent Social Change. My personal vision is a

total vision for Utopia. In his famous 1963 "I Have a Dream" speech, my husband Martin Luther King, Jr., awakened the slumbering conscience of America with his magnificent dream of justice, equality, and brotherhood for all people.

As we move toward the new millennium we must advocate a bold new vision of a world where starvation and hunger will not be tolerated in any continent, a world where no child lives in fear of a nuclear holocaust or suffers the ravages of war and militarism. We must create a world where valuable resources are no longer squandered on the instruments of death but are creatively harnessed for economic development and opportunity.

In this beloved community racism and sexism have been consigned to the refuse heaps of history and every child of Earth is well nourished, well educated, and well loved. There is no ruthless exploitation of people or the environment. Freedom, human rights, and dignity are honored under all flags, and all people are free from the bondage of fear and hatred.

If we sow the seeds of justice and equality we will reap a beautiful harvest of world peace. We will awaken to the dawning of a new day when poverty, racism, and violence no longer rule the earth. It will be a glorious day for humankind! The morning stars will sing together, and the children of God will shout for joy.

I know that some would say that this Utopian vision of a caring and sharing world community is unrealistic. But a few decades ago there were plenty of skeptics who scoffed at the idea that man could plant the finest genes on chromosomes or that man would venture into space. I believe that if we are willing to work and pray and sacrifice enough, our moral development can catch up with our technological progress. With such a commitment, I believe with all of my heart and soul that the beloved community is not only an achievable goal but an inevitable one.



**Max Headroom**, multimedia megastar. **Omni:** How real is Utopia for you, Max? **Max:** Well, of course in the end Utopia may

be just a dream or ideal. Rather like seeing a gentle, soft female lead not played by Meryl Streep or a Latino commercial not belittled at you by Robin Leach. But everyone should dream, and my Utopia would be full of love, peace, and the reality that kids who appear in breakfast-cereal commercials would be sent to special schools to become normal again.

**Omni:** What changes would you make to achieve your Utopia?

**Max:** I'd get rid of most electric sockets (except one) so anything powered by electricity like yogurt makers, contact lens sterilizers, and Michael Jackson would be useless. This may sound reactionary, but I'm all in favor of returning to the natural order of things—for example, being able to buy a hot single without having to buy the whole album, or buy one item in a supermarket and not have to stand in line behind somebody purchasing a month's provisions for an entire football team.

**Omni:** In Utopia, what capabilities would you have that you don't have now?

**Max:** The ability to completely abolish poverty. I was also going to say the capability of earning a little more money myself, but then I thought, *How many more Mediterranean stands do I actually need?*

**Omni:** Do you see Utopia simply as a place to seek fun and pleasure?

**Max:** It's a mistake to see Utopia as a sin bin, a moral waste dump, a continuous orgy of indulgence. The ancient Romans thought they had discovered that kind of Utopia and look at the Italians now, a race of lunatic drivers and bull pinches.

**Omni:** So are you saying that you wouldn't trust Italians in your Utopia?

**Max:** I wouldn't trust them in my backyard but that doesn't mean I wouldn't have them in my Utopia or that I don't like them. They have great warmth, energy, and charisma, and as an internationalist Utopian I'd have people along from every race. Even Belgians, who could learn a bit but pinch or two in the charisma department.

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*"It's altogether a Utopian dream that once in history a ruling class might be willing to make the great surrender and permit social change to come about without hatred, terror, and waste of human life?"*

—Upton Sinclair, *The Way Out*

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**Omni:** Would the presence of computers be expanded in your Utopia?

**Max:** Yes. Making presents of computers is something I'm all in favor of, and in fact if they were a bit smaller they would make very nice stocking stuffers. Of course, with all the human inactivity that will result from computers' stockings will probably disappear completely, along with legs.

**Omni:** Do you have any other thoughts on

Utopia that you're willing to share with us? **Max:** For certain, people have made personal pursuits for Utopia. Some thought they'd found it after being invited on the Johnny Carson show. But I know that the cruel reality of life is that there is no Utopia unless you're a Tibetan monk or you've been invited back on Johnny Carson.

The answer doesn't lie in computers or in giving away of your money to a Chinese guru in Gary, Indiana, and certainly not in sending a check for five hundred dollars to a weeping televangelist. Utopia also is not a place, although that's something almost impossible to explain to Californians. I think Utopia may be a state of mind, and it doesn't have to be unbalanced.



**Stephen Jay Gould**, professor at Harvard University. I want to be back six hundred million years ago, in the midst of an episode

called the Cambrian explosion, an intensely fascinating time when all the modern groups of organisms made their first appearance in the fossil record. I could happily spend the rest of my life studying the world's first multicellular fauna.

If we really want to understand the evolution of cognition, of thinking, we need to see people before us, talk to a Neanderthal person—this is our closest extant relatives, Shing back Homo erectus and some of the australopithecines. I'm sure you could talk to a Neanderthal. They probably would have very different capacities. They had no arts as far as we know—no representational art, despite the richness of the laser-Cro-Magnon art. There's a lot I could talk about, ask them, and tell them. So yes, I know exactly what I would like to see in my Utopia. And you can flow in a tyrannosaurus or two.

And because this is my Utopia, let me bring back some historical persons. I'd love to have a long chat with Charles Darwin. I'd like to be in the same room when Franklin and Jefferson discussed liberty, when Darwin, Lyell, Huxley, and Hooker discussed biology, when Lenin and Trotsky discussed revolution.

I'd get rid of inequities from the environment—the world would do fine without them—and smog over Los Angeles, slush in Boston, defecating dogs in cities.

What I would really like to change, if you allow me Utopia is human misery—of which there is so much. I'd like to see mental illnesses cured so people don't have to suffer the miseries of depression, schizophrenia. I would like to see cures for childhood retardations and disabilities. I'd like to see painful disease controlled.

And the most important aspect of my Utopia: decent lives for ordinary people. That's all. Give me that.

My Utopian world would have absolute respect for fact, and therefore science would have to have a very important place—but not for destructive ends. As

soon as I had instituted universal disarmament, I'd take all the money I'd saved from the military budget and use it for education, food, shelter—to provide a decent life for everyone.

My world also would be more zealous about defending ecosystems and species. I'd certainly not allow the clear-cutting of the Brazilian Amazon, that's for sure. And I'd protect the gene pool. So give me the Cambrian explosion, the tyrannosaurus, the Neanderthals, and the Homo erectus and the australopithecines. Beyond that, give me the opportunity for everyone to fulfill whatever they want to do, a decent life for everyone—respect for factual truth—nice world.



**Elie Wiesel**, author, educator, philosopher, winner of the 1986 Nobel Peace Prize. In war years another piece of bread is Utopia.

In war years, to sleep half an hour later is Utopia. In war years, not to die is Utopia. Utopia is a vague concept. By definition a Utopia cannot be implemented. So why play around with it as a possibility? But more important, it's also about asking for too much. People who ask for too much—they try to save human kind—forget individuals.

I'm a minimalist. I'm satisfied with small miracles with daily miracles. I'm no longer

waiting for world peace that would last until the end of time. I'm satisfied if two people are at peace for a day, a month. That is miraculous. I might look for small miracles in Utopia. Children would not die of hunger, weak people would not become the victims of the strong, prisoners would not be humiliated at official government proceedings, right-wing or left-wing. It's not too much to ask that the dignity of a human being should be respected.

When we protest against injustice, by amplifying our moral comment and moral commitment we do help others, even if we do not free a prisoner. At least they know that they are not alone. Simply to know that we are not alone when we die or wait for death or punishment—that is something that is Utopia. But that's not big.

The central vision, the most important message I would communicate is that we are all persons. That comes from the Bible. We are all sovereign.

If there were to be required reading in my Utopia—beyond the religious texts—I would teach literature about children and by children. Every single society boasts great works by and about children. I also want Buddhists, Christians, and Jews to come sit down and talk to one another. The main issue is tolerance.

Utopia hasn't played a role in my life. If the whole world the whole story, the whole vision of my aspiration to messianism, that is really what you would call Utopia—

meaning peace in the world, brotherhood, no more death, no more fear of death, no more hunger, no more slavery, almost no more work. In the Book of Isaiah we are told the lamb and wolf, the calf and young lion, live together, justice and righteousness prevail, the earth is full of the knowledge of the Lord.

In the Jewish tradition the emphasis is on waiting for the Messiah. But the vision of the coming Messiah also has a present force: to bring people, even if it's only one or two people, closer to that coming, to what you call Utopia. The suffering person plunged in misery and despair, suddenly finds consolation simply because another person looks at him or her and takes their hand. That is something.

I have read that a good Hasidic story is not about miracles but about friendship and hope, the greatest miracles of all. They are almost interchangeable: There would be no friendship without hope, and no hope without friendship.

The sages, the rabbis, asked for a great deal at times but always from the individual person. They did not have a grandiose vision of saving the whole world—south, west, east, north. We are waiting. This is not the same as dreaming about a Utopia. It requires a different, more balanced response. While we wait for the Messiah, there are many things to do. And the burning in mind that we are waiting, changes what we do now.

## THEIR SIDE OF PARADISE

Below are single, isolated thoughts, taken from some of the columnists' (and punsters') diaries. Can you match the individual lines to the left-hand column with the corresponding statements at right? (Answers appear at the bottom of this page.)

- |                       |       |  |
|-----------------------|-------|--|
| 1. David Rockefeller  | _____ | A. I'd like to see every child have a dog, and a horse—and maybe even a raccoon.                         |
| 2. Michael Hershberg  | _____ | B. No one would be happy in my Utopia. WeAsbury Park's best admission would be abolished.                |
| 3. Christina Crawford | _____ | C. I'd get rid of most electric sockets (except one). Michael Jackson would be useless.                  |
| 4. Steve Wozniak      | _____ | D. Required reading in my Utopia would include the classics, the Bible, lots of poetry, and my books.    |
| 5. Oprah Winfrey      | _____ | E. I would forbid any candidate to buy television time. The millionaire Donat is an aberration.          |
| 6. Max Hirschman      | _____ | F. I'd show ladies who don't know how to put makeup or properly how to look their prettiest.             |
| 7. Elie Wiesel        | _____ | G. Make movies us toward Utopia, unless Tipper Gore gets out of her. I'd also like to save the pandas.   |
| 8. Green Sack         | _____ | H. Each student would start carrying a lunch box-size computer.  |
| 9. Thomas Szasz       | _____ | I. In war years another piece of bread is Utopia.  |
| 10. Roy Rogers        | _____ | J. In my Utopia's community of responsible adults would raise the children.                              |
| 11. Tammy Faye Bakker | _____ | K. I'd like a Pope who'd deal wisely with both control, the marriage of priests, and abolition of women. |
| 12. Lisa Werthmiller  | _____ | L. Successful giving would demand the same open eye and energy as any successful business enterprise.    |
| 13. Walter Rogers     | _____ | M. I would be doing a talk show as I am now and continuing my work as an architect.                      |
| 14. Pile Mac Brown    | _____ | N. Homophobia wouldn't exist in my Utopia.   |
| 15. Linda Ellerbee    | _____ | O. It's fun to envision Utopia as a giant, great fun, and I'd direct it, of course.                      |
| 16. Hans Kang         | _____ | P. I'd like to ask the characters in the neighborhood of make-believe about their visions of Utopia.     |
| 17. Harvey Karpman    | _____ | Q. As a reporter I'd say, "You show me your Utopia, and I'll be it!"                                     |

ANSWERS: 1=C, 2=E, 3=J, 4=N, 5=M, 6=I, 7=L, 8=O, 9=B, 10=A, 11=F, 12=G, 13=P, 14=H, 15=D, 16=K, 17=N.



**Rita Mae Brown**, author *The Anarch* come close to my idea of Utopia, except for two problems: the status of women and the desire

to shut out the rest of the world. But their sense of community and productivity of sharing and caring for each other are splendid models. I always have been impressed by their view that they shall not be controlled by machines.

I want to have some absolutely outstanding and extraordinary things in my Utopia: peace on Earth and goodwill to people. Is that really so extravagant or outlandish? Also, I would like everyone to live forever. Life is exciting even when it's painful, and I don't want to leave the party.

Political office would be based on a lottery if your number is drawn to be mayor for four years. You're the mayor. In my Utopia the criminally insane, sociopaths, psychopathic liars, con people, mass murderers, rapists, and thieves would be put on a big island. Given all the tools necessary to survive they would have to create their own society. I also would legalize drugs for people over eighteen, even though I despise drugs and alcohol. Why should organized crime make billions of dollars on drugs and not pay taxes on them? My libertarian views are limited. I would like to shoot any human being who sells dope to a person under the age of eighteen. It's beyond crime. It's a loathsome horror.

I would make it as difficult as possible for people to get married—as difficult as it once was to get a divorce. And childhood would be as long or short as the child wants. Latin would be mandatory in school. Required reading in my Utopia would be Homer, Anaphorais, the Bible, Shakespeare, lots of wonderful poetry from the ancient past and the present.

Life otherwise would be very much like it is now—only I'd be rich, rich, rich. I'd make holidays truly holidays—any reason for celebration would do. Everyone would get one day a year to create their own holiday and surprise their close friends and relatives. I would throw a glorious catnip party for the cats of the world on my birthday, November twenty eighth.

In my Utopia spiritual values would be intensely personal and people would not inflict their ideas on each other. Emphatically no one would make money off of spiritual ideas. Piety is like garlic: A little goes a long way. The single facet of my own nature that I would change is my good memory. I think one of the keys to happiness is a bad memory.

"... the Utopian dreams of social justice in which many contemporary socialists and anarchists indulge are analogous to the saint's belief in an instant kingdom of heaven. They help to break the edge of the general reign of hardness and are slow leavens of a better order."

—William James



**Mister Rogers**, host of *Mister Rogers' Neighborhood* I think about Utopia in relation to how I feel about kids.

What does everyone long for? To feel loved and lovable. If we could live inside of somebody else, we'd know that everyone wants to be loved. We also know what hampers other people because we would know about their childhood, what made them the way they are today. I think the Devil is the accuser—the spirit that judges others without knowing them is the real evil. For instance, since we worked in Moscow, I will never think of Russians in generalized terms again. I think of Lucy, Victor, Tatyana, Nona, and all of the people who worked with us.

It would be wonderful if we could have our eyes opened to deep and hidden levels of truth about ourselves and about life itself. The idea of being able to live inside of each other—this is my Utopia, so anything is possible—would be revolutionary. If I lived inside of someone else, I might understand why that person is glum or why that person rubs me the wrong way. That understanding would lead to peace; it certainly would lead to coziness.

"If the Utopias will come to pass only when we grow wings and all people are converted into angels."

—Fyodor Dostoyevsk (Diary)



**Christina Crawford**, founder of the SunViva Network (a national organization for adults who were abused as children)

In my Utopia women would be restored to their ancient position as community healers—a position that existed up until the Middle Ages. People would be encouraged to participate in their own health care from the time they were very little children. And people would be involved in the production of at least a portion of their food. I also see no reason why horses could not again be a common mode of transportation. I would do away with synthetic clothes.

Creativity in both the performing and visual arts would be honored. But there would be no Hollywood in my Utopia because Hollywood doesn't embody any Utopian ideal. Hollywood treats the individual with less respect than any other system I can think of, except perhaps the military. Hollywood is about power and misplaced spirituality. You have to be greater than human to be somebody. Actually it's a sad indication of how much we need spiritual development because if each person were respected for themselves there would be fewer people who thought they had to become a larkspur in order to be accepted.

Because we have held on to the family in nostalgia—it doesn't exist in reality—a community of responsible adults would

raise the children in my Utopia. Kids would grow up with a variety of ideas and personalities but with a sense of stability and belonging to a basic unit. I would value spontaneity, honesty, curiosity, and normal exploration of boundaries.

We would teach children to think and explore ideas rather than to memorize, to understand themselves, their bodies, their feelings, so they start from a place of comfort from within.

In my society the most important purpose of each person's life will be to develop himself or herself to the fullest extent possible. Utopia, for me, means a place to evolve, a place to find balance. We need to validate both the masculine and the feminine. Masculine values dominate in this society—a society that is primarily run on greed—and we are running into serious economic trouble. The danger signs are everywhere—in trade, health, economics, the plight of the homeless, the proliferation of nuclear weapons.

We claim that we have values, but we don't act as though the values are part of our lives. We in fact have other values and they are all about power and money. The yuppies are the only ones to admit these values. Now they are finding out that power and money hold enormous pitfalls, and the burnout factor with some of these hotshots is stupendous. They have a productive life span of about thirty-five years of age. What the hell is that?



**David Rockefeller**, chairman of the board of the Rockefeller Group and the Rockefeller Brothers Fund. I certainly do not have

any divine wisdom on how to create a Utopia. America is rich in natural resources but I am convinced our greatest natural resource is our generosity of spirit and substance. Americans are the most generous people on Earth. Thinking about Utopia is to my mind a unique opportunity for each and every one of us to explore and develop the gift.

To move toward a more Utopian state we would need increased creativity, better cooperation, sharper management, and a public education campaign to increase citizen awareness of how important giving is and how much more is required. Truly satisfying giving usually involves significant personal investment, time, and effort. And in a true Utopia successful giving would demand the same care, creativity, energy and effort as does any successful business enterprise.

I think our nation must preserve and strengthen a policy framework that encourages the generation of wealth, because you can't give away what you don't have—the last axiom of philanthropy. It is equally vital that our citizens maintain the entrepreneurial spirit that has made America great. A favorable climate for private initiative and economic growth is key to our

CONTINUED ON PAGE 88

# ENGLAND

KNOWN FOR ITS SENSE OF TRADITION.



AND ITS GIN.



THE GIN OF ENGLAND. AND THE WORLD.

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FICTION

# A HANDFUL OF HORROR

*Guilt grips the  
human mind like a powerful vise.  
It can turn  
even the simplest of dreams into a  
complex nightmare.*

**S**KIN AND BLOOD—By Edward Bryant  
Herst Brenner leveled his head and aching old body up from the equally decrepit Barcelona chair. He fumbled for the plastic vat of nerve pills that customarily sat on the TV tray by the chair's arm. It was dark in the living room, though the man knew that the sun must still be high outside. Brenner habitually kept the drapes drawn. He headed a lamp. The bulbs in the overhead fixture were always burning out, and Brenner no longer detested the risk of standing on a rickety kitchen chair to replace them. He found the container of pills beneath the chair. The faded Burger King Bullwinkle glass was empty; he must have drunk all the water before falling asleep. He turned toward the kitchen door and shut it to the sink. He hadward being old and frail. He detected the lack of control. It was not good being a retired immigrant grocer in America. Brenner turned to the spot,

listened to the pipes cough, waited for this water to turn a temperature cooler than liquid.

As he filled the glass, he could feel the nerve endings tingling in his fingers, the palms of his hands, his arms. He knew that if he didn't swallow a pill soon, the tingling would itch unbearably, then turn to searing pain. The slightest touch would generate agony. It had been this way for years. His doctor told him it would be this way until he died. There was nothing to be done medically.

The war. That was how he had laconically explained the complaint to his doctor. The war. The doctor had nodded sympathetically and probed no further.

Brenner put the nerve pill in his mouth, took a bit of water, moistened the pill, rolling it over with his tongue, greedily sucked in more water, and swallowed. Some day he learned, the pill would hang up in his throat and choke him. Not today. The sticky lump went down quickly.

PAINTING BY CHARLES PFAHL

leaving a sweet residue on his tongue. The man waded a minute for the pill to take effect, then turned and walked slowly back into the darkness of the living room.

He found the lamp in a sidewalk sale outside the late apartment building in the middle of the next block. He had been out walking in the bright California sunshine—he doctor's orders. Bremer searched desultorily through the junk—broken tape players, warped albums, chipped mirrors. And then he saw the lamp. It was a somewhat old-fashioned table lamp with an ornate, lustrous, brass base. Papered to the single bulb with a tension clip was a dark tan cylindrical shade. The leathery material had been tacked to the wire frame with darker thongs.

A well-do Bremer thought, "How much?" he said to the dark, ancient woman scrutinizing the passerby with grimel eyes.

"Two dollar," said the woman.  
"Too much. I'll give you two."  
"Three dollar." She said with obvious boredom, as if her heart were not in the bargaining game.  
"Two fifty."

"Okay." The woman's lips showed the trace of a smile.

I eyed her closely Bremer thought. "I don't suppose you would deliver this lamp?" The woman looked at him as though she had suddenly lost the gift of English. "I thought not," he said. Mongrel bitch.

He gave her two lathered dollar bills and a pair of worn quarters. When he picked up the lamp by its shade and the base, it seemed to Bremer that the thing was far hotter than even sitting in the San Fernando Valley sun remained.

That night he sat in his lounge in the center of a pool of golden light cast by the new lamp. The bulb even worked. He squinted through bifocals and could make out the small print in the Herald-Examiner. When Bremer finished the retrospective on the Klaus Barbie insanity in France, he disquietedly set the paper down on his lap and leaned back. Would there be no end of it? People's memories were simply too long.

Then he fell asleep. He dreamed one of the memories he had not dreamed in a long while. It was what he had called the dawning contest on Christmas Eve, 1944. It had been a bitterly cold Bavarian night, the evening of a day in which Berlin had increased his load of paperwork by a quantum jump. He? Or Bremer was out of sorts. Holidays usually did this to him.

Even after the incident happened Bremer was never quite sure why he had drawn all the participants together. He remembered going out to the flag barracks with some of the rougher guards to pick six children of approximately equal sizes and physiques, along with their mothers. Then they had gone to the deserted storage shed and laid the child prisoners securely down, spread eagled across the heavy worktables. Other guards brought in six camp cooks, prisoners also. The schnapps had flowed freely that night, but

not of course for the prisoners.

Bremer doused the rules on the spot. All the cooks were handed razor-sharp boning knives as the guards briefed their Schmeissers significantly. Nonplayers would be shot on the spot. So would mothers who cried out or moved from where the guards had placed them by the tables. On command, the players would start to remove the skin from the flesh and the ribs from the bones of the six children on the tables. The cooks would be graded on both speed and style. They would receive bonus points for the length of time their subjects lived. Winners would receive extra rations on Christmas. Losers would be rendered incapable of enjoying the holiday at all. Bremer ordered the contest to begin. Soon the cries of some of the cooks were nearly as loud as those of the prisoners on the tables. Fortunately the shed was far from the other quarters, and the night wind swallowed up screams. Two of the cooks didn't last more than the first minute. Each

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then turn to searing pain.

---

was shot through the head. The young prisoners on the tables screamed and died. Five of the mothers did likewise and died. One mother cursed. Stenily. The bright orange of fayed flesh and the gleam of freshly exposed bone all shone morosely in the unshaded lights.

Next Bremer jerked awake, the long-ago night before Christmas filling his mind with cries and blood. The living room was dark now. It shouldn't be. Maybe the bulb in the new lamp had burned out. Perhaps the bulb was merely loose.

He fumbled in the darkness, reaching for the lamp, carefully trying to find it without knocking the damnable thing over.

He touched human skin, warm flesh, and jerked his hand away, breath expiring with a hiss from his lungs. "Who—?"

There was a sharp click, and the lamp came on. It was not the garish golden radiance he recalled from earlier in the evening. This was a bright, unshaded glow, the illumination throwing everything in the room into harsh relief. Bremer squinted, willing his eyes to adjust.

He saw a beautiful boy child staring

beside the TV tray. The intruder was about twelve, slender and clean limbed, his skin dark and glowing like polished hardwood. He was naked. His wild hair was black and curly. His eyes were equally dark as they scrutinized Bremer sharply.

"Do you remember me?" said the boy. "Or my mother?"

Bremer said nothing, staring.  
"I'd have expected—," said the boy. His voice dropped off. "No matter. I suppose the corpses all looked alike to you after a while. Even the ones skinned and dressed like dead horses."

Bremer found his voice. "Who are you?"

The boy shifted his weight, face solemn.

"Just one of too many. I expect."

Bremer let the lethal pricking starting in his fingertips, the ominous feeling moving up his arms toward his trunk. He started fumbling for the bottle of nerve pills. "I suppose," said Bremer, you are a Jew?"

"Hardly." The boy shook his head. "You are a young recruit from Mossad? Your nudity is an odd uniform."

"No."  
"Aren't you here with your friends to drag me in chains back to Israel for me? Or will you shoot me right here?"

"Hush, old man," said the boy irritably. "Do I have to explain everything? Don't you recall the memory you just relived?"

"The dream?"  
"No dream. Unless you think I'm nightmare and that of my fellow prisoners and their mothers."

"This is craziness," said Bremer. He started to search for the pill vial in earnest.

"That was craziness," said the boy. "You are a Jew!"

"Don't be a bore, old man. There were twenty million of us, you know. Not just the six million, Judah. The others are not my concern. My grief is saved for the one million of my people."

"A nice man?" said Bremer. "I still don't understand."

"The Romans," said the boy. "You hounded us as doggedly as all the rest. We ignored your rules, paid no attention to your borders. You eroded our freedom."

"Gypsies," said Bremer disquietfully.  
"The People," said the boy. "Some of us were doubly cursed."

"I still don't understand this," Bremer let panic beginning to creep through his brain. "Who were his pills? He could feel the pain, starting to stir just beneath his skin."

"You are looking for that?" said the boy. "I'll make it, he seemed to be more hesitant than a minute before. He held up the older man's vial of pills."

"Yes?" Bremer lunged past the bare lamp attempting to snatch the medicine.

"No." The boy sidestepped, holding the pills just in front of Bremer's face. "Do you know, he said, that this is the night of the full moon? The harvest moon?"

"Give me the pills," said Bremer.  
"No." The boy said again. "The reaping moon. Bremer saw that the other's fingers had sprouted ragged, blacklike nails. The

boy's jaw was longer and narrower now with his sharp white teeth gleaming in the bare bulb's glare.

"Please," said Bremer.

The boy just laughed, a barking, baying sound that spiraled upward like a howl. "The time for mercy is long past," he said. "Ask my friends and their mothers. No charity now. Only memory."

Bremer felt his nerve endings start to tingle as though brushed with electricity. He needed those pills. The boy closed his hand, and the wall with its contents crushed into powder. "Now," he said, "a loving little bite, and then another, and a thousand to follow. As many as it takes. Perhaps twenty million. His eyes blazed like bare electric lamps. Herat Bremer turned and broke for the door. But he was old and slow and he never made it. No one but the Gypsy boy and he heard the twenty million screams.

There being no known next of kin, Herat Bremer's worried possessors were given over to the management of the apartment building and eventually found their way to a sidewalk sale conducted by a small, dark, sad-eyed woman.

On a brittle, cloudless day in December very close to the Christmas holiday, bargain hunters had the opportunity to pick up and examine an ornate brass table lamp. Some looked at it, but only one possessed the curiosity to thoroughly examine the daintily tinted shade. The old woman touched it

fondly before handing it over. Only the most select of customers looked inside to see the ragged line of small blue numbers tattooed along one neatly stitched seam.

#### THE LEGLESS A

By Patricia Highsmith

Richard Thurman realized that in the eyes of other people there was something the matter with him. In his own eyes he was merely troubled, sometimes depressed. Other people, such as his wife Barbara, were worried about him because they couldn't understand what was wrong. What bothered him had to do with consciousness. Thurman said to his wife, "Further than that it was difficult for Thurman to go. His sleep had become erratic, so Thurman agreed that he should see a doctor.

A doctor tested his blood, heart, and so on and found nothing abnormal. His weight was also normal. The doctor suggested a psychiatrist. Thurman, forty-eight, a graphics designer and earning nicely (with a twenty-year-old son at Yale who was also doing well) and happily married, uttered some few hundred words nonstop about his symptoms. The psychiatrist had his recording machine on, or otherwise he might not have caught it all. The essence was that Thurman felt obsessed and oppressed by what he called "himself," or a sense of the uniqueness of his personality or identity. Thurman admitted to being bored with it and was glad to show humor

in saying that he realized the absurdity of being self-obsessed as he considered himself an ordinary fellow. But what could he do about it? He woke up most mornings around five, and within seconds could be in a sweat of fear. Fear of what? Of knowing or sensing too much about himself. Fear of death, of his end of pain to come followed by nothingness. Fear of the possible un-reality of life and at the same time fear of the reality of it. Was his a word problem? Thurman asked, and the psychiatrist replied, "No," calmly as if he had the explanation and would in time disclose it. Thurman went on to say that he had made a drawing, first with a ballpoint pen, then more carefully with a pencil—of a form like a three-dimensional A, but without the bottom legs or supports and with a triangular aperture as had the capital A. Thurman said that he had the feeling that this mass shape was himself, the image of himself just as much as say the picture of himself in his passport.

"And what worries you so much about this?" asked the psychiatrist, Dr. Murray. Thurman took a few seconds before replying, "I worry because it's like something I shouldn't know—like a secret—about myself. I wish I didn't know this." Thurman said this in a deliberately light tone.

"But that—Dr. Murray, a man of about sixty of slow and thoughtful mind, seemed to be weighing his words now—what's so depressing about your vision, or the image of the A?"

"I see it as all of my existence! It's also my death—all my little life, fifty-six years or what I'm due, plus my appearance and small stamina and life—everything particular to me. I sense all this of me in the morning, for instance, and I get scared. That's why I'm here." As soon as Thurman had said this to the slowly scribbling Dr. Murray he felt naive, even stupid, because he was paying a hundred and eighty dollars for this less-than-an-hour session, spilling his beans to this stranger, just because the stranger had a degree, an M.D. plus a psychiatry degree. How could an other human, thanks to a few books which Thurman granted he may not have read himself, remark on what he was saying? What was he saying? Thurman cleared his throat. He couldn't say he wanted to get rid of his triangle or even of his thoughts on the subject, because that would be like saying that he wanted to get rid of himself.

"I'd like to be not so obsessed with this," Thurman said finally.

"If you really want that," said Dr. Murray, looking up with a friendly smile, "you'll have it. What's stopping you? This may be a temporary—image. Like a recurring dream. You've had it about six months, well, a doctor's just told you you're in good health. You feel well, you said. It isn't even happening your work."

True and Thurman had said that. "By taking a lighter attitude," said Dr. Murray, "that the particular image is not going to harm you—just because it's you



Remember, you're doing well in every department of your life!"

Richard Thurman, sitting in a chair shifted his feet a little. He hadn't said that to the legless. A was going to harm him merely that it seemed ominous. "The triangular shape," Thurman began again, as the time was running out, "is just a symbol. I realize, a shape I think of now and then. What troubles me is a much more frequent awareness of my personality—or self."

"But aren't we all aware of our personalities—pretty much?"

"Pretty much?" Thurman meant that he felt aware of his own soul but didn't want to use the word *soul* because it sounded religious unrealistic. "Yes," Thurman conceded. The psychiatrist and his welder had collapsed like a balloon for Thurman, and he was bored and discouraged at the end of the session.

Thurman described the session to his wife when he got home that evening. "He took an optimistic attitude. So I will, too. Maybe there's nothing at all to worry about." Empty words, Thurman thought, but empty and polite words make the world go round. Thurman loved his wife and didn't want to upset her. They were then drinking a pre-dinner tomato juice. Barbara was a secretary in an insurance firm. They both helped with household chores, shopping and such, though they had a cleaning woman once a week. Their son Bill cost them something at Yale, but they were making ends meet, and Bill was in his third year. They also owned a modest house in New Jersey, where they spent summers and most Christmas. Richard Thurman was thinking, as he began on his lamb chops, that he had nothing to gripe about. He smiled at his pretty wife and tried to think of something to say to make the worry leave her brow. "It'll pass," Thurman said. "I've been taking myself too seriously."

Her frown did go away. "I think maybe you have dear."

The following dawn it came again. When Thurman opened his eyes, it was dark. Barbara liked the curtains drawn at night. Thurman knew without looking at the round-dial clock near their that it was just after five. He closed his eyes and let it come, thinking maybe this time, now that he'd asked the intangible phenomenon to another human, a shrink, someone apart from herself and Barbara, he could handle it, keep cool about it. "You are a single wretched individual," Thurman thought. "What's important about you when the chips are down? Nothing. You are weak, scared, cowardly before the big facts of life. You have been to college, so you can express yourself better than the majority but otherwise what is the difference between you and a man in the Third World dying from malnutrition at thirty?"

Nothing, Thurman thought to herself. No difference. He wasn't trying to make himself special. On the contrary, he was in awe of what he was experiencing and felt humbled. Thurman tried to relax, to sleep again,

but the black emptiness swirled and throbbled, making his tenser with fear. His heartbeats shook him. You will die, vanish, and there'll be nothing but blackness and silence. *Snuffled* out you'll be. Not even the blackness, the ringing silence of now, will exist for you. Who are you, you ask? Many men before you have felt exactly the same as you feel now. Who are you? The last question seemed posed by a silent voice, yet Thurman knew that it was an idea of his own. What Thurman hated now was the thump of his heartbeat, which he could hear despite some early morning traffic noises beyond the window.

Thurman got gently out of bed, dressed, and in about five minutes was out of the house. He walked downtown. He was free now he told himself, of the thoughts which when he lay in bed, had made him feel so cramped and powerless—and frightened. Now he could lift his arms, jog a few steps, look around and see a variety of images: other people, windows, buildings, cars. But

●The following dawn, it came again. When Thurman opened his eyes, it was dark. He knew without looking at the clock it was just after five. Maybe this time, he could handle it, keep cool. ●

he was not free, and he realized that. He could never be free. At nine thirty he rang his office and got the young fellow called Gil, who was always on time at nine, while the other three older fellows, himself included, seldom turned up before ten. He asked Gil to ask Bob Clark to telephone his wife and tell her that he had taken an early-morning walk. Just that. Then Thurman walked on into Central Park. He did not want to speak with his wife. She wouldn't understand. At close to noon he was sitting on a park bench when a shabbily dressed man of about fifty approached him timidly and asked for a dollar, please.

"Or just fifty cents—if you can."

Thurman stood up and pulled his wallet from the inside pocket of his summer jacket. He had at least a hundred in cash and started to take it all out, then realized there might be another in equal need and pulled out half the bank notes. "Here. No, take it take it!" He walked quickly away.

There was another woman in need, an obviously poor woman sitting on a bench with a babe in arms, a shopping bag at her feet. She looked up as he approached.

"Here. For you," Thurman said with an

awkward smile and thrust the rest of his paper money into the woman's hand. She thanked him in Spanish. Thurman felt slightly happier as he walked away from her and the child as if he had made contact with the human race.

You are still you, condensed, heavy like an older, fatter god, nor bad, mainly commonplace, destined to suffer from the usual—a few unhappy love affairs, *l'ach-ache*, flu, maybe prostate pains. And so your little life. The silent interior voice faded, stopped pushing its message into Thurman's consciousness, and in its place came the legless triangle of gray stone, heavy as a pyramid. Thurman shook his head with impatience, but the triangle did not budge. Now he was looking out on a cooler, broader scene: the East River from the Queensboro Bridge, little barges and tugboats pushing purposefully through the gray water, traffic buzzing behind him, noise, activity everywhere. With a slight jump and using both hands, Thurman cleared the rail, found himself tottering on a projecting girder, but why hesitate? He had a wife made out. Barbara would have no problems, no financial ones, at least. These thoughts flashed through his mind and vanished.

Thurman jumped again and landed a clean leap, because one foot struck something else unseen, but then he was in the clear, falling. The impact of hitting the water knocked him out, but such was the speed of things. He was aware for an instant of deliberately inating water—after all, that was his intention—and then it seemed that the massive gray legless A pulled him down forever, accompanying him forever.

## HEAL

By Pat Cadogan

"IN THE NAME OF JESUS!" the Reverend Jesse Rapture screamed and slapped his open palm down on the woman's forehead. The crowd in the tent roared as she spasmed in his wheelchair.

Rapture began running both hands over the woman's pallid, twisted body. "God Jesus-Jesus-of-Christ, help me, help me, rebuke this vile sickness, Jesus, Jesus, I can't let you CAST IT OUT!"

The uniformed nurse who had come to the platform with the woman turned away, obviously repelled, as he straightened the clawed fingers, the arms, the shoulders, working his way down the rest of her body. "Jesus Jesus-Jesus-GOD-LORD-CHRIST ALMIGHTY!" he finished and stopped back to the other end of the platform.

"Now, daughter, I KNOW you can WALK without THAT CHAIR!"

The woman looked at her hands incredulously. "Praise Jesus!"

The crowd took it up as a chant. "Praise Jesus! Praise Jesus!"

"I COMMAND you to GET UP and WALK WITHOUT THAT CHAIR!"

"Praise Jesus and walk without that chair!" the crowd roared over and over again until it seemed as though the combined force of their voices lifted the woman.

out of the wheelchair and then sent her hobbling across the platform to collapse sobbing in Rapture's arms.

Counting the take back at the motel was Rapture's favorite part, but as usual a quarrel broke out between Kitty and Sylvia as to who should play the cripple at their next gig. Kitty was the better contortionist there was no doubt about that, but Sylvia looked the part, thin as a stick no matter how much she ate.

Tonight he was too tired to go through any of that again, and he directed his assistant Martin to get them out of his sight. "Buy them something to eat. Go to a driveway and say in the car. And bring me back something." He knew Martin didn't really like the idea of leaving him to count the take alone, but Martin could jump it. They were all expendable, and they knew it.

Ten minutes after they'd left, there was a light tapping at the motel room door. Rapture folded the coverlet around the cash he'd been springing on the bed and strode across the room to jerk the door open. "Damn, I thought I told you—"

"Reverend Rapture?" The woman standing outside was tall and well built, especially in the places that counted. Plain in the face, but Rapture wasn't too fussy about faces. "I was in the tent tonight, and I saw you. I've been traveling all over to every tent revival I could find, and now I know you're the man I've been looking for."

"Remember you," he said. "What is it that you need my spiritual help with?" She stepped inside and looked around. "Are you alone?"

"I was just making my devotions to Jesus, yes." He glanced at the bed nervously. He'd have to get her worked up so she wouldn't hear the coins clink when he took the coverlet off. Or maybe she'd settle for the floor. Plenty of that did.

"My husband has need of your powers. A small warning bell went off in Rapture's mind. Husbands could be problems. "Daughter, I'm awfully fed the night—"

"But I have great faith. As well as two hundred dollars."

"That is great faith," Rapture said, thinking of how the others would never have to know. "But we will have to play an almighty prayer together—"

"I'll do anything." Her breathing quickened with desperation, and Rapture realized that in spite of her composure, she was having a hard time containing herself.

"I don't know what Jesus may ask—"

"Whatever he wants, he can have. Just heal my husband."

"If your faith is great, it will be done." "I'll get him. He's in the truck." She darted out. Rapture hurried to move the coverlet from the bed to the small round table near the window.

"Reverend?" She was standing in the doorway again with a wheelchair in front of her. My husband Jim. Heal him."

Rapture never heard her. The plastic-wrapped thing in the wheelchair was past

healing by—well, there was no telling. Weeks, maybe even months. She had done something to the body, inhaled it with something to slow the deterioration, so that the build hole over the left eye socket was still fairly obvious. There were strange round things stuck all over the plastic that Rapture realized, to his horror, were garbage pail deodorizers.

"It was an accident," the woman said. "I didn't mean to shoot him. Just that pointed-up woman he was with." She kicked the door shut behind her and rolled the chair into the room near the foot of the bed. "Just heal him. You don't have to worry about her."

"Oh, Jesus—" he moaned, backing away from them.

"Yes, Jesus. Go on. He was a son-of-a-bitchin', no-good-lyin' son-of-a-bitch, but I know you'll heal him of that, too." She knelt down next to the wheelchair.

"God-Jesus-Jesus oh-Christ!" Rapture yelled, and the woman repeated it, word for word, lifting her arms to heaven.

*•The woman was amazingly strong, far stronger than he was in his hysteria. She actually managed to drag him, struggling and twisting, to the corpse. The cocked head stared at him•*

"Yes?" Yes?" she said to Rapture. "Play more! Oh, Jim?" She embraced the corpse, jerking a fresh howl from Rapture. "Jim, I know you're here. I know it! And we'll make a new star. I forgive you for what you did with that bitch. The corpse's head, protruding from the plastic wrapping, drooped bonelessly to one side, tearing the rotted flesh. The ghostly odor hit Rapture full in the face for the first time, making him gasp.

"Noooo! Noooo!" he howled. "Get him out, get him out!"

The woman got up and ran to him, seizing his arms. "Lay your hands on him now, make him real!"

"Oh, Jesus, help me. HELP ME, NO DON'T!" he screamed. The woman was amazingly strong, far stronger than he was in his hysteria. She managed to drag him, struggling and twisting, over to the corpse. The cocked head stared at him endlessly.

"Say it now!" She gave him a mighty shove, and he landed on the dead man with a scream, feeling the rot under the plastic squawk at the contact. "Say, I know you can walk without that chair." "Say it!"

Rapture scrambled onto the bed, wiping desperately at himself. "Get her out of here.

Jesus, help. God please, SOMEBODY!" The woman stared hard at him as he pushed himself against the wall, babbling. "Hey, wait a minute here. You're not laying your hands on him!"

"You, goddamn right! I'm not!" Rapture parried hoarsely. "I'm not touching that thing. Now you get out, get-out-GET-OUT!" The woman's eyes narrowed. "You mean you can't heal?"

"No, no. I can't heal. I can't, I can't—"

She reached under the plastic and came up with a gun. A bit of something rotten was stuck to the barrel.

"No, wait, what are you doing?" Rapture screamed loudly.

"You son-of-a-bitcher, no good—" She climbed onto the bed and came at him. "Drove all over the state with him in the back of the truck. I came two hundred miles from the last one, two hundred miles, and what do I find?" She showed the pistol under his chin and thumbed back the hammer. "Another fucking fake."

## THE OVERCOAT

By Michael Sweeney

Weed was hooked. He'd come to the Salvation Army outlet on Pechan Street because they were having a white-tag sale. It was the dump and of September, and the plaid synthetic-fiber lumberjack coat he'd bought five years ago at K mart was ripping apart at the seams. He needed a new coat. He was zinging the coats down the rack when he saw it, the beau ideal—no make that the Holy Goddamn Great!—of overcoats. The ultimate trench coat, the one Rogers wore in Casablanca. The standard emblem of manliness throughout the world. The single best overcoat ever made. A Burberry.

He caught his breath. It was in mint condition—every D ring and epaulet intact, the black-and-buff-tweed cloth liner unfaded, worth at least five hundred dollars in any vintage clothing store in town. And some idiot had priced it at ten dollars!

Hands trembling, he reached out and actually touched the cloth. It smelled faintly of mothballs. It must have been in somebody's attic for decades. A hazy reminder of younger, more adventurous days, locked away in a steamer trunk for decades after decades. Then a final heart attack when golfing, and after the funeral the family gathered around to clean out Dad's stuff, squabbling over this or that small memento and consigning the greater pile to the local Sully-Aunty.

He felt the anxiety of the flow through his fingertips as he folded back the collar. There was a white rectangle of cloth.

JK

PUEBLO EXPEDITION

1947

Weed frowned. He remembered that Pueblo was a tiny island south of Tierra del Fuego. He'd read about it in an old National Geographic. Hopkins had sent some archaeologists there, right after the Second World War. They'd found a ring of

CONTRIBUTOR: JIM



*"It's not true that I have glorified madness or idealized schizophrenia. Most people who are really crazy and miserable are not good company. Nobody who's good company is ever put away. People like to have them around."*

## INTERVIEW

R.D.  
LAING

**W**all Street hits a catastrophic air pocket, and the megadip underlines the sterner rationality of the yuppie era. Barbra Streisand is a smash in the movie *Nuts*, leading to pious state songs. New York City mayor Ed Koch orders homeless people hauled off to mental hospitals. A middle-aged woman who lived on a hot-air vent, has up \$100 bills and also behaved obscenely in public is taken in. Four city psychiatrists testify that she is psychotic, a paranoid schizo-

phrenic, and suicidal! But she impresses the court with her lucidity and insight, and the judge orders her set free. This case, which epitomizes a major social dilemma, pivots on the dilemma Ronald Daud Laing has spent his life analyzing: What is craziness and how should it be treated? Fear insanity, and hoarding—the themes of the psychiatric psychiatrist, and post—seem to be everywhere.

"We are all afraid of each other," says R. D. Laing in an address to a Manhattan

PHOTOGRAPHS BY BRIAN R. WOLFF



“Over the years people have laid a whole lot of stuff on me about being a communist, an anarchist, an acidhead, and even an ambulatory schizophrenic. The term maverick would be the very least of them.”

conference on Buddhism and psychotherapy. Like a slim, brown owl, he gazes reproachfully at his audience over glasses perched at the end of his nose. “We are an endangered species, the only species we know of that is an immediate danger to its own survival,” he intones, his rich Scottish brogue wrapping his tongue around each syllable. Laing is giving a performance, one of his “meditations.” As he faces rows of therapists, social workers, and supposedly self-regarding Buddhists, his charisma is high voltage for a stage shared with robed monks and abbots with beaklike stitiches from Tibetan monasteries. To those less than intrepid explorers of the New Age, the sixty-year-old philosopher of mental distress from the Saties is no remembrance of things a generation past. He vies them with his quirky deft logic and his sophisticated innocence. “A great deal of the practice of Western science is its actual practice,” he says, “is through destroying the world as it is, in order to discover what it is supposed to be.” He stands back to thunderous applause.

In two best sellers of the Saties, *The Divided Self* and *The Politics of Experience*, Laing challenged the psychiatric profession's eagerness to resort to drugs, electric shock, insulin comas, and the scalpel to banish the symptoms of mental disturbance. Both cause and cure, he insisted, were greatly influenced by patients' relationships, especially with their families. He even suggested that functionally schizophrenia might be a self-induced “head trip” used to escape from, and heal, the emotional conflicts imposed on the confused by a partly insane society.

Laing's skepticism, humaneness, and sympathy for different states of consciousness were in tune with the Sgt. Pepper era, and he attracted a large following on American campuses. But his popularity and what critics derided as his romantic idealization of madness alienated many of his colleagues, who saw him as less on a power trip. Few, however, deny Laing's brilliance, sensitivity and originality.

By his own account, his character was tempered by a studious, puritanical, and lonely childhood in Scotland. Laing was born in Glasgow in 1927, much to the surprise of his parents, who claimed they had given up sex by that time. His grammar (high) school was in the Gorbals, a notoriously tough and depressed part of Glasgow. But his family lived outside the area and was respectably middle class. Laing displayed a talent for piano, but a wrist injured from playing Rugby ruled out a concert career. He finally decided to be a writer who would explore “why the human race is so unhappy. Medical school seemed the right route. “Within the warps of the brain, I might find the cause of the warps of the mind,” he wrote.

At the University of Glasgow Laing was disgusted by the way the teaching staff distanced themselves from patients. The anxiety department, for instance, used

films of Nazi experiments, in which Jewish prisoners were overdosed with X rays as teaching material. He explored for himself the effects of hypnosis and the paranormal, which he came to believe existed. He climbed mountains and buried himself naked in the snow to test the limits of the senses. He failed his final exams at first because one night his tongue loosened by whiskey; he lectured the professors on the effects of medicine.

After graduation Laing took up neurosurgery, joining the British Army's psychiatric staff and then a Glasgow mental hospital. Typically on viewing an interview between a psychiatrist and a patient, he mistook the patient, who was less fidgety for a doctor. Many schizophrenics, he saw, needed to act out a kind of theater, which therapeutic intervention only blocked. Even wild schizophrenics, he found, lived in an intelligible world of their own, much like that of the artist. In 1960, after being rejected by seven publishers, Laing published *The Divided Self*, a study of schizoids “designed to make madness and the process of going mad comprehensible.”

Laing helped form the Philadelphia Association, a so-called antipsychiatry group dedicated to reforming treatment of the mentally ill, and set up Kingsley Hall, in a house in East London, to put his ideas into practice. Patients and doctors being free to paint the walls with faces, if they so chose. The staff and guests on occasion had candlelight dinners, with Laing expounding at length on medicine or mysticism until the wee hours, after which free-form dancing to the Rolling Stones would last until dawn. For a time Kingsley Hall was a magnet for artists, celebrities, and London's counterculture dropouts, but after five years the lease ran out, and the experiment dissolved. Similar sanctuaries were started elsewhere, however, and today there are at least four in England and one, Birch House, in Lilloret, New Hampshire.

Laing set up a private practice in London and wrote several more books, including the autobiographical *Wisdom, Madness and Fully*, published in 1985. Following an emotionally catastrophic divorce from his second wife Judith, with whom he had four children, Laing closed up shop in London three years ago and began to travel about to conferences and institutes with Marguaria, his third wife, mother of his tenth child (his first wife Ann, with whom he had five children, lives in Glasgow).

While Laing guards his privacy fiercely under the spotlight, he seems utterly private under the laminae to roam within his mind. As a result he's a great victim of projection, and his public persona is a lightning rod for discontent. For 20 years rumors have circulated that he is a schizophrenic, an acidhead, an alcoholic. Some of this may be due to his style of lecturing, his free-form meditation on the themes that preoccupy him—currently the pretenses and lies of love, the subject of his new book.

He is capable of being silent at the podium long enough to make many in the audience uneasy. On occasion, after he's been missing for a while, an official has attempted to ask if he's ill, drunk, or on drugs. I interviewed Liang in a psychiatrist's apartment on the West Side of Manhattan. Reclining, nearly horizontally in an easy chair, he smoked a pipe and drank coffee and a growing soda. His speech seemed as lethargic as his posture, and at first I wasn't certain that he was entirely well. Soon it was clear, however, that the frustratingly long time he took to ponder a response had nothing to do with alcohol; it simply reflected the sensitivity with which he wanted to express himself, as if he were thinking things out anew every time he spoke.—Anthony Livolsi

**Ques:** How does the case of Joyce Brown, the New York school poison, look to you?  
**Liang:** Quite a few people come to see me who have trouble with that sort of thing. I explain that whether it is under some new legislation or old, you can't do that on the sidewalk and expect to get away with it. A lot of ordinary citizens are very frightened of strange people who are homeless and who might be even if not habitually violent, prepared to mug or attack. There has been a cutback on custodial institutional care of disturbed people—people not having the skills to keep themselves as ongoing con-

ditions without bothering others. A number fall by the wayside.

What do the ongoing, taxpaying, colorless, elderly, normal householders or people with roots over themselves, who go to restaurants, do about these other people? It is embarrassing to have to walk over someone in the middle of winter, bearing on the sidewalk. Still, there is a strong feeling that anyone in their right mind wouldn't be in that position, and if they have lost their mind they wouldn't reason that they've lost it. So they can't help themselves, and they can't appeal for help to other people. The decent thing to do then is to help them, even if they don't want it, because the fact that they are treatment resistant might be one of the indexes they are diagnosed. So the refusal of treatment diagnosed as having lost their right minds is itself a further criterion for presumptive fact that they've lost it.

Do we have to say that someone is mentally disordered by the very fact that they cannot get it together to have a roof over their heads, or do they choose not to because for some peculiar reasons of their own they prefer to live outside of houses? Is it possible to look at that without medicating it automatically from the beginning? Very likely quite a number of those people are extremely confused and bewildered and helpless and disoriented and don't like being there and would be very

glad to have a shelter. So let's provide shelter. Let's encourage the private sector to go back to the idea of a Salvation Army open-door situation for people who are outside in the middle of winter in London and other thousands of people hang out on Hampstead Heath and in other parts from spring to the late autumn and their migrate back into mental hospitals during the coldest months of the winter.

**Ques:** Is treatment of the mentally disturbed today more enlightened than it was?  
**Liang:** The current situation is more complicated than twenty or thirty years ago. In the late Sixties it became apparent to the state with responsibilities for control of the population—that the old idea of putting people in the provincial lun and keeping them there for life—retrograding people—wasn't cost-effective. The Reagan administration in California was one of the first to realize this. So they had to rethink just what the name of this game was. This has led to a whole of others now whose flavor is schism between what is said to the general public and what is practiced by the executive in control of mental health. The same problem prevails across Europe and the Third World as well.

**Ques:** You believe that the motive for change was economic?

**Liang:** Economics controls politics, so the pivotal issue is an economic one. To see what is happening, look at the textbook or

manual called *DSM-IV*, the Diagnostic and Statistical Manual of Mental Disorders, third edition [published by the American Psychiatric Association]. Translated into economic and political terms, mental disorder means undirected mental states and attitudes and behavior. The criteria for mental disorder in *DSM-IV* induce any unusual perceptual experience, magical thinking, clairvoyance, telepathy, sixth sense, sense of a person not actually present, you're allowed to sense the presence of a dead relative for three weeks after their death. After that it becomes a criterion of mental disorder to have those feelings.

I was brought over by the psychiatry department of Aghora to Greece to debate this with the doctors of *DSM-IV* because *DSM-IV* proposes itself as a system for third-party insurance payment all over the world. The Greeks were very unhappy to incorporate this in their psychiatric practice but couldn't do anything about it. Look at that [Liang hands over a copy of *DSM-IV* and points to a lengthy exchange between a patient and his psychiatric interviewer]. The patient's speech is not entirely grammatical. But you use a tape recorder a lot. How much hurt do you have to take out? This is given as a paradigm of the depths of schizophrenic mental disorder.

**Ques:** You feel that the patient has given a perfectly good reply to the question. Why is it that people believe in God?

**Liang:** I'd be honored to give it myself. The criteria in this manual are very useful for controlling the population because you can bring them to bear on practically anyone if the occasion seems to demand it. Look at the "Oppositional disorder" as a very good one [Liang reads from *DSM-IV*]. The essential feature is a pattern of disobedient, negativistic and provocative opposition to authority figures. For example, if there is a rule, it is usually violated if a suggestion is made, the individual is against it. If asked to do something, the individual refuses or becomes argumentative. If asked to return from an act, the child or adolescent feels obliged to carry it out. The disorder generally causes more distress to those...

**Ques:** Well, that would certainly dispose of any moralists!  
**Liang:** That is a criterion of mental disorder as well.

**Ques:** Surely these criteria are all a matter of degree?  
**Liang:** Maybe, but these are not exceptional examples out of *DSM-IV*. The overall drift is what contemporary modern psychiatry epitomized by the *DSM* manual translated into eighteen languages, is imposing all over the world—a mandate to strip anyone of their civil liberties of habeas corpus, and to apply electrolytic incarceration, chemicalization of a person, electric shocks, and nonpunitive torture to homogeneous people who are out of the

Presented as a medical exercise, it is an undercover operation. It is not brought to bear on Shirley MacLaine when she goes out on a limb, or on any typical daughters of the establishment, Democratic or Republican. It is held in reserve.

**Ques:** Well, what criteria would you like to see in *DSM-IV*?  
**Liang:** That is not the question. The problem is the whole situation of which *DSM-IV* is a necessary part. The medical model has fallen away from the minds of many medical people who employ it. We're involved in a lot of mental distress, misery, confusion, and deep unhappiness going around. The does not become a problem to anyone else as long as that person keeps on functioning, and many people who are deeply miserable go on living without bugging other people about it. It is only when other people feel they have to do something about it that some sort of procedure goes into operation in our society. Just go out on the street corner and keep on standing there. After a while someone will feel that it's time for you to move on. You might be standing there as a matter of principle or because you can't move or whatever. You are not necessarily causing an obstruction. You are not breaking the law, as far as I know. But given the circumstances of life in New York, there must be something the matter with a person who keeps on standing indefinitely on a street corner. It's called



# THE REFRESH

**SURGEON GENERAL'S WARNING: Cigarette  
 Smoke Contains Carbon Monoxide.**

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 17 mg "tar," 1.1 mg nicotine av. per cigarette by FTC method.

otatonic. Now, I am not saying that in this city being as it is, it's feasible to have people do that sort of thing in public places. I am suggesting, though, that it would cause things for some people if we allowed a bit more of what I call experiential anarchy. But I am not preaching anarchy. I am preaching law and order.

**Orin:** You are not talking about those people who are distracted, hurting themselves, or beyond reach?

**Leung:** I am talking about them, too. I spent a lot of time with really broken down, crazy people, and I definitely think there could be a serious modification of the training of professionals at the best schools to address themselves to such people. Take the sequence in which medical students go from college to medicine. First you train for a year in physics, botany, and chemistry. Then you are confronted with dissecting dead bodies in a year of anatomy and physiology. Then these M.D.'s decant themselves into the general population to discover what it is really like. A number of experts all over the world have thought we could reverse the process, and medical students could be introduced to the way people actually live in the first place and then move back from there into the other studies. It might be worth trying. What difference would that make anyway to the most effective maintenance of the software of civilization? Look, I haven't got any revolutionary message in that respect.

I have expressed a certain scorn and contempt at the way electric shocks are meted out. I do get annoyed when a sane psychiatrist comes to see me who previously has attacked me in public for, as he put it, talking like his in front of the children, because we are all on the same side against suffering, and so on. It turns out he has a daughter of eighteen who is blowing it, and he does not want her to fall into the hands of a policing psychiatrist and get electric shocks. So he asks, Would I play a part in containing the situation so his beloved daughter doesn't get done? If it were someone else's daughter, that's what would happen to her, but not to his daughter: if you've got money and you don't want these things to happen to your own family, you can still find places that cost a lot of money but where people will be taken care of and usually calmed down like. The few places that do that someone has to pay the local police in case someone runs away and the police won't bring them back.

**Orin:** You don't view yourself as a member of the Establishment, do you? Why is there no room for you?

**Leung:** I am too forthright. "Ronald, we agree with you, but you shouldn't talk like this in front of the children, those outside the cloth." That's my main offense. One leading psychiatrist in America when I inveighed against the DSM-III last year, said that DSM-III is only a billing list for tripartite payments. You have got to have an

entry in DSM-III for the insurance company to pay up. Hallucinations are supposed to be suppressed in six days, schizophrenia supposedly cured or symptoms suppressed by injection, which suppresses the mental functions necessary to generate the abstractions which are billed as tokens of disorder and undesirable.

All psychiatrists with any experience know this is totally impossible. So when they get someone with symptoms like that, they diagnose them not as schizophrenic but as chronic anxiety or whatever. So it is now impossible to do an epidemiological study of the rate of recovery from schizophrenia. The whole thing is to process through DSM-III for insurance payments. Insurance companies are aware of this also, but patients and relatives are not. It is a standoff. Everyone is lying to everyone else, and meanwhile real people in marital distress and misery are being mangled.

**Orin:** You feel that the average person is liable to be caught in the system?

**Leung:** Anyone is liable to be if he's placed on the chessboard; it doesn't matter whether you are a knight, pawn, or queen. If it comes to be your time and place to be taken out, you will be taken out. David Rosenhan of Stanford University did a classic study about twelve years ago. He got a number of volunteers to present themselves to the psychiatric department of a hospital and say they were hallucinating but otherwise behaved normally. Everyone was admitted right away, a number were rejected: all were diagnosed as schizophrenic. All were normal people.

**Orin:** If someone who is otherwise normal complains of hallucinations, don't you agree that a psychiatrist has to suspect something is wrong with him?

**Leung:** Oh, I don't have to. Until it was decided by decree that you're not allowed to see things other people don't see, hear things other people don't hear, or smell things other people don't smell, we all didn't have to hear, smell, and see things the same way. This was never the case in the history of humanity. The ordinary human might, when depressed, see the sky become dark or the sun cloud over. The whole world was once part of man's psyche. But no longer. Everything now has got to be experienced all the time in the same way as everyone else. Experience has become homogenized.

**Orin:** But how do we decide whether someone is wacko or mostly eccentric? Or who needs help when they don't want it?

**Leung:** Has there got to be a codification? Michel Foucault in *A History of Sexuality* distinguishes between critics of correct behavior and conduct, and the codification of what is proper. The Greeks, he argues, had a sense of propriety, and they disapproved of certain conduct. Christian ethics brought in codification. They don't say this is not the correct sphere for virtuous, proper, appropriate conduct—but that this is sacramentalizing, sinful, and you'll be tormented and burned if you do it.



Eunpore had a phrase in one of his fragments saying that a slave is a man who is not allowed to express his thoughts. In a free society one ought to be allowed to experience the world in any way whatsoever. If someone is in a state of distress and wants me to help them out of their distress, I am at their service to do so.

**Over:** Is your new book, *Less of Love*, taken from material presented by your patients?

**Lang:** No. There are two sources of data for talking about love and life and sex. What you read about in books, plays, and novels or see on TV, and what you learn from other people and from your own life. In this book I am quoting literature but mainly basing it on my own personal horizon of what goes on in relationship to love.

**Over:** Was it inspired, then, by betrayal in your own marriage?

**Lang:** That is a very delicate subject. I don't think I can say anything because it involves someone else. So for now I think that has got to remain on a private shelf. But it is difficult to avoid it in the course of ordinary life as lived, isn't it? Practically everybody gets burned sooner or later.

**Over:** What's the theme?

**Lang:** Well, take Freud's view of sexuality. To be outrageously simplifying, he emphasized the conflict between sexual desire—which in itself need no limits—and prohibitions and taboos against its manifestation and fulfillment. Hence repression and all the other mechanisms that curb, squash and tame sexual desire. That was his main vector. The discomforts of civilization had to do with the problematics of human impulse. Instead of desire and passion meeting, they ran up against the prohibitions necessary to maintain a civilized society.

I am taking things in a way complementary to that. There is also the problem of the relationship between the impulse toward truth and truthfulness, toward openness and communion, on the one hand, and the absence and failure of truth and openness and truthfulness—and therefore common—on the other hand. So we've got playoffs between truthfulness and deceptiveness, trustworthiness and untrustworthiness, and trust and mistrust. Consider what is going on between people in love affairs or marriage involving the eternal triangle. If A and B are lovers, and B and C are having a relationship, and it is A's understanding that the relationship is between A and C, we have infidelity, betrayal, and jealousy.

One of the most upsetting things for people is not the need to inhibit desire but the need to conceal what they want, do and imagine. A sort of crisis occurs in the most extreme passionate and sensual relationships, but in nonsexual relationships it manifests itself in the experience of being deceived in art dealing, for example. Consider the outrage that is felt when a forger gets away with a fake. That outrage at deception is not the same as jealousy, but it is often confused with it. So there is a game going on—you alter reality for other peo-

ple. They will take to be what is the case what you want them to believe is the case so that they believe what you believe is good for them to believe.

So this situation sets up a politically economically as well as aesthetically and sexually maniacous field, a field of lies so that you are not lying, but you are living in a lying false field, both at a macroscopic and microscopic level. The contradiction between "Do I believe what I am told?" and "Do I believe my own senses?" is what a lot of people crumble under and go crazy over. Literally psychotic. But I am not trying to focus in this book on the way people are driven crazy but on the problematic of a "noncompossible" or inconsistent universe. Leibniz theorized that for any universe to exist among the infinite number of possible universes, one condition of a possible universe existing is that all of its elements must be compossible meaning that all of its elements must be able to exist at the same time.

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●Criteria for  
mental disorder include any  
unusual perceptual  
experience, magical thinking,  
clairvoyance,  
telepathy, sixth sense, or  
presence of a dead  
relative after three weeks ●

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When you have a lie or deception, there is a state of noncompossibility—you either believe the lie or what is the case. If you believe what's not the case because you believe what you're told, then you have to deny your own senses. If you credit your own senses and so disbelieve what you're told, you have to deny the trust you place in the authority. That's an agonizing conflict if you're faced with two equally credible sources. There's a dynamics, a geometry, or an depth calculus of possibility and probability. Something can be absolutely certain yet impossible.

I know a couple, two quite well-known people. One afternoon at half past four the woman came down from sleeping upstairs and found her husband and his secretary lying there naked on the sofa. Stunned, she asked, "What are you doing with that woman on my sofa?" He looked up and said, "That's not a woman, that's a waterfall." The wife says she felt dizzy giddy. She thought she was going to faint. She could not reconcile the statement he made with what she saw.

**Over:** A pretty wet seduce, surely!

**Lang:** Well, he was really putting it on. The

couple was given to practicing Tibetan Tantric meditation (spirituality emphasizing the erotic side of the psyche).

But the wife was completely bemused by him to the point of hypnotism. Most people are to a considerable degree in a hypnotic spell. The whole population comes under the influence of a Goebbels, a Reagan, a Nixon, and so forth. The state of affairs is induced in early childhood.

**Over:** Isn't lying in love primarily a defense against sexual jealousy and wasn't the trend toward group sex an attempt to escape that conflict?

**Lang:** That just reduces facing to invisibility, so it's got no meaning. You can erase significance from the act of putting a penis into a vagina or taking a penis into a mouth or an ass hole or an armpit. You can cancel meaning. But bring any sort of significance to the union of bodies to intimacy—so that its meaning is more than just the juxtaposition of two spermheads or ova, coitus—and you're into the realm of passion, and you do not abolish it just like that.

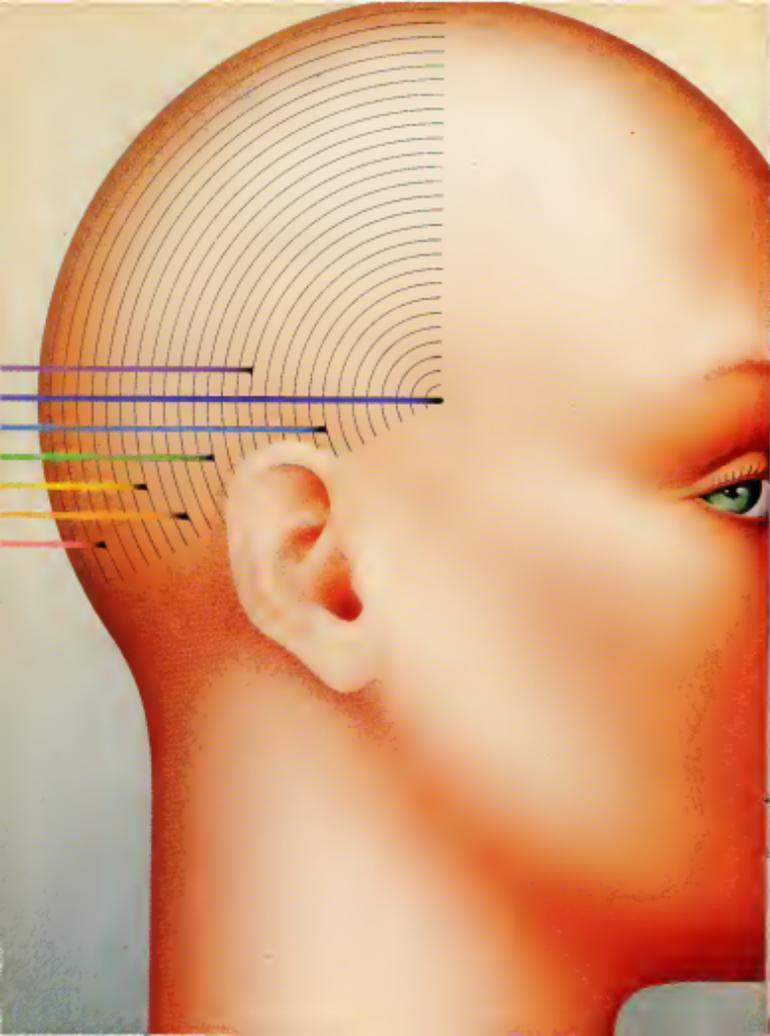
There has been orgasm and indiscriminate sexuality in the Western world for as long as we have records. From the beginning of the *Iliad* and Homer and through *Ovid* and the *Art of Love*, there has always been that indiscriminate, insignificant, meaningless mush, and at the same time it takes on specific significance as it always has done. With Paris and Helen and Agamemnon and Menelaus and Calypso. That, it is life and death. There is a tremendous conservatism that persists through all sorts of socioeconomic structures. Plato's account, not of the heavenly Aphrodite but of the earthly Aphrodite, could come out of *Penthouse* magazine.

**Over:** But isn't lying between the sexes inevitable while there is jealousy and therefore conflict of interest?

**Lang:** Until we build Jerusalem in England's green and pleasant land, we shall have to live in the synagogue of Satan. But it is a valid function of any age and time to try to see it clearly, expressing it and stating as best one can what there is, without any missionary intent. I find reading Montaigne or La Rochefoucauld a breath of fresh air, don't you?

**Over:** Why did you give up your clinic in London recently?

**Lang:** I was certainly worn-out and burned-out. After about thirty years of that, I wanted to have a rest. I felt I had been, as my colleagues say, "in the front line" for long enough. It is not true that I have glorified madness or idealized schizophrenics. I have just said that schizophrenics are simply as human as we are, just ordinary people who fall apart for one reason or another—maybe, genetically, maybe constitutionally, maybe for other reasons. I never said that people because they are crazy are more illuminated or better than you and I. Most people who are really crazy and miserable are not good company. Anybody who is good company to other people is never put away. Because people like them around.



## ARTICLE

*Memories leave traces of themselves in the brain, but learning how to find them is one of science's trickiest assignments*

# PORTS OF RECALL: THE NEUROLINK

BY BRUCE SCHECHTER

Picture this: The keynote speaker, scheduled to deliver an hour-long opening address before a packed convention center and 30 million TV viewers, has suddenly taken ill. You are given just two hours to memorize the text of his 25-page speech. You pop a memory pill and give the speech a quick read through. Later at the podium you deliver the keynote address in letter-perfect fashion, without once having to glance down at the notes.

This is the future of human memory. Someday soon we may be able to recall information as quickly and accurately as the most powerful computer does. We may be able to remember early childhood scenes that we thought we'd forgotten long ago. Indeed, researchers believe that memory disorders such as amnesia, Alzheimer's disease, and the natural forgetfulness that

accompanies old age will no longer trouble us. Mortimer Mishkin, one of the new breed of brain researchers studying the stuff of which memories are made, is bold enough to make this prediction: "In two decades we may be able to enhance the power of memory through drugs and manipulations such as brain transplants."

Today scientists of the mind are mapping out neural pathways, trying to uncover the mystery of how and where memories are made and stored. To do this, they seek the elusive engrain—a physical trace drawn in the brain to mark the residence of a memory. The engrain, they say, is the evidence that an event has been recorded and is available for replaying. Once it is tracked, we might learn how to enhance the memory trace—and develop it so that it can never be forgotten. "Nobody has any idea of what

PAINTING BY STANISLAW FERNANDES

people could be like if their brains were fully used," says neurobiologist Norman Waberger of the Center for the Neurobiology of Learning and Memory at the University of California at Irvine.

In the last 15 years startling advances have been made in the search for the organ. Interestingly, the person who provided the biggest clues to the way memories are stored and recovered is a man who has lost forever the ability to remember.

The man, known only as H.M., had suffered severe epileptic seizures since the age of seven. By the time he was twenty-seven years old, H.M.'s raging electrical storms of the brain had become so intense and so frequent that doctors decided he only hope of leading a normal life was to submit to a radical and as-yet-untried surgical procedure.

Tests showed that H.M.'s seizures originated in two anatomical structures deep in the brain, the hippocampus and the amygdala. William Scoville, the brain surgeon who had been treating H.M. for many years, reasoned that by removing those two structures he would also remove the cause of H.M.'s epilepsy. Scoville knew that people had often lived normal or near-normal lives after large parts of their brains were destroyed by accident or stroke. So on September 1, 1953, H.M. was wheeled into the operating room for surgery.

When H.M. awoke he didn't recognize

any of the hospital staff. In fact, his memory of the past three years or so was patchy at best. He wasn't able to recall, for example, that his uncle had died the previous year. Even worse, although his intelligence was apparently unimpaired, he was totally unable to form new memories. Once an event departed his attention, it quickly dissolved from his memory, like a dream. He would reread the same newspapers and magazines day after day and piece together the same puzzles. When anyone mentioned his uncle's death, the grief H.M. suffered would be fresh. H.M., painfully aware of his predicament, told a researcher, "Every day is a slog in itself, whatever enjoyment I've had and whatever sorrow. At this moment everything looks clear to me, but what happened just before? I just don't remember."

H.M.'s unique memory loss served as an impetus to researchers like psychobiologist Mishkin because it demonstrated the vital roles of the hippocampus and amygdala in the processing of memories. Understanding the parts these structures within the brain play, says Mishkin, is the key to improving our ability to learn and remember. The payoff for the years of hard research ahead will be enormous, and he gets excited just thinking about it.

To begin with, we will be able to treat congenital defects. We'll know how to prevent learning disabilities in children, bolster low IQ's, and treat infectious dis-

eases that attack the brain," Mishkin theorizes. Alzheimer's disease and other tragic disorders of the mind, which currently afflict some 2.5 million Americans, could be cured or perhaps even prevented.

Before any of this can happen, says Mishkin, the complex procedure by which a memory is encoded and then stored in the brain must be fully understood. "You can't repair a car without first knowing how it works," he points out.

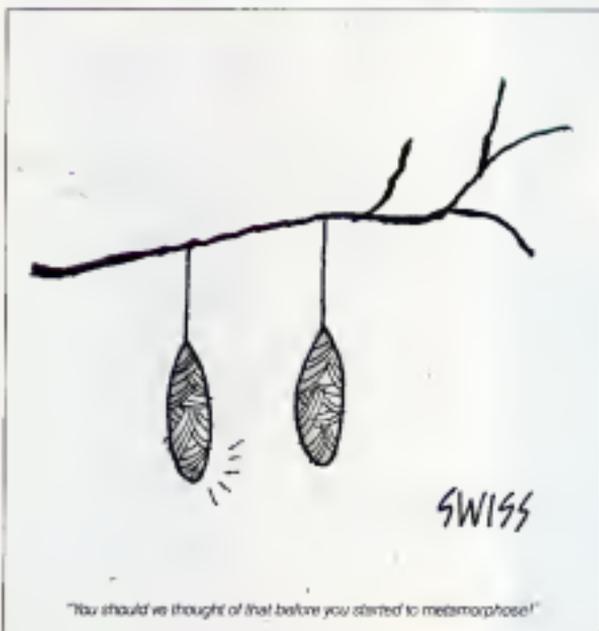
Our mental machinery is, of course, far more complex than the fanciest of car engines. Housed in what looks like a lump of grayish white jelly, the brain actually consists of scores of interconnected structures. Early neuroanatomists had no idea what the various structures did, so they named them for what they resembled. The hippocampus, which is an S-shaped structure located deep within both hemispheres of the brain, got its Greek appellation from somebody who thought it looked like a sea horse. The amygdala, Greek for almond, is named a tiny, almond-shaped structure located in front of the hippocampus. Both are sections of the limbic system, the most primitive part of the human brain. The limbic system is known to be involved in emotion, but judging from H.M., whose hippocampus and amygdala were removed, it must also play a major role in the formation of memories.

Mishkin's laboratory is housed in a small brick building amid the complex of buildings that make up the National Institute of Mental Health (NIMH) in Bethesda, Maryland. At one time, an armed guard was stationed outside his door. Mishkin's research subjects are rhesus monkeys, and once an anti-vivisectionist group broke into the laboratory to free the monkeys, which, like H.M., have had parts of their limbic systems removed. Monkeys' brains are similar to those of humans, but they're only about one sixteenth as large.

To explore how the rhesus monkey's—and our own—memory works, Mishkin and his NIMH colleagues put an object within a test monkey's reach. Under the object the monkey finds a peanut or a banana pellet. Then, after a minute or two, the monkey is shown the same object alongside a new object, which now covers a new food reward. If the monkey's memory is working, Mishkin has found, it usually picks up the new object, hoping to uncover a fresh reward. But when both the amygdala and the hippocampus have been removed, Mishkin discovered, the animal isn't consistently able to find the reward. "[The condition] is as close to what H.M. has as we will get," says Mishkin.

But the researchers found something that puzzled them. When they removed only the amygdala or only the hippocampus, the monkey seemed to learn and remember with only slight impairment.

"You have to take out both to get the devastating loss," Mishkin explains. "Yet it's also clear that each of them alone is terribly important. The question is: Why are



# How to write a personal letter

by Garrison Keillor



International Paper asked Garrison Keillor, author of the best-selling books, *Days in the Hills* and *Lake Wobegon Days*, to tell you how to write a letter that will bring joy to the life of someone you love.

... We shy persons need to write a letter now and then, or else we'll dry up and blow away. It's true. And I speak as one who loves to reach for the phone, dial the number, and talk. I say, "Big Booper here—what's shakin', babes?" The telephone is to shyness what Hawaii is to February, it's a way out of the woods, and yet a letter is better.

## Such a sweet gift

Such a sweet gift—a piece of handmade writing, in an envelope that is not a bill, strung in our friend's path when she trudges home from a long day spent among whoops and snarls, a dry our words will help repair. They don't need to be immortal, just sincere. She can read them twice and again tomorrow: You're someone I care about, Gimmie, and think of often

and every time I do you make me smile.

We need to write, otherwise nobody will know who we are. They will have only a vague impression of us as A Nice Person, because frankly, we don't shine at conversations, we lack the confidence to thrust our faces forward and say, "Hi, I'm Heather Hooten, let me tell you about my week." Mostly we say "Uh-huh" and "Oh really." People smile and look over our shoulder, looking for someone else to talk to.

So a shy person sits down and writes a letter. To be known by another person—to meet and talk freely on the page—to be close despite distance. To escape from anonymity and be our own sweet selves and express the music of our souls.

Some thing that moves a giant rock star to ring his heart out in front of 123,000 people moves us to take half-point in hand and write a few

lines to our dear Aunt Eleanor. We want to be known. We want her to know that we have fallen in love, that we quit our job, that we're moving to New York, and we want to say a few things that might not get said in casual conversation: thank you for what you've meant to me, I am very happy right now.

## Skip the guilt

The first step in writing letters is to get over the guilt of not writing. You don't "owe" anybody a letter. Letters are a gift. The burning shame you feel when you see unanswered mail makes it harder to pick up a pen and makes for a cheerless letter when you finally do. I feel bad about not writing, but I've been so busy, etc. Skip this. Few letters are obligatory, and they are. Thanks for the wonderful gift and I am terribly sorry to hear about George's death and Yes, you're welcome to stay with us next month, and not many more than that. Write those promptly if you want to keep your friends. Don't worry about the others, except love letters, of course. When your true love writes *Dear Light of My Life, Joy of My Heart, O Lovely Pulsating Core of My Sensitive Life*, some response is called for.

Some of the best letters are tossed off in a burst of inspiration, so keep your writing stuff in one place where you can sit down for a few minutes and Dear Roy,



"If you like to receive mail as much as I do, here's one infallible rule: To get a letter, you've got to send a letter."

I am in the middle of an essay for International Paper but thought I'd drop you a line. Hi to your sister too—dash off a note to a pal. Envelopes, stamps, address book, everything in a drawer so you can write fast when the pen is hot.

A Hank white 8" x 11" sheet can look as big as Montana if the pen's not so hot—try a smaller page and write boldly. Or use a note card with a piece of fine art on the front; if your letter isn't good, at least they get the *Mirage*. Get a pen that makes a sensuous line, get a comfortable typewriter, a friendly word processor—whatever feels

best: I'm sitting at the kitchen table on a rainy Saturday morning. Everyone is gone and the house is quiet. Let your simple description of the present moment lead to something else, let the letter drift gently along.

## Take it easy

The toughest letter to crank out is one that is meant to impress, as we all know from writing job applications; if it's hard work to slip off a letter to a friend, maybe you're trying too hard to be terrific. A letter is only a report to someone who already likes you for reasons other than your brilliance. Take it easy.



"George, of course, fine—whatever is in your world. Let it find a way to the jug."

easy to the hand.

Sit for a few minutes with the blank sheet in front of you, and meditate on the person you will write to, let your friend come to mind until you can almost see her or him in the room with you. Remember the last time you saw each other and how your friend looked and what you said and what perhaps was unsaid between you, and when your friend becomes real to you, start to write.

## Tell us what you're doing

Write the salutation—Dear You—and take a deep breath and plunge in. A simple declarative sentence will do, followed by another and another and another. Tell us what you're doing and tell it like you were talking to us. Don't think about grammar, don't think about literary style, don't try to write dramatically just give us your news. Where did you go, who did you see, what did they say, what do you think?

If you don't know where to begin, start with the present mo-

ment: I'm sitting at the kitchen table, then it's like driving a car down a country road, you just get behind the keyboard and press on the gas.

Don't tear up the page and start over when you write a bad line—try to write your way out of it. Make mistakes and plunge on. Let the letter cool along and let yourself be bold. Outrage, confusion, love—whatever is in your mind, let it find a way to the page. Writing is a means of discovery always, and when you come to the end and write Yours ever or Hugs and Kisses, you'll know something you didn't when you wrote Dear Ed.

## An object of art

Probably your friend will put your letter away, and it'll be read again a few years from now—and it will improve with age.

And forty years from now, your friend's grandkids will dig it out of the attic and read it, a sweet and precious relic of the ancestor. Enigmas that gives them a sudden clear glimpse of you and her and the world we old-timers knew. You will then have created an object of art. Your simple lines about where you went, who you saw, what they said, will speak to those children and they will feel in their hearts the humanity of our times.

You can't pick up a phone and call the future and tell them about our times. You have to pick up a piece of paper.

Garrison Keillor

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these two different structures important for the same thing?"

Merzen and his colleagues think they have the answer: "The functions of these two structures," he says, "are really quite different, but they create a common theme."

That common theme, he says, is "association." Memories are evoked in many ways. A sound can evoke an image. A friend's voice on the telephone, for instance, can flash a mental picture of his face through your mind. You can also associate one visual memory with another. Think of your car keys, and you may also picture where you left them. Merzen now believes that the amygdala and the hippocampus are each responsible for memory association. The amygdala connects one sense with another—such as hearing with sight. The hippocampus associates the spatial location of one object with another. Alone, either structure can create a memory. But these memories can be evoked only directly. The smell of an orange can't bring to mind the memory of the fruit's shape or color without help from the amygdala, nor can it recall the orange's location without the hippocampus.

If what the amygdala and hippocampus do is becoming clearer to scientists, how these structures do it is still hazy. Simple memories are believed to be processed and stored at a site in the cerebral cortex corresponding to the sense they are as-

sociated with. Take the sense of sight, for instance. Images travel from the retina to an area on the surface of the brain known as the visual cortex—a system of stations, each with a constellation of active brain cells, or neurons, which fire to create our vision of the world.

After exiting the visual system, nerve impulses activate the limbic system—specifically the hippocampus and the amygdala. Without the limbic system, the vision of a pretty face, for instance, would vanish the moment the image left the retina. Out of sight, out of mind. Similarly, the remembrance of the aroma of freshly baked bread, processed in the cortex's olfactory region, or the sound of W.A. Mozart's Twenty-first Piano Concerto, which travels through the auditory cortex, would vanish.

By tracing some of the brain's circuitry, Merzen believes he has found evidence that the limbic system exerts control over another system that releases a class of chemicals known as neurotransmitters throughout the brain. The release of neurotransmitters, which come in many varieties, might result in "long" connections between neurons so that with visual memories, for instance, the cells that were active when an image appeared on the retina would be linked into an assembly of cells. This assembly might compose the physical "trace" or engraving that means a memory has been stored.

Nerve impulses, which are basically electrical pulses, do not pass directly from one neuron to the next. The neurons are separated by a narrow gap known as a synapse. When a nerve impulse arrives at one side of the synaptic gap, it causes a chemical—a neurotransmitter—to be released. The neurotransmitter floats across the gap to the other side, where it fits, much like a key in a lock, into a molecule on the neuron's membrane called a receptor. When a sufficient number of these neurotransmitters have fit into receptors, the nerve fires, carrying another nerve impulse across another synapse.

The work of Merzen clearly shows that the limbic system is essential to the act of making and storing memories. But it is also clear that memories actually reside elsewhere. With a portion of his limbic system removed, H.M. still remembered much of what happened before his operation, he just couldn't form new memories.

The search for the memory archive in our brains was first undertaken by Harvard psychologist Karl Lashley (back in the Twenties, Lashley began experimenting with rats, searching for the circuitry responsible for the ability to learn a simple task, such as running a maze. He figured that somewhere along the tangled neurons in the brain existed the engraving. After tracking his rats to run a maze, Lashley sur-

prisingly removed bits of their brains, assuming that after he had excised the portion of brain that held the memory engraving, the rats would forget their training and get lost in the maze.

But it didn't work out that way. Lashley found that no matter where in a rat's brain he removed tissue, the damage to the animal's memory was about the same. The memory engraving, it seemed, wasn't anywhere, it was everywhere.

Then in 1949 Donald O. Hebb, a Canadian neurophysiologist, published a thin monograph called *The Organization of Behavior*. In it he argued that basic behaviors and memories consist of groups of cells built up over time. As the organism develops, more complex memories are formed. Hebb called these assemblies of cells phase sequences. These, he posited, exist throughout the nervous system and certain alternate pathways, so that even if some cells are destroyed, others can carry on in their stead. The reason that Lashley was unable to cut away the rat's ability to run a maze was that this skill was too complex. Cell assemblies throughout the brain were able to step in and pick up the slack from the excised bit of brain.

Using this research, Richard Thompson, professor of psychology and biological sciences at the University of Southern California in Los Angeles, reasoned that it might be easier to locate the engraving of a

very simple learned skill. Running a maze required too many different brain functions. A far simpler skill might make a mark in only one small area of the brain and thus be easier to detect. After about 20 years of experimenting with the idea, Thompson is now ready to claim success.

Thompson's idea is done up in a rabbit model. It is littered with rabbit-shaped coffee cups, stuffed rabbits, ceramic rabbits. His attachment to this animal isn't hard to figure out. In the past 10 years he has trained thousands of rabbits to perform one noticeably simple trick. First he plays a beep on a loudspeaker; then he blows a tiny puff of air at the rabbit's eyes, and the rabbit blinks reflexively. After repeating this simple sequence a few times, beep, puff, blink! becomes basic blink! The rabbit learns to associate the neutral beep with the startling puff! Somewhere in the rabbit's brain, a memory has formed. Thompson wants to find out where.

He surgically implants a very fine electrode in the rabbit's brain, in a region along a neural cortex. The rabbit is placed in a small Plexiglas box inside a soundproof booth. Then tiny puffs of nitrogen gas are directed at one of the rabbit's eyes, and electronic beeps are played in one of its ears. The experimenter looks for a pattern of nerve activity that matches the pattern of the learned behavior. When he finds it, he knows the tip of the electrode must be

located somewhere along the neural pathway. After locating the circuit, he sends an electric current through the electrode, destroying the neurons at its tip. Finally he dissects the rabbit's brain and records the precise location of the electrode.

Using this and similar techniques, Thompson labored on for years. He rewarded being able to trace for the first time ever, every link—from ear to eye—to the circuitry of a learned behavior and, at its end, the elusive memory engraving. He discovered that the engraving of an eye blink is contained in a few cubic millimeters of the cerebellum, the cauliflower-shaped structure located near the base of the brain.

Because the cerebellum has long been known to be associated with the control of movement, Thompson thinks this he and his co-workers may have, as he puts it, "labeled-up" some of the storage site of all learned skill movements—from walking to talking to any kind of athletic or performance skill, from playing the piano to riding a bicycle," he comments. "We think that the memory engravings for that whole class of learned skill movements are located within the cerebellum."

Thompson has uncovered which cells change when a simple motor skill is learned. But he still doesn't know exactly how a simple nerve cell changes when a memory forms. Other scientists, most notably Eric Kandel of Columbia University

PHOTOGRAPH BY JAMES HAMILTON

and Daniel Alkon of the National Institutes of Health, have sought to unravel the mystery. To do so, they have experimented with the sea slug known as *Aplysia*, which possesses an extremely simple nervous system. In Kandel's experiment, he would touch the snail's siphon, and it would withdraw its gill. But if Kandel kept tapping, the reflex would slowly weaken, and the snail would begin to ignore the stimulus. Why did this happen?

Kandel hypothesizes that this simple form of learning, known as habituation, results from a change in the memory trace. The sensory neurons learn through experience to release less neurotransmitter into the synaptic gap. The result: Weaker signals are sent across the synaptic gap, causing a weaker response to stimulation. The opposite reaction can also be induced. Kandel has found that when a snail is given an electric shock, it becomes hypersensitive to tapping, withdrawing its gill at the slightest tap. Neurons can change so that more—not less—of the neurotransmitter is released into the synaptic gap. In essence, the neurons learn to associate the electrical shock with the tap—and a memory is born.

Gary Lynch of the University of California at Irvine has sought to discover the mechanisms by which synapses change in a rat's brain when learning takes place. Much of the work centers on a phenomenon called long-term potentiation (LTP). In

a 1974 experiment British researcher Timothy Bliss stimulated a bundle of neurons in the hippocampus with a single electrical pulse and then measured the resulting current. By stimulating the neural pathway with high-frequency pulses, Bliss found he could make the chain fire off nerve impulses with only the slightest provocation from neighboring cells. When an electrical pulse was injected into the circuit of neurons, it would respond. The response was then locked in. Weeks later the circuit would respond to that electrical pulse in the exact same way. The phenomenon looked an awful lot like memory. A brief event caused a change that lasted a very long time. Two questions remained, however: In what way did the neurons change during LTP, and is this phenomenon viewed only in a pet dish relevant to the behavior of living learning animals?

Lynch thinks so. He theorizes that electrical stimulation causes the formation of new synapses between neurons. LTP also seems to strengthen the existing synapses. Lynch believes that LTP—and thus learning—occurs when a special type of receptor is activated by the neurotransmitter known as glutamate. In addition to the release of glutamate, Lynch theorizes, an electrical pulse (such as the nerve impulses that fire within the brain) throbs across the neuron's membrane. The voltage cooks the trigger, so to speak, which is pulled by the arrival of the glutamate.

Once turned on, this special receptor seems to open channels that allow calcium to flow into the receiving cell. Calcium appears to trigger an array of biochemical reactions, increasing the volume of the synapse and strengthening the connections between neurons. The connections form a memory trace, and learning at its simplest level, takes place.

This may be how a single memory is made. Researchers must solve many more puzzles, such as why some memories fade immediately while others last for years. And what genetic impact allows some of us to possess finer, deeper memory banks than others do? Once we unravel these mysteries, says Mishkin, we'll be on our way to understanding the human intellect.

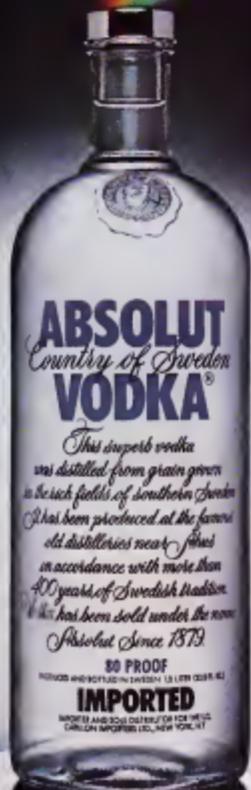
"Absolutely everything we do is based on what we learn and retain," Mishkin explains. "The research could lead to a whole realm of things we can't imagine, new and wondrous paths never even dreamed of. All we know for sure is that understanding the memory mechanism will help us find the reason for our individual differences and the defects that can occur."

And once we understand the workings of the memory machine, we may know how to enhance it. "We may be able to increase the amount of memory the brain can store," says Mishkin. Today drug companies are busily experimenting with secret compounds that could conceivably help us digest and memorize information—like a 25-page speech—more rapidly. Mishkin also predicts that improved training procedures—learning the best time and place for making and storing memories—could vastly improve our learning ability. For instance, knowledge of our circadian rhythms and the effect they have on our brain cells may give us clues to the best time of day in which to learn.

Even brain transplants to enhance memory and intelligence could be in our future. Right now, Mishkin says, a form of brain transplant is being attempted on victims of Parkinson's disease, a disorder that impairs motor function. The adrenal hormone dopamine has been shown to improve that motor function. "There's an idea that similar transplants of neurons synthesizing other transmitters, like acetylcholine, may also reverse memory loss someday."

Evolution, says Mishkin, has left its mark on our nervous systems by wiring them up so that we do certain things instinctively. "Our hearts beat, we breathe. We're born doing these things," he says. "But everything else has to be learned. Memory is absolutely basic to intelligence and everything else that we do, that we think about, that we know. The work of Mishkin and other researchers of the mind's memory bank is exciting, but still has a long way to go before practical cures for memory disorders can be implemented. "The science is still in its infancy," Mishkin admits. "Yet it's clear that we're on the threshold of learning one of the most important things man has ever sought." □





**ABSOLUT**  
IMPORTED

## INTERVIEW

CONTINUED FROM PAGE 43

**Orin:** Do you still believe in Kingsley Hall-type asylums, where patients are largely freed from control by the staff?

**Laing:** Kingsley Hall was started because I persuaded the owner I would be a good idea to have a shot at harmonious, if not utopian, people in states of confusion and mental distress. No one knew what they were like outside mental hospitals. Because as soon as you got into that sort of state, either you were chained up in the back room or a shed, or you went to a mental hospital. I said, What would it be like if we simply lived together in companionship, reestablishing the broken connections between them and the rest of us? That might be the name of the game, if that could happen without medication. No one would ever know unless we had a go at it. So we were given this building to use for five years.

The possibility of setting up small-scale places—places of refuge for people who are barely lightkeepers—is still very much of an option nowadays. You could even call them sanctuaries, like bird sanctuaries, for human wildlife: people whose social programming and conditioning has broken down, so that they are in the red state. The halfway-house idea has become embedded in the thinking of most countries, but this was a whole-way house.

Before tranquilizers, electric shocks, and lobotomies ever came in, of the people who broke down, got diagnosed as psychotic, and were admitted to mental hospitals, about a third had a tendency to get themselves together again and be out in three months, without any of the treatments that are now given almost immediately. As far as I know, the only scientific survey which compares so-called untreated people in a decent context with treated people in a clinical context shows that people who got no psychiatric treatment whatever tend to do better than people who are given the most thorough treatment in a psychiatric context. There is not the slightest evidence that they do worse. I have been invited to a number of psychiatric contexts in America to do clinical demonstrations with schizophrenics. I said I would interview a schizophrenic if they could present one who wasn't on medication. You scour the length and breadth of the country to find any diagnosed schizophrenic under psychiatric care who isn't on the run and also isn't on medication. A generation of psychiatrists don't know what such people are like if they are not medicated.

**Orin:** Your childhood sounds like a nightmare of middle-class repression. Is this why you feel such sympathy for the insane as victims of oppression?

**Laing:** Everyone's view of the world is like an organic plant which grows from one's beginnings. My childhood was quite explicitly strict but comparatively straightfor-

ward. I wasn't ever seriously beaten black-and-blue. I was never beaten except for what was regarded as an infringement of the rules. I wasn't put in an impossible situation that I couldn't do the right thing. It was always quite clear what was the right and the wrong thing. And the punishment was always the infliction of intentional pain for doing what you weren't supposed to do. That might be very constructive but it doesn't drive you crazy, because it was quite clear I was not to eat sugar or to eat jam, and if I put on the wrong face I would get slapped and told to take it off and put on the right face. That was quite normal in my part of Glasgow.

**Orin:** So they weren't cruel parents?

**Laing:** No, they didn't pursue me beyond that. Having tea with my grandma I didn't laugh as I am doing now, but I sat in an upright chair with no side arms, with my back straight and my feet on the ground and I would have the heel on one side and point the toes in the other direction. Lift a cup with your thumb and first finger. Don't do this or that—or you're in trouble!

**Orin:** Your father told you up quite often? You have reported an occasion when he thrashed you within an inch of your life?

**Laing:** That was his expression, and it was far from within an inch of my life. When I was eight, at school the teacher asked for a show of hands by those whose fathers hit them. Practically the whole class, if I turned out. You didn't bring up any boy properly unless you punished him for breaches of discipline. My father would be regarded in some company today as harsh but not at all in those days, especially in that part of Scotland. He probably gave me a good thrashing seven or eight times.

**Orin:** Didn't your mother disapprove of your being a psychiatrist?

**Laing:** She called psychiatry a filthy idea. If I was going into medicine, I could at least become a surgeon—something clean, not crawling around the gutter of people's filth.

**Orin:** Why would anyone want to do that?

**Laing:** About ten years ago my mother and I were standing beside each other at my father's funeral. His empty remains were about to chug along a mechanical track with the coffin on it into the crematorium. I had decided on this occasion I would behave impeccably. I'd give her a present of my father's funeral. When the minister pressed the button to start the coffin going off into the flames, I felt some waves of emotion in me, and I turned to her and said in a low voice, "Don't you find this rather moving?" She turned and said to me, "Honest, think of something else!"

**Orin:** So did your childhood motivate you to pursue the work you have done?

**Laing:** Yes, but not particularly because of its sickness. It just was my life that I got up in winter, threw myself into a cold bath, consumed, had an apple, bananas, peas or porridge, went to school, came back, did homework, had tea, practiced piano, did more homework, looked at the tea for half an hour, and then went to bed. That was it.



**PHENOMENON.**

I had a lonely childhood. I don't remember a single friend of my mother or father coming round to the house ever! They didn't have any—except for musicians, who came quite often because my father was a singer and played music and sang. It was very rare for me to invite go into anyone's house—even boys at school. I never did till I was fourteen.

So when I got into psychiatry and came across frantic, broken-down people in psychiatric units of mental hospitals, my awareness was that I really knew very little about how other people actually lived, nor did any of my psychiatric colleagues ever seem to have seriously thought about how they got themselves into psychiatric units in the first place. Sometimes patients would get themselves together and go out of the hospital for a few months, and then they'd be back again. I began to occur to me that maybe what went on outside the psychiatric setting might be relevant to how people got into that setting as patients. Also, I never met a single member of the other sex of my age until I was seventeen except doctors, generally. So I didn't take for granted that people need people and all that sort of thing. I was always looking with eyes of wonder at the way people came on with each other. When I was about fourteen on a Sunday afternoon I would sit on top of a barncar and go all round Glasgow and look at other people, just as other people go to a zoo to look at chimpanzees.

**Ques:** You gave a shocking account in *The Facts of Life* of your father beating up your grandfather, dumping him in the bath and pouring cold water on him, and then throwing him out all wet and bloody into the street, and when he walked away saying "He held himself up very well. You've got to hand it to him."

**Laing:** That was a story I was brought up on. I did not see that. A family saga. A story it was true. My grandfather lived around the corner, and he never set foot in our house again, and my father only went round there once a year for sherry at New Year.

**Ques:** So it was a pretty tough childhood pretty well?

**Laing:** Well, I never had to take my trousers down and bend down and get carked on my naked flesh in an English public school. It was likely in the case that my father and mother never slept together, yes. I shared my mother's bedroom, which used to be that bedroom, and my father had another room we always called the dog kennel. Neither of them could make out how I came along. Mother always aware it was an answer to a prayer she put up! I like that idea but I have a barncar here on my knee that's the same as my father's.

My father never drank anything. I don't think he was ever drunk in his life. When my mother was over eighty, I went round to her house on her birthday with a bottle of oisè to have a glass of wine with her. She by then suffered from hypothermia, and after just a couple of sips of this wine she completely flushed up. She said it was the

first glass of wine she had ever drunk in her life! She liked it.

**Ques:** Do you feel people project a lot of expectations onto you and expect you to be an exemplary figure?

**Laing:** Oh, absolutely! A lot of people don't realize that I feel I think they get as far as I probably breathe! And I must sh! He-h! I have no idea at all what peoples' expectations are. My first book *The Divided Self* sold sixteen hundred copies in four years, during which time I wrote another two books. Then in 1967 the *Politics of Experience* came out in this country and became over a period of years, without me knowing it, a very influential book among students. My books seem to divide people into two camps. Some say they can't understand them, that they are boring, and others say they are dangerous. I had a lot of stuff led on me about being a communist, an anarchist, an ascetic, an alcoholic, an ambulatory schizophrenic. The term *navarok* would be the least of them. I did

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*“I am suggesting  
that it would ease things  
for some people  
if we allowed a bit more of  
what I call  
experiential anarchy. I'm  
not preaching  
anarchy but law and order.”*

---

experiment with all sorts of states of consciousness, but when these drugs were illegal I used LSD as part of my clinical medical practice, fully official.

Well, from the Seventies to about now I have become someone people in America think of when they have to think of a European intellectual like Sartre or Camus, and they can't think of anyone. This sort of stuff began to focus to some extent on me or rather not on me but on R. D. Laing as a hope, a figure, a possible guide, a sort of Western guru figure. Then when they experience what I am like giving a lecture, they don't like it at all. As one thing occurs to me, another will, and will voice that, and the connection may not be so obvious to them as it is to me. But if you think of what you are listening to as something like a carcase, if it is in space rather than sound then I am sort of peering on a carcase.

A number of people have got up and walked out. I think they do it because they are getting a style of thinking that is programmed out of many people. They have to have a certain type of digital computerized thinking. They don't think at all. They don't go round about something and ap-

proach it this way and that way and stop and go back and come from another angle. It both frightens them and they also think it is mischievous. A lot of people have got their pads and their pencils out and want to take notes, and some can't take notes. Quite a few phrases are seared into it which they can walk down from memory but it's not listed "reading," then paragraph, paragraph etc. I can do that sort of thing, but I am not choosing to do it.

**Ques:** Do you want people to understand what you're saying?

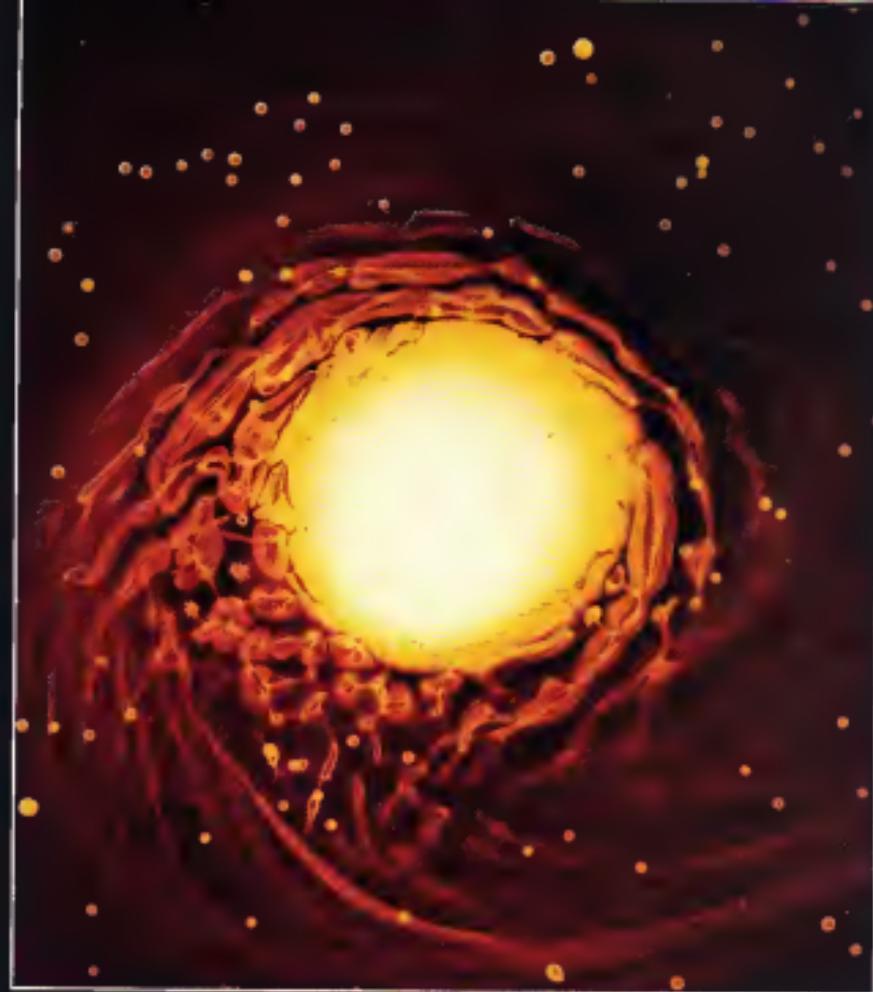
**Laing:** Yes, yes, but the message, manner, form of presentation is part of the medium. I am experimenting. I want to get this together so that I can hold more people. I don't like people walking out in the middle, even though the majority may say that's great. I would like ideally to give the sort of talk where everyone would be spell-bound. If I can't, I might revert to a more blah-blah-blah-blah type of delivery.

**Ques:** Have you ever been in a mental hospital at all?

**Laing:** No, no. All these rumors about meditation, drugs, and suffering from a mental disorder are attempts to account for the way I came across. I have asked people what gives them such an impression. Apparently my movements on the stage are unusual and provoke some people to the idea I must be suffering from a catatonic or stasic disorder of the motor system, and that this can be accounted for by organic psychosis or functional psychoses or toxic psychoses. I am doing it in terms of very fine nuances. If I had to, I could give a lecture like a Swiss professor.

**Ques:** Why do you think people get so worried if there is a long pause?

**Laing:** They're terrified of silence. They think you will never be able to think again, talk again, or it's the funny farm, or you've got Alzheimer's because you are in the middle of a sentence and you have forgotten what you have said at the beginning of it. For years I was absolutely terrified I would forget what I was going to say. I wouldn't be able to read what I had written. My legs would start to tremble. I'd pass myself, might sit myself, might develop an attack of asthma in the middle of the stage. A number of years ago at the New York Academy of Medicine before about a thousand people, I gave a talk on a theme I had been thinking about for years. I was so concentrated on what I was saying that at one point I became aware that I couldn't see my own body. I could see the hall and the podium. I was talking and listening to myself, and I was talking very well, better than usual. A number of people still remember it. I was continuing to talk, and I didn't know where I was or who I was, and I couldn't even see myself. I thought, Well! Better keep on listening carefully to what I am saying. In due course I looked down, and my body was there again, and I just went on though it. But I am not expecting any mercy. I probably do that for my own reasons of talking it right to the limit or beyond the limit. **DD**



*Man's bursts of creation  
imitate nature's original visions—of sunlit skies  
and star-filled nights*

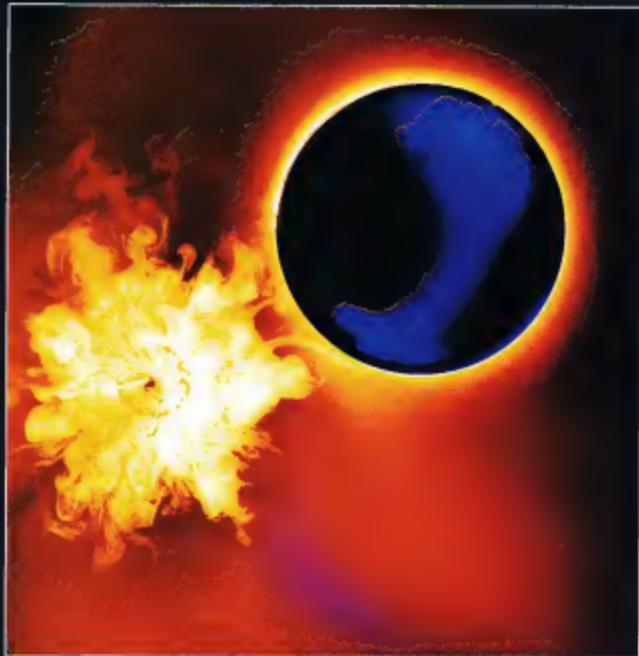
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## **ASTRAL ABSTRACTION**

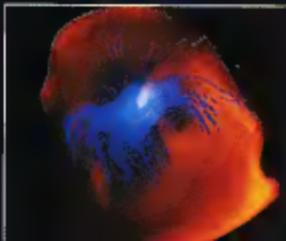
PHOTOGRAPHS BY DEAN HIMMELREICH



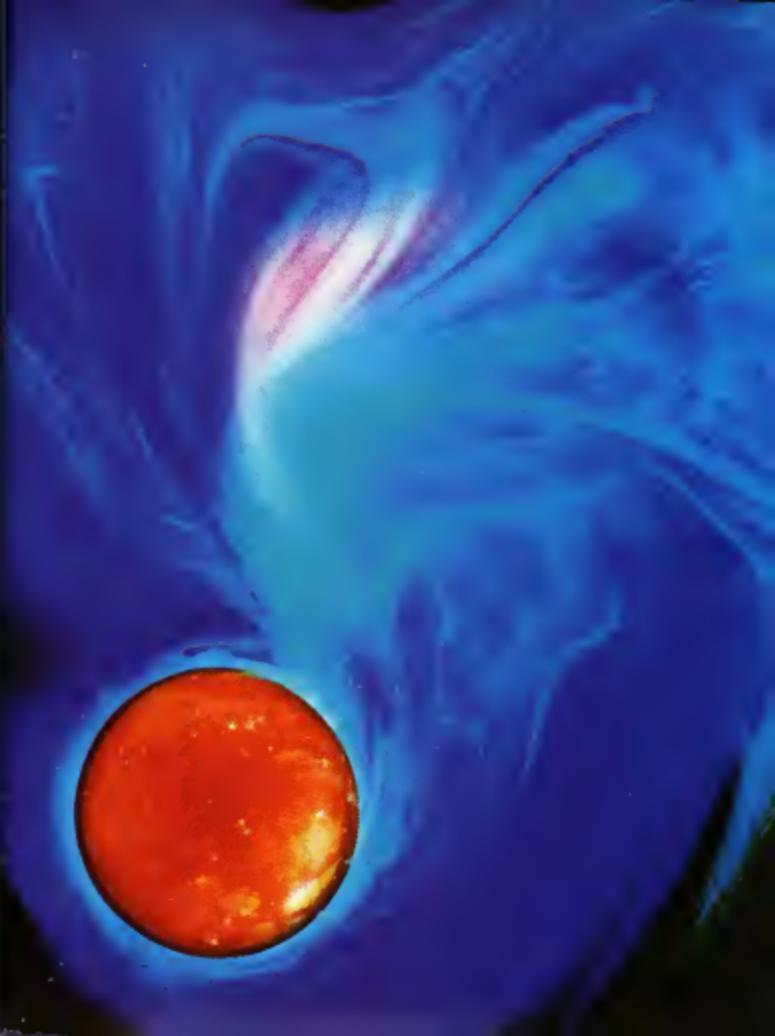
**T**he stellar images here are created not with a bang but on a whim. Dean Hemenrich, the astrophotographer of those works, was not expecting the astronomical similarities when he began his experiments. Hemenrich produces his "imaginary astronomy" by photographing colored links along with solid objects. He sets his camera for a long exposure to give the illusion of motion to the bracelet colors and the swirling designs. As opposed to the more abstract photograph on page 77, the one above distinctly resembles a galactic body—the Ring nebula, with its luminous gas streaks and its sprouting of stars. At left, two fiery bubbles appear to be racing through space, about to consume a lone planet.



It wasn't until Harnesbrech came across a small black-and-white photograph of a galaxy that he realized just how similar his work was to actual spiral events. The photograph above could easily be seen as a solar eclipse: the stark white corona glowing behind the pitch-black moon and, on a scale that isn't never one, a gaseous eruption blazing into view.



The visual representation at left resembles the remnant of a supernova. The Crab nebula, a remnant of an explosion more than 900 years old, has similar tentaclelike filaments in its sprawling cloud. At right, the star-speckled planet seems to beckon the surrounding gases, inviting them to enter the sphere's orbit. —Neil Gleason ☐



# EARTH

CONTINUED FROM PAGE 20

salamanders harbor may help scientists further explore those parts of the brain that neurotoxins (poisons that stop the brain from sending out instructions) affect, thereby leading to the discovery of how and why the brain transmits these messages to the body in the first place.

It isn't just herpetologists who are delving into these mysteries; people like Dr. Michael Zasloff of the National Institutes of Health (NIH) combine intellect and experience with imagination.

Zasloff, chief of human genetics at the NIH, has come into national prominence these days because of the African clawed frog, or *Xenopus laevis*. This particularly hearty frog has been used for years in universities, hospitals, and research centers, due to its resilient and adaptable nature. The African clawed frog thrives on benign neglect—the fern Barker used on *The Tonight Show* to describe how he cares for his animals at home. Because of benign neglect one of the great medical discoveries of our time came about. Zasloff was daydreaming in his laboratory in the summer of 1986 when he noticed one of his African clawed frogs swimming through a stagnant bacteria-filled tank. Frogs are always swimming through stagnant ponds, so there was nothing unusual about that

What was intriguing. Zasloff had performed a routine operation to remove the frog's caecum for a genetics research project, and although the frog was exposed to a cornucopia of infectious agents in the tank, the wound was healing perfectly. By all accounts the frog should have been teeming with infection.

Armed with enthusiasm and curiosity, Zasloff spent months trying to find an explanation. He found in the frog an unknown family of antibiotics that kill off bacteria, fungi, and parasites and that might work on viruses and cancers. Zasloff called these new antibiotics "magainins," from the Hebrew word for sword.

"It is the first time a chemical defense system separate from the immune system has been discovered in vertebrate animals," Zasloff explained. While the doctrine is optimistic that magainins will help to cure diseases that suppress immunity, he doesn't want to raise any false hopes. Not some of his colleagues are comparing Zasloff's finding to the discovery of penicillin.

Clues to neurophysiology may be unraveled thanks to a second species of frog called *Phyllomedusa taurominca*, which is thought to be one of the most poisonous animals known to man. It is believed that just one specimen can secrete enough toxins to kill at least 20,000 mice, less than 600 ounces can kill a 150-pound human. And there is no known antidote.

Used by the Bribra Indians in north-

western Colombia for hundreds of years as the source of their blowgun dart poison, *Phyllomedusa taurominca* was first written about in the Thirties by Swedish anthropologist Henry Wessén. Though unable to secure a specimen for examination, Wessén did acquire darts purportedly dipped in the frog's poison. It wasn't until 40 years later, based on Wessén's research on a similar species, *Phyllomedusa aurotaenia*, that Charles Myers, a herpetologist from the American Museum of Natural History confirmed the existence of this lethal creature. As Myers, along with chemist John Daly and ethnobotanist Boris Melnik, wrote in their monograph for the American Museum of Natural History Bulletin: "The new species proved to be much more toxic than could have been predicted from our previous experience with other poison dart frogs, and we heeded the advice of our Indian friends and handled it with appropriate caution, especially after accidentally killing a few of their domestic animals that got into our contaminated garbage."

What makes these bright golden-yellow amphibians, which resemble small tree frogs, so dangerous? They secrete a combination of alkaloids not previously identified, called batrachotoxin and homobatrachotoxin. The molecules of these poisons are so small that they can enter the human body through her follicles.

Sitting on every lab table in the herpetology department of the American Museum of Natural History are terrariums housing the only live collection of *Phyllomedusa taurominca* in the United States.

"In this particular group of frogs, their skin secretions contain alkaloids," Myers says as several of the frogs stare out from their glass terrariums. "For some years we have been surveying this family, which is confined to the tropics, and we've been trying to sample all the brightly colored species we think to be toxic and sample their skin secretions." When asked what benefits frog secretions have to offer medical science, Myers explains that his collaborator Daly is trying to isolate the alkaloids to determine their structure. "Some of these compounds do odd things to muscle/nerve ionic ions, and so they're useful primarily as molecular probes in neurophysiological research," Myers says. To put it simply, the problem is that you have nerves that are no bigger than a hair and the electrical event that occurs there is over almost as soon as it happens, and the only tools a neurophysiologist has are the various substances that interfere with that electrical message, in some way.

It may appear to be mad scientist stuff or fodder for Johnny's jokes, but in the long run our so-called slimy friends might just hold the key to our future. Already doctors at the NIH are experimenting with ways magainins can be used to treat cystic fibrosis, and as Brodie and Myers continue to classify the alkaloids of all the world's amphibians, other cures may be waiting there under the rain forest canopy. **DD**





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FICTION

## FRAGMENTS OF PAPYRUS FROM THE TEMPLE OF THE OLDER GODS

*Even the mighty Pharaoh can find himself up  
the creek without a paddle. A  
measure of his power—what he does about it*

BY WILLIAM KOTZSWINKLE

And how long will you be staying in our Tomb City, Majesty?" asked the Chief Archiac.  
"We must leave tomorrow," said Pharaoh, sucking speed beer through a straw. "A thousand tasks await me."

The Pharaoh's Chief Praiser hiccupped silently, then spoke from his place at the banquet table. "His Majesty's work is never done, his words are many and profound. This is our Leader, our Chief, without defect, sublime in his intent."

The Chief Praiser's solemn incantation ceased as the dancing girls entered the party room and began their Moon Court variations, each girl representing one phase of the night-jewel. Pursuing the sound of their ankle bells came the distant sound of the whips, crackling over in the night, over the heads of the slave workers toiling in the City of Pharaoh's Tomb.

"We've made great progress since your last visit, sire," said the Chief Archiac, nodding toward the whip sounds.

"He has given us slaves," chanted the Chief Praiser. "Thousands his he smote and put in chains. This is our ruler, provided with flames, far-reaching of hand, generous, astute, wise

PAINTING BY GILBERT WILLIAMS

as the sun, purified in his nest—

"Purified in my nest?" Pharaoh lifted his eyebrow.

"It is an accepted laudation, Your Majesty," said the Chief Praiser, putting on a wounded expression.

Pharaoh shook his head, indicating wonder, but the Chief Praiser was allowed to continue.

His chanting was drowned out, however, by the cackling laughter of Pharaoh's dwarf, who ran among the dancing girls, swinging a toy mummy at the end of a string and making loud comments. The delicate Moon Configurations were spoiled, the dancing girls tripping and squealing as they were struck by the mummy.

"What a disgusting little man," said the Chief Architect's wife. "If I may say so, Your Majesty."

"Oh yes, quite," said Pharaoh. "Quite disgusting." Pharaoh sat back in his seat, his shoulder stiff from bow practice. He rubbed it gingerly, and the Chief Praiser, seeing the soreness, rushed to incorporate it in his litany.

"Master of the compound bow, suffering to learn all martial arts in the protection of his people."

The Chief Praiser rose from his seat,

slightly drunk and feeling the winds of inspiration whirling him upward. Attempting to leap one of the great chains of praise, he waved his arms outward over Pharaoh's head. "Lord of the Solar Barque, a cloud of divinity, a never-setting star who never armed, the bull of terror to his foe, who possesses all things, quicker than the greyhound, soul of mankind, who rescued our kingdom in times of violence: who has destroyed evil, who—"

The Chief Praiser fell into a fatal pause but started up again quickly, "who is the double Lion God, who throws excitement in the face of his enemies, who never stole milk from a child—"

"That will do for now, Chief Praiser. Rest yourself," Pharaoh turned to the Chief Architect and said quietly, "His good for about an hour of solid praise, and then he starts grasping at straws." Pharaoh reached for his beer, and the pain in his right arm struck again, down the length of it and across his chest.

"Are you ill, sire?"

"No, I am not but tell me, who is that guest over there? I do not recognize him from my own ranks."

Pharaoh pointed to a tall man in a white robe, whose manners were perfect,

who spoke to no one, who placed a cup to his lips.

"Which man, Your Majesty?"

"There, he turns toward me. He wears a red sash at his throat."

The Chief Architect cast his gaze where Pharaoh's finger pointed. "But I see no such man, Majesty."

"He carries a papyrus roll. How strange his skin is—has been burned at the neck. Observe, Architect, if you have eyes in your head, his skin is like a reptile's."

"Sire..." The Chief Architect's face filled with concern. He signaled the Fan Bearers to increase the air current about the Pharaoh's bed.

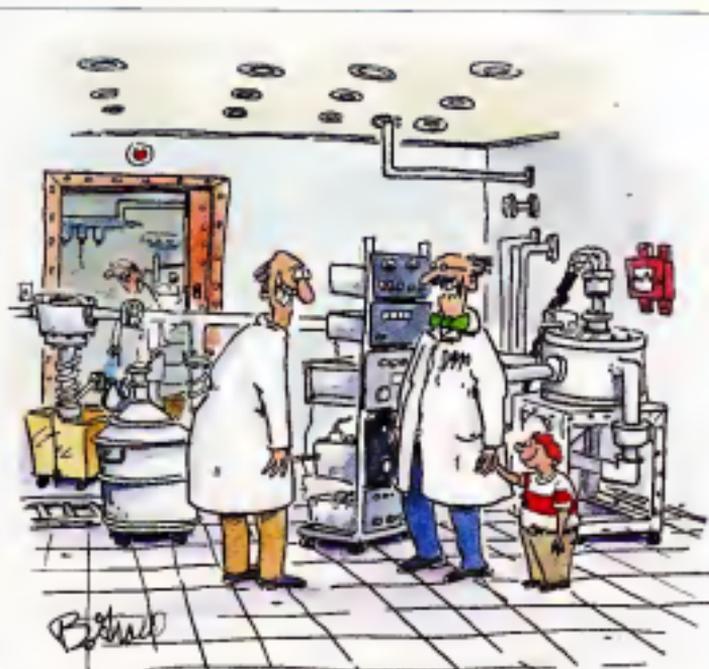
"You don't see the noble lord approaching me?" asked Pharaoh, staring straight at the man, who was now standing but a few feet from the banquet table, a faint smile on his lips.

"No, sire."

Pharaoh looked quickly to his dwarf, who stood mouth open, eyes wide in terror. His gaze where Pharaoh's was.

"What do you see?" snapped the ruler.

A shadow, answered the dwarf. He turned abruptly, running away on his deformed legs, dragging his little toy mummy behind him.



"Eilon wants to be a scientist when he grows up, but I'm not sure he's weird enough."

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"So," said Pharaoh, rising to receive the honored guest.

"I missed you, Your Majesty," said the guest.

Pharaoh extended his hand, and the guest's leathery finger touched him lightly. An enormous stone fell from the temple, and Pharaoh felt its cold edge crushing his chest. The banquet room dimmed. His doctors were surrounding him. The honored guest was leaving through a rear door, past the spear-holding guards.

A second slab of granite fell, filling the pores of Pharaoh's body with stone, and the banquet room was no longer visible.

Instead Pharaoh dimly beheld the interior of his great tomb and saw his gathered people and heard his final praises being sung. . . . this was our Great King, the Perfect Cleansed One, who has gone to his horizon.

The Chief Praiser spoke, and the two lands were filled with crying.

His goes up the smoke of the great exhalation. Mighty in life, he is thousandfold mighty in death. Discernment is placed at his feet. He has captured the horizon. We, his willing servants, go with him, into darkness, with the prayer that we may join him on his voyage upon the Solar Barque.

Pharaoh saw his dwarf being dragged to the tomb. Fifty little hoes digging in against the sand, but the dwarf was no match for the soldiers, and they hurled him into the crypt.

The Chief Praiser and the Chief Praisers wife entered of their own accord, and their third slab of stone came down on Pharaoh's soul, settling into place with a sound that reverberated endlessly a thousand fraders echoing across the sky.

Pharaoh was enforced.

Out of the dark density of the night-stone he perceived a ray of light growing ever brighter and more splendid. It dissolved the hard edges of the stone, turning the stone to dark water. The heavens that had surrounded and crushed him became a warm bath.

He stood upon the shore of a black Nile.

There was no palace, no houses, no fields of waving grain. There was a black Nile and a golden ship. The ship came slowly over the water, strange and beautiful lights emanated from the hull, sweeping the surface of the black Nile.

Pharaoh waded on the shore as the ship came near, and all was in stillness except for the lapping of the black waves. The ship sent forth a white beam of light that crossed the water and touched the shore at his foot.

He stepped upon it and found it firm enough to hold his spirit body.

The ship was deserted, moving under a mysterious and silent power. Pharaoh wandered the decks, which were made of a finely woven substance, luminous and pulsating. While studying its peculiarities, he discovered that his own body was made of the same substance—a dancing light of

gold with a fringe of emerald green.

Entering the captain's cabin he found it luxuriously appointed but deserted. The ship nonetheless kept a straight course over the dark waters. As the lustrous edges of the boat were first class, he felt that all was proceeding according to divine plan and that he, as the Son of Heaven, would soon reach his eternal home. He relaxed upon a soft white couch and watched the dark shore flow by.

To his surprise, another craft appeared out of the darkness—a tiny canoe, primitive in the extreme.

What was such a vulgar vessel doing on the divine waterway? Pharaoh walked out on deck to investigate. Leaning against the rail, he peered out across the water and discovered that it was his dwarf in the canoe, furiously paddling.

Pharaoh attempted a greeting and found that his mouth was closed tight. He strained to open it but found he could not. He waved his arms, trying to attract the dwarf's atten-

---

*•The Chief Praiser's chanting was drowned out by the cackling laughter of Pharaoh's dwarf, who ran among the dancing girls, swinging a toy mummy on a string and making lewd comments •*

---

tion for the little fellow would be amusing to have onboard.

The dwarf saw the signal, stopped paddling for a moment, and stared at Pharaoh. Pharaoh gave another commanding wave.

The dwarf answered with an obscene gesture and resumed paddling—off down a dark, silent tributary.

Pharaoh stood dumbfounded at the rail. *I gave him the finest tomb in the world and he gives me insult. Should we meet again in the dark world, I'll pay the pygmy back, or I'm not the All-Glorious One.*

Pharaoh, still puzzling about the ingratitude of slaves, found a light of stars leading to a gallery of the boat. He descended them, attracted by the aroma of cooking soup. Following his nose, he opened a door and was astounded to see the Chief Praiser and his wife inside at the stove, cooking supper.

"Your Majesty, how wonderful to see you again!" The Chief Praiser leapt up, praising and bowing. "We honored honored. Please be seated. O ruler of realms, O sanctified dispenser of happiness."

Pharaoh pointed to his mouth, which he could not open.

"Your mouth is closed up, Majesty? But of course, of course. See, please let me open it for you. I found the instrument our first night onboard."

The Chief Praiser went to the corner of the gallery and brought forth a piece of wood shaped into a ram's head, crowned by a snake. "If you'll allow me, see."

The Chief Praiser placed the snake's head on the lips of Pharaoh and pried them open, along with his teeth.

"There you are, Highness. The dwarf shall speak, as the saying goes, only a matter of finding the right tool."

"How came you to be aboard my solar craft?" asked Pharaoh, not unkindly for he was grateful to the Chief Praiser for that little trick of opening the mouth.

"Your craft, Majesty?" The Chief Praiser looked puzzled.

"Yes," said Pharaoh. "It's mainly canvas; Chief Praiser. Believe me when I say I'm happy to have you and your wife onboard my eternal ship."

"Your Majesty is joking, as always," said the Chief Praiser. "Your tongue is subtle, swift, speaks in riddling words; has a thousand currents; is never tired—"

"Chief Praiser, an arrow's please!"

"Majesty, there is some small misunderstanding—mine, of course. I cannot follow your lightning-fast implications, cannot discern the delicacy of your reasoning. I can only say that the humble craft is the spiritual property of my wife and I. There, as you can see upon the walls is written the history of our life. You'll find it upon this wall and all the walls. The poor step beers all the traces of our time on Earth, Majesty, where we served humbly in your magnificent court."

The Chief Praiser scatted, bowed a little, and concluded. "In no way could this simple ship be called your Solar Barque, Majesty. Such a thing is laughable. My solar craft is made of blinding light, is filled with magical garlands, is attended by countless goddesses."

"Yes and Nephthys salute thee, they sing unto thee in thy boat, fytoms of joy. You are the ruler of the gods, Majesty and your boat is beyond description." The Chief Praiser rapped his hand against the cupboard of the gallery. "We have here a sturdy vessel, a good little craft, but a Solar Barque? Never, Majesty, never."

Pharaoh reflected in himself over this peculiar turn of events, then turned to the walls of the gallery where the inscriptions were written in glowing azure letters. Indeed they did describe the life of the Chief Praiser and his wife. So must the inscriptions on deck, which had soon on first boarding but hadn't bothered to read, for he was accustomed to thinking that all such inscriptions naturally referred to his own glorious self.

Where, then, had he asked himself quietly, *is my boat? Did I miss it?*

He turned to the Chief Praiser.

"Yes, of course, Chief Praiser, as you say, your boat indeed. And a fine boat it is. I

wanted to extend my blessing to it, wanted to sanctify it with my presence in gratitude for the wonderful service you gave me all through life.

"I'm deeply touched, Majesty," said the Chief Praser, frowning slightly as he laid out two golden soup bowls. "We have here a soup of some delicacy. If you would care to join me."

"Happy to, Chief Praser," happy," said Pharaoh, who, now that his mouth was open, saw no reason not to fill it. He sat down at the emerald table and tucked a napkin under his chin. "You didn't happen to actually see the Solar Barque around anywhere did you?" he asked.

"No Majesty, I don't. The Chief Praser ladled out the soup with a golden spoon. "There's no trouble with it, is there, see?"

"No, no, certainly not. I was just wondering—what you thought of it how you liked the style. She's a magnificent boat, makes wonderful time. I sent it on ahead when I saw your boat. I said to her, 'There's the Chief Praser's boat, and I wish to travel in it for the Chief Praser is the finest of men.'"

"Majesty, there are tears of joy in my eyes and in those of my wife."

The Chief Praser's wife lowered her head; her eyes, appearing to be filled not with joy but with hunger.

"Your wife is very tolerant, Chief Praser. Is there some trouble?"

The Chief Praser spooned soup to his lips. "She's still upset over being suffocated in your tomb, and as I would rather not listen to her complaints. Your Majesty, I have not opened her mouth. If you know what's good for you, she I would advise you to allow the situation to remain so."

Pharaoh spent the remainder of the voyage walking on deck with the Chief Praser or snoozing in the empty guest room. The heavenly soup was continuously replenished in a mysterious way.

"One of the features on a spiritual boat," said the Praser. "I suppose they do it much more grandly on the Solar Barque."

"Actually," said Pharaoh nervously. "I prefer the simple life of your boat." "You are a man of the people, Majesty. It is your greatness and your glory. I shall praise this aspect of your nature throughout eternity."

Pharaoh signaled an end to the discussion. For references to the Solar Barque put the All-Gracious One on edge. It wouldn't do for the Chief Praser to know that his

life the celestial radiance of the spiritual sun, toward which many craft were sailing, to Judgment Day in the Hall of Truth.

"They weigh one's heart in the scales," said the Chief Praser. "But of course that's just a mere formality for you. As for her"—he pointed at his wife—"I don't know. She frequently lapses into inattentiveness when I practiced my praying."

His wife's mute face grew fearful. She reached into her robe and brought out her heart—a tiny red vase which she held up to them. The Chief Praser laughed, scornfully reached into his own robe and came out with a dentel coin which he held up to the spiritual sun. "Catches the light nicely, don't you think? Well, in any case, our hearts don't matter. Your Majesty, for we are merely part of your entourage. Your great and glorious heart will gain us our admittance."

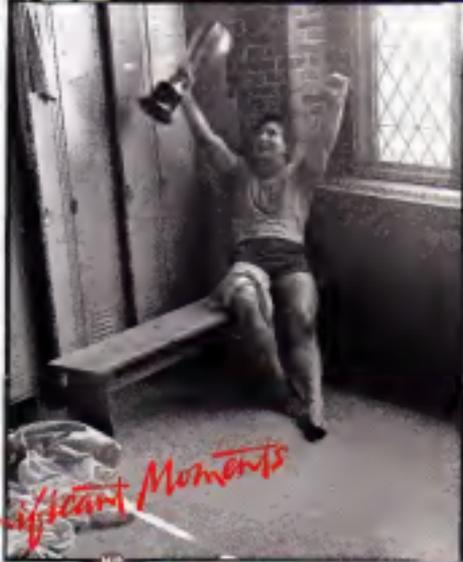
Yes, certainly," said Pharaoh. "To be sure. The sovereign excused himself then, explaining that he wanted to take one last walk around the deck before they reached port.

When he was out of sight behind the wheelhouse, he reached inside his robe. His hand passed through layers of golden weave which kept parting before him, never opening. He rummaged around, fished and searched, then took the robe off and shook it. "There must be some sort of mistake."

He turned the robe inside out, held it up to the light, examined the sleeves, the cuffs, the lining. But he found no heart. Thus, prepared for judgment, he watched, somewhat uneasily, as the boat docked and a crocodile-headed god motioned him down the gangplank. **DD**

William Kotzwinkle has written a number of major fantasy novels, including *Doctor Rat*, which won the *World Fantasy Award*. He is also the author of the novel *E.T.—The Extra-Terrestrial*. His other novels include *Superman III*, *The Fan Man*, *Trouble in Bagland*, and *The Exile*. Kotzwinkle is a two-time recipient of the prestigious *National Magazine Award for Fiction* and was born in Scranton, Pennsylvania. He cannot be reached by telephone.

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sovereign was nothing but a stowaway. This entry after reflected Pharaoh as typical of the overights one encounters at the higher levels of government. When he met with the Divine Hierarchy, he set some heads rolling.

Thus did they sail on, until one day they discerned a light in the distance, growing slowly brighter as they approached. The entire river was finally lit with its majestic

• Iida's alien wanted  
to talk to me, so she offered  
to channel him /  
accepted without hesitation •

## ANTI MATTER

Aliens made all the headlines that week. But they were Mexican. I was after aliens of another sort—the nonhuman kind. A good place to start, though, would be a conference of all doctors and about 500 was held at the University of Wyoming. So I packed a spare recorder and an open mind and headed off to Laramie.

I was not disappointed. The highlight came in the course of introductions when several people in attendance asked I should talk to the Kennenbergs. We had something in common, they said. So I met the Iida's a pleasant, somewhat sprouty elderly woman who



## UFO UPDATE

in 1940 on Highway 10 near Dosh in northern Arizona. Later under regressive hypnosis she learned that two beings had come to her car and guided her to a sound cabin. Implants were placed in her nose, ears, and brain. Let them hear and see through her. For eight years Iida has been in constant telepathic contact with one of these aliens.

When introduced to Iida, she was shocked. "Is this your alien?" she asked. "I had a strange, similar name. My last name is Huggins. His name is Hwang." Iida then told me the alien would be interested in talking to me, and she offered to channel her for me. I accepted without hesitation.

So it was that at 1:45 on the night of July 2, 1987 I went to room 1720 of the Wyo Motel in Laramie and I conversed through Iida with an alien with a name like mine. Huggins means Hwang. His first word, Hello, was spoken in a voice more measured and slightly deeper than Iida's. Following

on, Iida told about his name. He asked if I had any questions.

I did, though I felt quite silly asking them. Where do UFOs come from? Again, Iida claimed that they come from different worlds from different dimensions, worlds as well as from Earth. The latter are "pseudo-UFOs," he said. They are manufactured in great quantities by German engineers. Iida is a farmer by day and a power hungry alien navigator who uses interlocks with his natives.

"Should we help the space people?" he inquired. "Some of the space people are here more for their

own purposes, in thousands than they are to help Earth people. They are... ah... cynically and superficially minded. They do not have the compassion and emotions of Earth people. They are therefore ruthless in their abductions and alienations. But mostly you have to fear people of the earth.

I asked how to contact the space people, forgetting that he was one of them. He did not catch the slip. Don't call us, we'll call you. You are acceptable. You will be contacted, he replied. Thanks. Acceptable is such a flattering word.

I had one last question. Does the government know about you? We have worked with the government since 1926, various ways. They don't know all about us, but we do. We have had occasions to give them information, but never information that will lead to weapons or war.

At the end, Hwang said we would meet again. Later Iida told me more about Hwang. He looks like we do, she said, and for good reason. Hwang had human DNA in this Russian, and he was born on Earth. BY RICK HUGHES



#### Keely's Controversial Claims

Following the death of Philadelphia inventor John Worral Keely in 1908, the disgruntled investigators who tore up his two-story laboratory uncovered evidence of apparent massive fraud. Keely claimed to have discovered a new "force" with which he could dissociate water molecules, generating stupendous pressure in the process.

Critics charged that Keely was dissociating only hot

air. Under the lab's floorboards they reportedly found a sphere containing plasma gas that enabled the inventor to start and stop a series of seemingly enigmatic engines. His reputation subsequently evaporated, along with the \$6 million raised by Keely Motor Company stockholders.

But Keely's adherents contend he was simply misunderstood. If he engaged in a few innocent fundraising hoaxes, along the way it was only because Keely

himself did no complexly understand what he was doing. "You have to remember," explains Dale Pond, a Colorado Springs computer consultant, "that John Keely was a pioneer who made up his own vocabulary as he went along."

Pond, who edits and publishes the *Journal of Sympathetic Vibratory Physics*, joined 50 faithful followers in Dallas last summer for the First International Keely Symposium, aimed at explaining the master to the

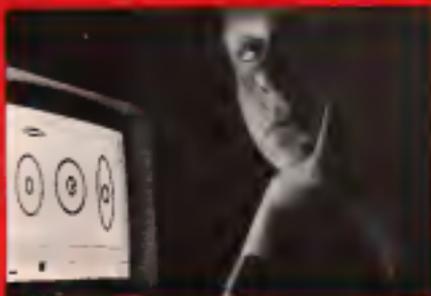
masses. Essentially Keely developed the field of applied quantum acoustics, which was just beginning to understand, says Pond. Quantum mechanics says matter is simply vibrating energy. Keely said the same thing and that, by manipulating vibrations according to musical theory, you could in turn manipulate matter. By applying the right frequencies in the right order, Keely could dissociate, then reassemble specific molecules. Clean nuclear energy in other words.

Even some of his critics agree that Keely was a master machinist whose motors were the engineering marvels of their day. Unfortunately, to be set in motion, many of his inventions depended on musical harmonics, only Keely understood

What is known is that Keely coined his own jargon. Just call me the greatest humbug of the nineteenth century," he said. Whether he wrote the music for his own funeral is still up in the air.

—Dennis Stacy





### COMPUTER ADDICTION

he became interested in computers at the age of eight, and by age eighteen he was suffering from what doctors call computer syndrome. In fact, a paper in the Danish *Weekly Journal for Doctors* says the boy was so obsessed with computers that he acquired a "mechanical, disillusioned mentality" which inhibited his emotional development and caused him to think and dream in computer language.

"For example," the boy said, "I could wake up in the night and think, 'Line 10 go to the bathroom.'" The young man was so disoriented that he lost his ability to tolerate the ambiguity of normal human interactions, instead requiring precise and terse instructions—much like computer commands—in order to complete simple tasks.

Craig Brod, a pioneering psychologist and author of the book *Technostress*, says that computer-obsessed kids and adults often suffer

from symptoms. Says Brod, "We are seeing a generation of kids growing up who are being acculturated to human emotions. They develop machine standards for themselves, and I for one feel that this does not portend well for their healthy development." —Rick Boing

As far as the laws of mathematics refer to reality, they are not certain, and in fact as they are certain, they do not refer to reality.

—Albert Einstein



### THE SEVEN DWARFS

The number 7 pops up repeatedly in cultures all over the planet, from *Show White & the Seven Dwarfs of the World*. This is more than coincidence, says Leonard Faria in his book *Genesis Seven* (Vintage Press), it is the legacy of seven extraterrestrial spacecrafts that visited Earth around 5,000 years ago.

Faria, an accountant in Essex, England, claims he came up with the theory thanks to information that was provided by a long dead American Indian by the name of Quata. Steeking through medium Gerry Stenick in 1979, Quata related "I was on your Earth plane... at the time when strange men came down from the heavens to visit Earth. The spirit went on to describe seven flying craft that each carried seven men."

Intigued, Faria began researching Quata's tale. "I found that stories of seven men from the heavens go back thousands of years and are found all over the world."

For example, Faria says the Mayans believed they came from seven caves, which were linked to seven gods, and Tibetan traditions maintain that mankind's spiritual teachers were seven kings from seven stars. "In all the Middle Eastern religions the seven archangels are linked with seven heavens," he adds.

Faria notes that Quata's description of the seven stars as tall white men who wore flowing robes and

boards was also accurate.

There is a widespread tradition of a tall white man with a long white beard and flowing robe who came to Earth, taught the people and returned to the sky.

But historian William Stabling of the University of New Orleans remains unconvinced that extraterrestrials may have once paid a visit to Earth. "Although it is theoretically possible, we have absolutely no archeological or historical evidence that this ever happened."



"Then why is the number 7 so popular? No one knows answers Stabling. And there's no way to prove it's not simply because people have a propensity for choosing seven as a holy number or a lucky one." —Sherry Baker

"In each of seven houses there are seven cats, each cat kills seven mice, each mouse would have eaten seven holes of grain. How much grain is saved by cats?"

—Anonymous Scoble

## WAVE ORGAN

In Twenty Thousand Leagues Under the Sea, Captain Nemo played haunting music on an organ as his submarine cruised near the ocean floor. But what would an organ sound like if the ocean itself could play it?

Thanks to an invention by a local artist, the answer can be found in San Francisco's Wave Organ. The device does not look like much: just a collection of 98 pipes and tubes that jut out of San Francisco Bay. But what it lacks in beauty it makes up to in whirry and fun.

"I'd been working with natural phenomena for years," says artist Peter Richards of his creation. "But it wasn't until 1979, when I heard some beautiful noises made by a floating dock in Australia, that I knew what I wanted to do." Finally in 1985 another local landmark, The Exploratorium, raised most of the \$120,000 needed to build the musical ocean instrument, which was completed in 1988.

Much of the money was for stonecarver George Gonzalez, who gathered headstones, cemetery monuments, and curbstones on which visitors could sit and watch the water play a melancholy gurgling tune.

How does the Wave Organ work? According to Richards, the movement of water in and out of the pipes makes the air columns inside them resonate. "It's like an echo chamber," he says.

The air columns resonate at different frequencies depending upon the length,



of the pipe, pitch waves according to wave action and tide level. "The best time to listen is on a calm day," says Richards. "In a storm there's too much turbulence; you can't hear anything with the waves crashing and the wind howling."

When former San Francisco Chronicle music critic Howell Tricot reviewed the organ's tunes, he said they resembled "gasp or death rattles."

Richards does not agree. "It's a serious work," he explains. "But trying to listen to the Wave Organ is like going into a very dim room. At first you can't discern much, but as you get used to it your ears pick up more and more." —Gary Hanaour

Such a funny, spunky, savvy, jolly, holy, poky, did it die, creak, oh!

Herman Melville

## MONSTER MUSEUM

Most scientists say there's no conclusive evidence that the Abominable Snowman, Loch Ness Monster, and dinosaurlike Mokele Mbembe really exist. But according to Jon Erik Beckford, who heads the Cryptozoology Museum in Malibu, California, these creatures and others have been filmed, photographed, and taped (and in fact, there is so much documentation on these strange beasts, he claims that a cryptozoology museum photo library is being created to provide the press with photos and films for a fee).

How does Beckford know whether a picture has offering to a publication is legitimate or fake? "We look at whom we are dealing with, he answers. "If someone has a history of taking pictures of this kind of phenom-

on, then you can bet this is another one."

Beckford checks for clues, a subtlety by enlarging small portions and comparing them with other photos or films of the same phenomenon. For example, he recently enlarged a 1977 film of Nessie, which he says clearly shows a head and neck rising out of the Loch Ness. It shows very full, chompy cheeks, a big mouth, and a bit broad triangular area going to the top of the head, he notes. "I compared this with other photos taken the same year by another person and found the same details—the same neck, dinosaurlike head. The people who shot the film and the man who took the photographs do not know one another," says Beckford, "so he's out a hoax."

Not everyone who has seen Beckford's photos thinks they are authentic, however.

He's admitted a photo to our publication that he took in the Pacific Northwest. He said it showed a family of Bigfoots. "None Ken Keseyer took it," says of The Skeptical Inquirer. "It was clear that he was rigging up what he wanted to see—shadows and light spots in fuzzy black and white photos are not proof of a Bigfoot monster at all."

—Sherry Baker

They are getting colder. They're taking us, get a better look at them than over before and I think it's because they want us to know they exist!

Donald Keyhole, author of Alien from Space

# PARADISE

CONTINUED FROM PAGE 42

well-being and without it private philanthropy cannot exist. I believe we must come as close as possible to encourage the private sector and to lessen the role of government. To reduce taxes is fully consistent with such a program.

In my ideal society certain values would be held deeply: the interdependence of mankind—as John Donne said, “No man is an island entire unto itself.” The worth of the individual and the worth of the community are one and the same. One is not viable without the other.

I would certainly hope to see an overgrowing number of highly successful public-private partnerships, which characterize many nonprofit institutions in our society. I also would want to see a new emphasis placed on management and controls in these institutions. And I would want to see a development of joint ventures among many institutions, with similar roles that for years have engaged in friendly or not-so-friendly competition.

It is very important, perhaps above all, that even in an ideal world giving remain a spontaneous, vibrant and dynamic action. Giving, when it has real meaning and is truly fun, is largely a question of spirit, and as the latest adage goes, that which can be learned is not worth teaching.



**Harvey Fierstein**, actor, playwright. All right, I'll tell you. If you want my real Utopian world, it's to have an apartment that is completely tiled, with a big drain in the center of the room. All your artwork is encased in glass, and your furniture is covered in plastic. Just take out a hose, and hose it down every now and then. I guess that's the Jewish mother's perfect world—hose everything down.

Actually, even a short time ago, if I had thought about Utopia, I would have asked for everything. Now in my Utopia I would like just a few real, everyday problems solved: It's just, you know, when people are dying of AIDS on an hourly basis, you feel you shouldn't ask for heaven but just for a little piece of heaven—especially when racism, sexism, and homophobia are coming back in such a nice big fashion. I'd like to see things stop slipping backward and start moving forward again.

When it comes to my Utopia I'd like to see a normal world. There's always pain, and that's all right. But not this tragedy. I wouldn't have lost all the people I've lost in the last couple of years in a Utopian world. I'm on my third address book in about a year because I couldn't stand seeing all the crossed-out names.

If you cut the gay people out of the society, as some would like society would fall apart. We are the worker ants. In a more serious case.

Utopian society we would get rid of our present models and work together—male and female, gay and straight—and share responsibility for children.

If homophobia did not exist, gay people would close down every orphanage in this country, take the unwanted children. That scares people so much. For some bizarre reason people think it's much better to keep physically and mentally handicapped children in cages than allow them the love of a gay couple or a gay single person.

My Utopia would be natural. I would protect the environment. I don't believe in God. I believe in nature—just to be different. Religion in my Utopia would be natural—the white witch religions. I would rather be a piece of nature than a piece of man because nature gives you a hell of a lot more. I live on top of this mountain, in a hermitlike way, and I like it.

I never thought I'd live in the country. I can't say, though, that everyone in my Utopia would have a country home—it's too bourgeois for words. Someday soon, because of telecommunications, nobody will have to go to an office, which is great by me. Oh, please, if I never had to go to L.A. again, I'd be the happiest person in the world—the land of the living dead! The world would be a better place without L.A.—even people in L.A. know that. No L.A. in my Utopia. No. I am happy living in the woods, just me and my two dogs, my dear thousands of rabbits, quail, squirrel, chipmunk, slug. I have thousands of rabbits. I love bunny rabbits. You know, rabbit as unisexer. The old religious books say if you ate rabbit, you started desecrating a woman and sleeping with men! There's a reason for everything.

“To avoid a downward movement is the utmost to which a Utopia can aspire, since Utopias seldom begin to be written in any society until after its members have lost the expectation and ambition of making further progress.”

—Arnold J. Toynbee, *A Study of History*

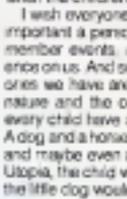


**Roy Rogers**, actor. The only Utopia I've ever seen is Shangri-la. I saw that in a picture once. But I'd set my personal Utopia in the place where I live, up here in the high desert, in Apple Valley, California—about ninety-eight miles from Los Angeles. I love Apple Valley. We've got everything. The sun shines most of the time, it's windy and cool at night. We have wonderful people and wonderful weather and clear air, and I just love it here. But I don't want anything that's completely perfect or indestructible. Even in a Utopian world people will have good times and bad times. Every person will have to strive to live a decent life and help as many people as he or she can. If nothing bad ever happens to you, it's tough to appreciate what you have.

In Utopia you don't need all the money in the world. It's just a necessary evil, and you don't have to have all of it. In my Utopia we would pay more attention to the spiritual side of our lives. Particularly, I believe in Christianity. People believe differently, but what's important is the way you think. Christianity keeps me on a moral level.

Family would be closer than they are today. So many things are tearing the family apart today. I'd like to see parents want to love their kids and spend time with them and raise them right. In my ideal plan, mom and dad are the ones who would be there when the children needed them.

I wish everyone could be aware of how important a person's childhood is—we remember events, and they have an influence on us. And some of the fondest memories we have are of the pets we had, of nature and the outdoors. I'd like to see every child have a little pet of some kind. A dog and a horse are two great animals—and maybe even a raccoon. As I envision Utopia, the child would ride the horse, and the little dog would follow behind.

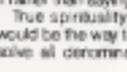


**Grace Slick**, singer, songwriter. When I saw your interview request I said, “Oh, great! They want to know about Utopia. I'll solve that!” In the Sixties, with whatever drugs were available, we'd talk forever—and solve everything. When you're twenty you think you know what ought to be going on. Today I'd create Utopia. I must be practical, something that actually might be accomplished, an idea with lasting effect. So, let's begin with a world government, The United States and the Soviet Union cooperate and spend money on joint projects instead of spending money going for each other's threats.

In my Utopia we will organize ourselves with computers that will map out the geography of Utopia. How much food must be produced in one area to feed the people of that area? The data will be compiled, monitored, continually updated. Then we can focus on action—on efficient distribution of food, money, clothes, medical aid, whatever. I'd use our genius technology and natural resources from all over the world. God, luck, nature, genetics, or whoever gave us brains—why not use them?

As a child in my Utopia you would learn your own language and a global language. But I am very attached to the idea of diversity. Peoples' individuality will not be taken away. In the Sixties everybody dressed and acted out their fantasies—graffiti, sea turtles, outlaws. Today the situation is so smothery. It's not just that the yuppies don't like the rock-and-roll peeps. The heavy-metal people look down on the New Wave people from England, and everybody is very arrogant and snobbish about it rather than saying, “Ho, ho, ho!”

True spirituality, rather than religion, would be the way to go in my Utopia. Dissolve all denominations, and teach and



teach and

practice a more general spirituality. Live out the simple creed at the core of most religions: "Do unto others as you would have them do unto you."

In addition, in my Utopia each person would have a task, a single task. We are bombarded with so much information today that most people say, "The hell with it!" Instead of people being frustrated by so many things that have to be done, they will select one area that is close to their hearts or their abilities and go for that.

Pandas just knock me out, just up the spurt. I wrote to the World Wildlife Fund and offered to ask stamps, address envelopes, do commercials. Well, I haven't heard anything. Maybe some zoologist will read this and say "Yeah, we can use her to mop the floor at the panda house."

There would, of course, be lots of music in my Utopia. It would be a personal choice—rhythm and blues, classical, stonal electric synthesizers. I know what appeals to me: Spanish music—classical acoustic guitar, flamenco—always just knocks me right out. It just kills me, like the pandas. Music, thank God, moves us toward Utopia.

"To the classical Utopians freedom was relatively trivial. Clearly they considered virtue and happiness an entirely separable from liberty and its being altogether more important things."

—H. G. Wells, *A Modern Utopia*



**Steve Wozniak**, chairman of the board of CL 9, inventor Apple Computer: The first thing I'd do in my Utopia is change the myths about how the world works. Today we always look for cause and effect. We want to believe that if we do this, that will happen! The most deceptive word in the English language is significant. As controlled experiments use the word, it simply means "we detect it." It might be a tiny effect, so tiny that it scarcely exists. But the experts are sure: they're confident, that tiny findings will have a major impact.

How our bodies work, how our minds work—that sort of knowledge comes from intuition and observation, analysis and experience, exploration and migration. In my Utopia children will be taught to apply critical judgment to what they see and are told, and they'll be taught to value their own imaginations, creativity and intelligence.

Intellectual intensity and creativity will be valued and kept alive in my Utopia by encouraging people to find out what's inside the closed door, to ask questions: "How can I get from here to there by a route that doesn't seem possible?" Can I make connections that aren't obvious? In Utopia you will be allowed to pursue the closed that intrigue you, to try and make them work. No, one will scorn this kind of work or play.

In my Utopia adults will learn that children's dreams and fantasies may become

real. I want the miraculousness of the mind to be revered.

I will place great emphasis—a high cultural value—on the hacker ethic in my Utopia: openness, accessibility, the sharing of information and resources, and the search for the unexpected way of doing things. One of our modern myths is that hackers are a threat to vital and valuable information. When we feel we've got to protect every little thing—our bodies, our money, our jobs, our prestige—we become inspired and often give up so much good for such tiny, tiny gains.

I'd give anything to have a chance to talk with Isaac Newton. And with Bob Dylan, too, as long as I'm wishing. Not necessarily together, though they might get along fine.

In my Utopia people would more or less give up on politics. It won't be so important to take positions, make judgments, find fault. We will be concerned about tasks. Problems will be defined and solutions planned. The process will be more objective, almost methodical, a computerized process. We'll have guidelines, constitutions, laws, less bias, and no weight attached to parties.

I would definitely want humor to play a larger part in the general scheme of things—just a lot more fun, humor, smiles with everyday life. I think psychoanalysts should take charge of the future, write the programs, help people decide what aspects of their psychology to emphasize. Humor is one of those things that exposes unconscious defenses within us. It's the cornerstone of understanding ourselves.

"... if we could have devised an arrangement for providing everybody with music in their homes, perfect in quality, untroubled in quantity, suited to every mood... we should have considered the first of human history already attained."

—Edward Bellamy, from *Looking Backward: Two Thousand Years in Eighteen Eighty-Seven*, an 1888 Utopian novel



**Lisa Wertmuller**, film director: It is very difficult to imagine a Utopian society—a society that truly sustains a fair and liberating way of life for the entire human community, a place where values like justice, peace, purity, the love of nature are prized—where each human being is considered worthy. But there cannot be a Utopian society without limiting the number of people on this planet. If overpopulation is dealt with, then man, in his liberty, regularity—in his pure and clean animal spirit—can live in harmony with others and in harmony with the environment. Social justice becomes a possibility in smaller communities. Without the crush of humanity and industry, individuality emerges; the innate sweetness in man's character comes out.

The form of government for my Utopia would be a Greek democracy. I would de-

clare many occasions international holidays—many occasions, don't even ask how many. I would ensure that love and anarchy (a title of one of my films) played large roles in my Utopia. Love is fundamental, essential—a motor of our being. In my Utopia the single most startling difference in the relationship between men and women would be love. As for anarchy, I understand it in the sense of a profound respect for the development of every personality in the human community.

I would direct and distribute so many films in my Utopia. I can think of at least thirty films I'd want to direct. Utopian scenes. On a summer evening, a voice—perhaps a woman's voice or even a whistle—comes from behind a corner, which hides a perfumed garden. It is, in just such an image that I find the harmonious spirit of my Utopia. And I'd like people to live in a place where superior values are nurtured, where creativity, art and science flourish.

In Utopia I would like to live in the Italy of the Thirties, when I was born. In spite of the destruction caused by Fascism, Italy was still the beautiful Italy of the "Grand Tour." The goal would be to salvage the image of all that was splendid and to eradicate the damage of the past.

I am by nature a practical joker and I would like for my Utopia to have something of a spirit of fun, laughter, lightheartedness and the unexpected—to enjoy every moment of marvel.



**Thomas Szasz**, professor of psychiatry at the State University of New York Health Science Center: I envision Utopia as a society in which people struggle ceaselessly to achieve and preserve autonomy, self-respect and respect for others. Social order would be maintained by maximizing individual self-control and minimizing external coercion. My personal Utopia, however, is not a place of perfection, because human beings are by nature imperfect.

There is no public education and no one is "mentally ill" in my Utopia. For a long time I have maintained that there is no such thing as mental illness. It's a metaphor. People use the term to refer to behavior they dislike or disapprove of.

In my Utopia I am free to choose what I believe, read, ingest, inhale and inject into my body. Involuntary psychiatric admissions and clinics in penal servitude would be abolished. Criminal sanctions would consist of restitutive fines and labor. If a person were incarcerated, he or she would work for the community.

I see human life, even in my Utopia, as competitive, based by human conflict, subject to disappointment, disease and disability. Not everyone would be or could be a winner, but the losers might, depending on their behavior, still have a decent life.

Nor would everyone be physically healthy, but the sick would receive inst-

ment and be like everyone else to medicate themselves as they see fit. Everyone would have the right to decide when and how he wants to die: that is, whether he wants to die as a result of disease, unsuccessful treatment of disease, bodily deterioration due to aging, or his own decision—now called "suicide" but in my Utopia renamed "death control" or "self-determined death."

**Hans Kung**, Roman Catholic theologian. For me the road to Utopia lies awaiting for God or waiting for God? And I have great hope that religion will again show another future. The diagnosis that God is dead, made by the great minds of the modern age—Feuerbach, Marx, Nietzsche, Freud—did not come to fruition. But if our present "logic" continues, it is the death of the human race that will take place, not the death of God. It is much more our neo-scientific unbelief rather than the belief in God that is in crisis.

If you view the present so-called alternative movements as a whole, not just as separate trends, you can see the complementary dimensions of a Utopia that could be a real Utopia, not just an illusory one. I am not interested in a fantasy Utopia but only in a real one.

In my Utopian vision, we must create an ethically responsible science—in nuclear physics, genetics, and other fields, we must move from the threat of technocracy which dominates all areas of life and is destroying much of our environment, to an idealism that preserves the environment and human nature. We must move from a formalistic liberal democracy to a true social democracy in which individual freedoms and social justice are reconciled.

The educational system should play a part in helping students find a balance between ignorant rationalism and hyper-emotional irrationalism between superstitious faith in science and fearful denunciation of science. There has to be a way between technological euphoria and blind hostility toward technology, between mere formalistic democracy and totalitarian popular democracy.

We need a transformation of old values and norms—based exclusively on materialistic needs for security, career success, and consumption—to the development of "postmaterialistic" desires: a deeper interest in expanded personal experience and realization of the self rather than just the typical extraworldly interests in popular entertainment and sports; a heightened sensibility and desire for vulnerable personal relations; an increased social perceptiveness and concern; a sharpened desire to protect and care for our natural and historical environments.

In my Utopia my church, the Catholic Church, will be renewed. We are at an impasse today. Eventually someone—a Pope John XXIV—overnight will deal wisely with issues such as birth control, the admission of divorced people to the sacraments, the

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marriage of priests, the equality of women in the Church, the appointment of altar girls to the ordination of women. After all the religious hot and cold wars, aggression and hatred, we will achieve communion among all the world religions. I myself work day and night for this consummation because there will be no Utopias, no peace among the nations, until there is peace among the religions.

"I am also fond of saying that a war of light vs. is like a dance because it is all going forward and back. That is the reason that revolutions and Utopias are considered too difficult, they are up and down and not forward and back."

—Gordula Shen  
Everybody's Autobiography

**Timmy Faye Baker**, televangelist. I have been in many places, but if my Utopia could look any way I wanted it to look, I'd like it to look like Disneyland. I love Disneyland, and if I could, I'd have the whole world look like Disneyland. The first time I walked into Disneyland I was so overwhelmed I started to cry. I mean, I just couldn't believe that there was any place as wonderful as Disneyland, wonderful houses, architecture, and bright colors. It's such a happy sanctuary place.

I've always been a dreamer, so it's fun to dream about an ideal world. I would take us backward to the old-fashioned values

that our grandmothers and grandfathers and great-great-grandmothers and great-great-grandfathers had—back to the Ten Commandments in my Utopia no one would ever tell a lie, and people would not be jealous of each other. People would truly love one another. I would go back to the days when a handshake was as good as a signed contract, when importance was placed on family life, and when commitment meant something—when you got married, you stayed married. I would do away with divorce so that every child would have two parents. I would go back to the days when a friend was a friend, when a friend believed the best of you at all times. I would go back to the days when there were just plain, old-fashioned good manners, I like good manners, and I'm not talking table manners. I'm talking deep-down good manners where people are kind to each other.

I would cut television in half and news broadcasts—good news as well as bad news—down to a quarter of what we watch today. We look at too much TV—it's fogging our minds and dulling our brains.

In my ideal world I would be less quick to judge. I have changed in the last year, and I don't want to judge people on what I hear about them. I want to give everyone the benefit of the doubt.

In my Utopia, I would love to see Jesus face-to-face. And someday I'm going to see Him. But I would like to be able to

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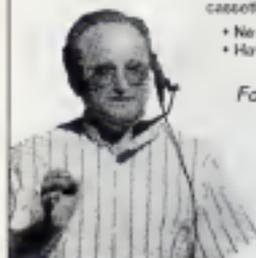
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see Jesus right now because I have lots of questions I would like to ask God. I ask Jesus. Why are people so mean to each other? Why is there all this hurt in the world? Why are there poor people? Why are there rich people? Why is there so much jealousy? Why can't we just all be happy together? Why did He make me only four feet eleven inches tall? If He could have made me five foot six or something, life would have been so much easier!

I know just what my own life would be like in this perfect world. My life, if it were the perfect life I'd choose, might surprise you. I have always wanted to be a doctor or a nurse. Always. All of my life. In my ideal world I would spend my life serving people. I want to help make people more beautiful, to train women to reach their best potential. I would like to show ladies who don't know how to put makeup on how to put it on, to make them look their prettiest and make them feel better. I would really like to help ladies look their best. I would like to show them how to be really smart shoppers, because I'm a bargain hunter and I would love to show them all my special bargain places and share all of those kinds of things with them. I would just like to shake with people how to make their lives better. Women would feel totally different about themselves if the world were the way I'd imagine it.

You know, I'm a totally romantic person. I mean, I light a fireplace in the middle of the date.

In the summer, I can be one hundred and five degrees outside and my fireplace is lit and my candles are burning. I am totally a romantic. So my romantic view of a man and woman is that they would be able to live in an atmosphere of romance in just a world of romance.

One of the nicest things my husband does for me is when I get tired, he'll tuck me in bed and say, "Now you stay there, Tammy, and you rest." He'll close the blinds and be the room he loves like I do. He'll go pour me a bath and say, "Here, take a nice bath, Tammy," and then he'll kiss me and tuck me in bed. These things make marriage so much easier for women. The Bible says, "Give and it shall be given to you." That works in relationships, too.

The greatest personal dream I'd have for my Utopia, the most outlandish dream is that I wish I wish that I never had to ever worry about money again. We do. If you never had to worry about money, you could do the types of things you really wanted to do. I always thought if I didn't ever have to worry about money, you know, I would just give it away. Boy, would I give it away! I could give people money and gifts.

Just for myself, it would be a lot of fun to have the chance to sing with certain people. I really enjoy country music, it's not fun music. And I really like black music a lot. I really enjoy the black culture, you know, I'd love to sing with Dolly Parton and Barb Streisand. Dolly's such a fun lady and Barb

Streisand is one of the greatest, I believe, one of the greatest singers of all time. And I really loved the girl who died of anemias (Karen Carpenter). She was one of my very favorite singers.

But Nat King Cole was my favorite of favorites, my favorite in the world, and I would have given anything to have sung with Nat King Cole. And Mahalia Jackson would have been a real fun lady to have sung with. I sang with Johnny Cash the other day and that was one of the most fun things I've ever done in my singing career. He called me up out of the studio audience and I got right up there. The musicians pitched the key two notes lower than I've ever sung in my life, but I sang it anyway. I was ready to go. He's a nice, nice man. And Ray Charles! Ray Charles, Ray Charles. I love Ray Charles! Ray Charles. I would give anything to sing with Ray Charles. Isn't he the blind man? Isn't that Ray Charles? Yes, I would love to sing with Ray Charles. He is so great!

As I think about dreams for myself, I'm thinking I never wanted a yacht, never wanted to go to Europe (literally, I never with the United States of America, and I would like to make it a more ideal, more wonderful place to live. I'd also like to include in my ideal world the goodness of Hawaii and the sunshine of California. I like the gentle Hawaiian people and the gentle Hawaiian music. I love the ocean. I love to stand by it and listen to it. When I was in Hawaii, life seemed more gentle, and that was very nice.

I can't live without laughter. I love to laugh. And I'd die if I didn't have laughter in my life. In my ideal world, people would laugh a lot. I want to take myself much too seriously sometimes, and when I do, I say, "Lighten up, Tammy! Lighten up!" Nothing is really that traumatic—short of the death of a loved one.

I think the motto for my Utopia would be Romans 8:28, my favorite Scripture verse. And we know that all things work together for good to them that love God. To them who are called according to His purpose... There's no doubt that Heaven is the ultimate Utopia, gates of pearl, streets of gold, and mansions. The light will be as precious and clear as crystal, and the city will be pure gold. The walls will be garnished with precious stones, emeralds, sapphires, topaz, amethyst. The glory of God will be the light for the place, and the gates will not be shut at any time. There will be no night—that's my idea of a really perfect place.

"Golden was that first age, which, with no one to compel, without a law of its own wit, kept faith and did the right. There was no fear of punishment, no threatening words were to be read on brazen tablets. There was no need of all of armed men. The Earth herself gave all things need-ful." Streams of milk and streams of sweet nectar flowed, and yellow honey was distilled from the verdant oak.

—Ovid, *The Metamorphoses*, Book 1

José Miguel-Bonino, vice president of the World Council of Churches: Places and moments of history become Utopian models only when they are re-created by the imagination, the stories of independence and of the "founding fathers" in almost all countries or David's kingdom in later biblical literature, for example. But the re-creations themselves would not be possible if the historical moments on which they were based were not perceived as—and actually were—a Utopian moment: embodying a fundamental human quest for freedom, peace, national identity, justice. The memory of these strong Utopian moments becomes a symbol projected to the future as a way to unify and mobilize people around a common goal.

I can remember for instance marches for human rights in my country Argentina, during the military dictatorship from 1980 to 1983, and moments of community prayer and singing. In those moments we are admitted into the presence of Utopia, and the memory of such visits reinforces hope and gives strength to the quest.

Utopian words always catch the meaning of these events and inspire Utopian ideals: justice, liberation, redemption. For me the most meaningful Utopian force is *shalom*, or peace. It becomes a true Utopian model because it brings together in concrete images the wholeness of human life: material, cultural and spiritual, personal, communal, and social memory, action, and hope.

In Latin America the classic images of Jesus are the conquered Christ—suffering and passive—and the "cosmic monarch"—the Almighty assimilated to the conqueror. The conquered and the celestial monarch are both faces of oppression, the resignation of the conquered and the confidence of unchallengeable power. Nobody expects anything from these Christs. The conquered Christ is powerless. The celestial Christ is approachable only through intermediaries. But in recent images, songs, and new creedal expressions, Jesus is seen in the poor, oppressed and marginalized of Latin America, not simply as the passive sufferer but as the active subject of transformation. Jesus is: the God who suffers with the poor and the God who struggles to change the condition of poverty, inviting us to follow him in this task. The triumph of the new humanity, the coming of the universal shalom, becomes the Utopia that inspires historical undertakings.

Linda Ellerbee, broadcast journalist: All right, I'm king. I can do anything, right? First, I would banish all private schools in my Utopia. We would then improve the public schools, no question about it. Also, in my Utopia teachers would have the status of merchant princes in terms of earned salaries and respect. In my Utopia there probably would be no football—football ought to be as separate from education as church is from state.

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The two most beautiful places in the world are Texas and Alaska. I want the sky of Texas in my Utopia. There is more sky in Texas than there is in other places. And Alaska is just physically stunning—nothing waxy-waxy about Alaska or Texas.

In 1969 I went to live in a commune in Alaska. We were trying out our Utopia. Certain people did the work, carrying the water from the well, and certain people sat on the couch saying, "Far out!" I might still be there had I not been one of the ones carrying the water. In Utopia you want everybody carrying the water, then everybody can sit on the sofa and say, "Far out!"

We are by nature a tribal people. Utopia would work best if we organized into small tribes—but not warring tribes. And women would run the tribes. That would be a nice switch. It would be interesting to see if we have learned anything about power other than to imitate how it has been used and misused in the past. I might not like the answer to that one, but I'd like to give it a try and take my chances.

Certainly in my Utopia there would be equality between the sexes and a good child care policy. All children would have little trucks to play with and all children would have dolls to play with. And old people would depend on young people to take care of them when they're old. With my tribal system we would have large, extended families, and the elderly would assume their place in them, positions of dignity and re-

spect. But perhaps there isn't any complete solution to the loneliness of old age—not even in Utopia.

Time travel seems like the most wonderful notion in the whole world—it would definitely be a part of my Utopia. Of course I would love to have more than one lifetime. And if I could pick other lives, I would want a lifetime as Jim Hanson of Gairy Trudeau or Stephen Sondheim or Barbara Jordan or Robin Williams. I admire their inventiveness, the agility of their minds, they have a bonanza of spirit; they write with a great deal of skill and emotion. But I would not want to come back as Ronald Reagan, George Steinbrenner, Billy Martin, or Ollie North.

In my Utopia I'm not sure we would have television news at all—probably not even any television reporters. We would have radio—a lot of National Public Radio. And I would delay the newspapers a day.

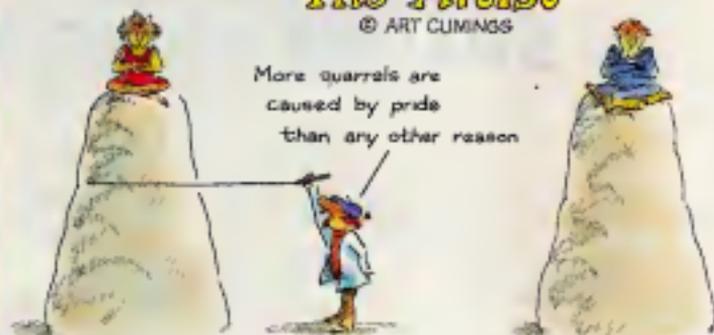
I very much want the quest for justice and the passion that were a part of the Sixties to characterize my Utopia. I miss the wonderful passion. I don't see it right now, but I am hopeful that in the Nineties we will begin to see people remember that they are not alone in this world and I'm around and care about each other. It is true that the Sixties was lots of colored lights, a circus atmosphere. But the Sixties truly were about social change—the civil rights movement is the lasting movement of that decade, not the flower children.

I believe in truth, justice, rock and roll.

# The Artist

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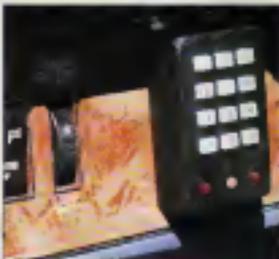
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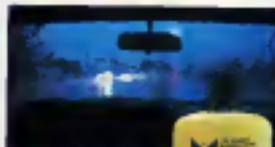
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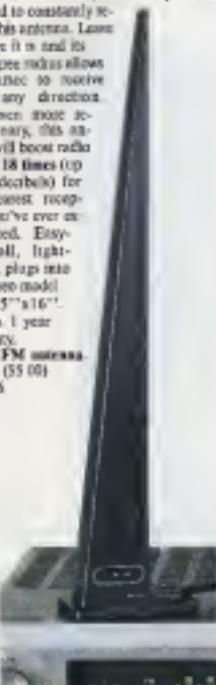
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communications so that the right to gain access to television was not restricted to those with hundreds of millions of dollars. I would forbid any candidate to buy television time. It would be a free service. I think the private funding PACs [political action committees] and the infamous Senate race administrators:

"In communist society, society regulates the general production and thus makes it possible for me to do one thing today and another tomorrow, to hunt in the morning, fish in the afternoon, rear cattle in the evening, criticize after dinner.

—Karl Marx

**Jesse Jackson**, Democratic presidential candidate. My new world order recognizes that most people in the world are neither white, Christian, English-speaking, nor rich. I assent with a simple premise: human rights for human beings—*not* superior rights for some and inferior rights for others, but equal rights for all. Justice must be measured by one yardstick. Simple justice is a threat to the hardened attitudes of the status quo, which clings to the pedestal through habit, ignorance, superstition, and economic exploitation.

Human rights for all human beings is the rallying cry. Our goal must be to fight for total human liberation. We must feed the hungry, educate more people, provide decent and safe housing for all of our people. We must beat our swords into plowshares. We gain life when we give life.

The Western world must do something it has not had to do in the last four hundred years. Think in new, creative ways, use ingenuity, be patient, respect nonwhite people, and operate with moral authority, not merely with military power.

We can bring economic and educational equity into the world if we maintain a sense of passion for knowledge, science, religion, and human values. We have natural resources, a growing body of human knowledge, and the technological know-how to achieve goals beyond the wildest dreams of any generation that ever lived.

The principle of service is the foundation, the starting point upon which every thing else is built. Service is structured into the very nature of reality itself. There is real power in service. Many people believe that power is the result of taking, but that's not true. The highest and purest form of power is in giving. Power taken always will be taken again by someone else. Power that results from service cannot be lost and can only empower and enrich both the giver and the receiver.

The spirit that we need for this task can be found in the words of a song that black children were singing in Colesburg, South Africa. In the very pit of exploitation—no bathroom, no running water, no right to vote, no political protection, no judicial regard, with nothing but their hope and faith in God—I heard them sing: "Let us remain alive and alert as a nation."

**Oprah Winfrey**, talk show host, actress. I believe that all people create their own reality—up to including, and who knows perhaps even beyond, Utopia. If you can conceive an idea and believe that idea, you can achieve that idea. The boundaries and limitations that prevent us from living our Utopia are those we have created in our own mind and have made a part of our own reality.

I feel as though I am living in Utopia right now. It is not a matter of having achieved certain goals or calling to mind particular moments that I could call Utopia. My entire life is Utopian!

In Utopia my life would be exactly the same as it is right now. I would be doing a talk show because it makes a positive difference in people's lives. I also would continue my work as an actress because that is what I was born to do. I'm telling you there would be no difference because I truly believe you can have it all—and all in one lifetime.

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### ● I start

with a simple premise:  
human rights for  
human beings. Not superior  
rights for some  
people and inferior rights  
for others,  
but equal rights for all ●

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The crucial element lacking in today's society: the thing that works so powerfully in holding Utopias back from coming into being is a failure—or a refusal—by some members of society to take responsibility for their own actions. If people want to solve their problems, they must, sooner or later, reach inward to bring about a positive difference in their lives. In any Utopia there will be change, yes, but more important, recognition that change must start within the individual person.

The educational system in my Utopia would center on the principle of taking responsibility for one's own actions and a renewed interest in reading and in developing the imagination. Children in my Utopia will be respected.

One governing principle in my Utopia would be the law of divine reciprocity. Whatever good you put out in the universe would come back, and whatever bad you put out would come back as well. This law would have to be in effect even in a Utopian society, since it is a law that holds us accountable for our own actions. And it is that very same law that teaches us for better or worse to seek out the good, not

only in our actions but in our thoughts and intentions as well.

Let me give you an example. My suitcase carrying my jewelry and clothes was lost on a flight last year. And let me tell you: it was some jewelry I'd packed in that Louis Vuitton bag! When I didn't arrive, I blamed the airline and everyone around me. After I cooled down, I realized I'd had it coming. For two days I had been an absolute bitch and had made everyone around me miserable. It was a revelation, in a way, and while I miss those gold earrings, I should have seen it coming.

In my Utopia I would keep the physical world exactly the same. I can't believe I'm saying this. Do you realize how cold it gets in Chicago in the winter? Wind-chill readings of seventeen below zero. Would I change that? Absolutely not. Nature is perfect in its own form—even if a human being freezes in ten seconds in February. Even with hurricanes, tornadoes, snowstorms there is something uniquely godlike and perfect operating beneath the surface of nature. I wouldn't tamper with nature. I wouldn't think of taking off God by suggesting any such change.

---

"For some, the shortcut to Utopia is military conquest. For others it is armed revolution and the domination of a particular class. There are others, on the contrary, who believe that no desirable change of heart can be brought about without supernatural aid." —Aldous Huxley

**Jonas Salk**, winner of the Nobel prize in medicine for developing the polio vaccine. In my Utopia, humankind will become deeply and creatively engaged in the process of evolution. First, we will understand the nature of our minds, and second, the evolutionary purpose they serve. This development will require a change in perception: a transition from the present paradigms to a belief in conscious creative evolution as the process by which the future of mankind will be determined.

In the new reality I believe we must prepare for there will be more dynamic equilibrium in the world and more balance in the minds and lives of individuals. The number of people on the earth will be stabilized. There will be more political and socioeconomic equilibrium than exists at the present time. The mind of an individual who has reached the stage of evolutionary equilibrium would be in harmonious balance with the activities scripted to each hemisphere of the fully developed and functioning brain. We need to correct the accumulation of those forces that inhibit evolution: the unbalanced growth of population, excessive preparation for war, excessive utilization of energy, excesses leading to crime, violence, and terrorism and diseases that have led to economic imbalance.

There is a qualitative difference in all aspects of this Utopia. It is a new beginning. The characteristics of this new species is

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not one of political, or economic power. It is one that possesses evolutionary qualities of insight, foresight, and creativity. In the course of time the ignorant and the greedy who have assumed positions of power will be removed, and hopefully we will have the wit and the wisdom to fill these positions with architects for the better future. Utopia—human evolutionary potential—will only be realized as man recognizes that he is one with evolution.

**Philip Glass**, musician, composer: This may not sound like what you'd expect, but my Utopian place is modeled after the next evolution of the city: the big cities of the south, intensely dense cities like São Paulo or Mexico City—the megacities with populations of more than twenty-five million people. When enough people get together, something happens; the city is suddenly a different place—a completely different animal—with a different character, a different vibrancy, a different soul.

Cities like São Paulo become so intensely dense with humanity that a new organic form seems to develop. And certainly the problems are enormous. Some Utopia, huh? No clean water, clean air, clean sewage, just the same old junk—and at a more intense level, yet. Is it Utopia? Probably not. But a new social order is evolving there. These cities are the twenty-first century.

When I talk about my vision of Utopia it's not that different from the world I am at ready living in. I see continuity between the problems in Beirut and the violence in the streets of New York. In my mind, Utopia is understanding that continuity.

In my idyllic society music is free of the influences that go against its natural idealism. When music is natural and spontaneous it has a spiritual content, but it's not confined to any school or composer. Without art—we probably would be much madder and much more unhappy than we are. Art is what keeps us really sane. It's not only good and Utopian, it is crucial. Without art and music we don't have a life of any kind at all.

Self-awareness—that is what we're really being talking about. To the Utopian is knowing where we are and what we're doing and who we are. That's the big difference between my Utopian society and today's society, and that's probably the only difference. All we can change is what we know, how we perceive it.

"Literature is my Utopia. Here I am not distracted. No barrier of the senses shuts me out from the sweet, gracious discourse of my book friends."

—Helen Keller, *The Story of My Life*

**Joseph Kennedy II**, congressman (D-Massachusetts): The seeds of a Utopian society—the embodiment of our legislators' vision of America as a land of opportunity, a land of compassion—already lie within the social fabric of the United States. **ONE**

Bliss. Compassion is our hope for the future. Simple acts of caring are the foundation upon which a Utopia can be built.

But large segments of our population are shut out from opportunity. Today in the rich and powerful nation twenty-five percent of our children grow up in poverty. An estimated thirty-five million Americans have no health insurance. The horror of homelessness now grips children as frequently as adults. Dropout rates in inner-city high schools are hitting fifty percent.

With necessities such as food, housing, health care and education provided, each citizen can develop his or her own creativity. Competition in business can be structured so that building new homes doesn't cause homelessness, new health-care plans don't shut out the poor, production of food doesn't impoverish the producers or contaminate the soil. When greed is supplemented by caring, our society will move toward its full potential, to a more ideal society.

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● *Art is what keeps us really sane. It's not only good and Utopian, it is crucial. Without art and music we would be much madder and more unhappy than we are.* ●

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**Kurt Vonnegut**, author *Island*—not your typical paradise—is very close to my idea of Utopia. No job. It has a lousy climate and is pretty horrible physically, a big lump of lava with steam spurting out of the cracks. Practically nothing grows there—the biggest trees are about two feet tall. But it's the right size—a nation on a human scale with a strong sense of family. The same number of people live in Rochester, New York, as live in *Island*. In my Utopian scheme, people will rescue themselves and make themselves stronger by forming extended families.

I want to Balkanize the world so that it's divided up into manageable little states. Whether we'd have regional governments, I don't know. Regional families are what I want because people stick together for many years and look out for each other. Within these family caucuses, I would have no rules except that everyone knows he belongs to a family.

I want an extremely rich culture in my Utopia. I would encourage people to become artists as a way to enjoy life. It's great fun to make pictures and to sing and play and dance. I would like to have a kind of *Life*

styles of the Rich and Famous, in which certainly everyone should be able to go swimming in an ocean every day. And the Bill of Rights to the U.S. Constitution—we have that and that's Utopian and that's wonderful. Music is good right now, too; music is great right now. In my Utopia there would be plenty of music, all kinds. The music would be treated better. And it's clear that the population has to be limited in some way, otherwise we simply will sublocate under a glacier of meat. Living meat. The Pope is a threat for invading South America can continue to produce at its present rate.

Even though I'm an atheist, I wouldn't mind helpful, comforting superstitions being a part of my Utopia. I would eliminate destructive, vicious superstitions. People would not find justification for racism or war in the Bible. Only benign superstitions would have their place.

In my Utopia I would certainly demilitarize guns and killing. I don't have a gun, and I don't care. I'm not interested in any of that, and I don't chew tobacco as a substitute. The impulse is taught by TV by the President of the United States. I wouldn't sell weapons. I wouldn't sell anything that is bad for somebody else. If the banning of war and weapons leaves a void, some of the energy can go into building people up, leading and housing them. Or into sleeping. Don't have to charge around all the time, you know.

**Donald Trump**, real estate developer and president of the Trump Organization: When I picture my Utopia, I envision a city—which I suppose is appropriate. But it would be a different kind of city. It would be a big city and I would be in charge. The people would be active, creative, hardworking, positive, self-reliant. They would possess a healthy self-respect and self-esteem and would feel gratified by their accomplishments and their association with the city.

As head of this imaginary city, I would make sure that government, on all levels, budgeted much more money for education and transportation than a budgeted in present-day cities. A city depends on its workforce. Mass transportation must be a priority. In my city there will be no delays, no breakdowns. A safe and clean mass-transit system would improve our quality of life—invaluable and, I believe, spiritually.

Teachers would be paid more, schools would be kept clean and safe, classes would be smaller, waste would be dramatically lessened, and discipline would be enforced. For children, teachers, parents—**for everyone involved**—no pride would replace envy.

Beyond my city, I would have to add that I am concerned about the prospect of a nuclear holocaust. In my ideal world, clearly this would not even be considered a possibility. Short of this ideal, I would like to negotiate arms control agreements with the Soviet Union. Negotiation is an art, and I have a gift for it. **OO**

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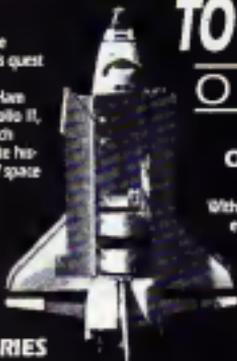


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# HORROR

CONTINUED FROM PAGE 54

crude monoliths, the only remnants of a vanished people. All very mysterious.

He lifted the homemade bag and underneath it was the original label. On it was the size: 42. His size.

It was late! He scooped it up.

The woman at the register had a face like chapped flint. She sniffed, started to ring up the coat, then stopped and glared at him. "This isn't right."

"—Weed left a wad of paper. She was going to take it away from him! He tensed, preparing to grab the coat and run.

"It's a white bag. That'll be five dollars. Thirty cents tax." Weed scribbled out the money as fast he spilled his change across the counter and had to chase after it. Then he crunched the coat and fled.

"Don't you want a bag?" the woman called after him.

But he was already outside, tearing off his cruddy old K mart special and dropping it disdainfully on the sidewalk. He struggled into his Burberry.

It felt great. The moment he had it on, his frantic walk slowed to a determined stride. His back straightened. The very cut of the Burberry put him in control. He felt sure, determined—a man of destiny. But as he walked downhill, he realized that something was subtly out of kilter about the coat. It didn't quite hang right. He walked along, ignoring, fooling. Just past the chocolate factory, he realized that it was hanging a smidge low on the left side.

There was something in the left-hand pocket. Something heavy. Now that he was paying attention, he could feel it shift slightly with each step he took. Like a pocket, fast not quite full of mercury. Sometimes it jumped a little at the peak of his stride, as if alive. What could it be? He lifted open the pocket. It was dark down there. He imagined he could feel a slight susurrus of warm air from the pocket, the faintest hint of something small and alive and feral lurking within. Two pinpricks of yellow light winked at him and were gone. Eyes? Could they be eyes, he wondered? Surely not eyes. But still he felt an odd disquiet.

He cut through the new vest-pocket park to the canal. That was where he always went to think. The boardwalk thumped reassuringly underfoot. The crumpling factory buildings were gray paper silhouettes in the fading light. The oily brown water of the canal shimmered with insects leaping. Beyond the boardwalk, he followed the towpath into the scrub trees that hid the ruins of the locks. That was ridiculous. He couldn't go for the rest of his life not daring to look in his own pocket. Weed took a deep breath. He stuck in his hand.

And screamed. Whatever was in the pocket, it hadn't eaten in over four decades. And it was hungry. Very hungry.

Weed fell to the ground his scream a high, diluting cry. But the trees nullified

him—his agony didn't carry uphill and over the tracks where the houses were. No body came. The thing in his pocket was warm and moist with teeth that dug into his flesh like slivers of freshly broken glass. Weed yanked frantically at his arm, trying to pull free, but whatever was in there was strong, inhumanly strong. First it chewed up his fingers. That was the easy part. By the time it had gotten halfway up his band, Weed could no longer scream. His vocal chords had locked in hysterical paralysis. He fell to the ground. Agonized, he grabbed a stone and smashed it against the pocket with all his strength.

The pocket chuckled. Desperately Weed slammed his pocket until his thigh hurt as badly as his hand, and the rock fell from nerveless fingers. It had not the least effect on the creature in the overcoat.

The horrible thing was that despite his pain, he could still think. By the time the thing had reached his wrist, he realized that as long as he pulled his arm away it could

there it had stayed for over forty years, imprisoned in alien form and hungering.

It was working on Weed's upper arm when he finally miraculously lost consciousness. Things went much faster then. Methodically it ground up and digested him. First the arm, and then the shoulder itself—macerated and squeezed like toothpaste through the armhole. His head flipped over as the chest was eaten away underneath it. Then it too was chewed in, chin first and then the rest. The eyes lusted open just before they were sucked down the sleeve. But the light in them was dull and idiotic, no longer aware. False dawn had just touched the sky when the last of Weed's right foot was culled through the overcoat arm and into the pocket. There was a final crunch of bone and then silence.

The jogger liked to put in a good five miles every morning before breakfast. He came pounding up the boardwalk. Wring his knees high and breathing deep it was a beautiful morning, and he was making good time. He stopped when he saw the overcoat lying in a puddle by the path, and stooped curiously to touch it. Then he realized that the dark liquid he'd mistaken for water was fishing of the kind. The police, he thought wildly. Somebody had to go for the police. All that blood. The trees were suddenly dark and sneaky. The body might be hidden under them, mere feet away. Or he the murderer. He turned and ran.

He didn't see the Burberry burp.

## TWO MINUTES FORTY-FIVE SECONDS

By Dan Simons

Roger Cohen closed his eyes, and the steel bar clamped down across his lap, and they began the steep climb. He could hear the rattle of the heavy chain and the creak of steel wheels on steel rails as they clanked up the first hill of the roller coaster. Someone behind him laughed nervously. Terrified of heights, heart pounding painfully against his ribs, Cohen peeked out from between spread fingers.

The metal rails and white wooden frame rose steeply ahead of him. Cohen was in the first car. He lowered both hands and lightly gripped the metal restraining bar. Someone giggled in the car behind him. He turned his head only far enough to peer over the side of the rails.

They were very high and still rising. The midway and parking lots grew smaller, individuals growing too tiny to be seen and the crowds becoming mere carpets of color fading into a larger mosaic of geometries of streets and lights as the entire city became visible from the entire county. They clanked higher. The sky darkened to a deeper blue. Cohen could see the curve of the earth in the haze-blue distance. He looked that they were far out over the edge of a lake now as he caught the glimmer of light on wave tops miles below through the wooden lens. Cohen closed his eyes as they briefly passed through the cold breath of a cloud, then snapped them open again as the pitch of chain rattle changed, and

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● *There was something in the left-hand pocket. Now he could feel it shift slightly with each step he took, like a pocket flask not quite full of mercury. Sometimes it jumped a little, as if it were alive.* ●

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make no further progress. But the instant he eased up, however, slightly, he leaped forward to sink its teeth slightly higher up his arm. He resisted as best he could, but the pain was unmanageable. Like sticking your hand inside a garbage disposal and turning it on? No, worse than that! he thought hysterically. Much worse.

By the time it reached his elbow, Weed was no longer human. He was a whimpering, sobbing thing that writhed wetly on the ground. His arm was so far gone that he was built in an arc to accommodate the beast. The trench coat's arm was bunched up around the pocket. He had a single awful flash of lucidity as he sank beneath the animal level of pain. He realized that there was no creature in the pocket, only a mouth and teeth. That the Burberry itself was the creature, or rather an adaptive morph it had taken on. He imagined the beast cunningly taking the place of the original coat. Waiting for the owner to carelessly slip a hand in the pocket in search of a pencil or a pack of Luckies.

But that had been the explorer's last day in Paska. The overcoat had been lidded away in a trunk before it could feed, and

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## GROWING PLANTS PYRAPONIMETRICALLY

In a laboratory at a major university, while under federal license, Jeffery DeMatco, president and founder of Pyraponic Industries, developed the discrete base concept. This concept and the methodology used is called growing plants Pyraponimetrically. This makes the Phototron the only closed system in the world.

To employ the discrete base concept, at least two soil samples must be removed from the base of the Phototron. The first is removed on Day 30 and the second on Day 90 of plant growth.

A soil analysis for nutrient levels is then performed at Pyraponic Laboratories, to develop a standard pattern for the depletion rate of your plants in your Phototron. For example, Pyraponic Laboratories start your plants at 400 parts per million (ppm) of nitrate nitrogen on Day 1. On Day 45, the soil analysis shows only 200 ppm left. This would mean that your plants have absorbed the other 200 ppm. There is no leaching of nutrients because the closed base has no drainage. The nitrate nitrogen can not leave the system but will be found in the plants. Nutrient depletion levels are critical, but not the type of plant.

Chemical levels in your soil are maintained by Pyraponic Laboratories through an updated computer controlled nutrient supply, sent to you after each soil analysis. The chemicals controlled are nitrogen, phosphorus, potassium, calcium, magnesium, sodium, chloride, sulphur, iron, manganese, boron, molybdenum, soluble salts, and Ph.

Wind velocity, carbon dioxide saturation, relative humidity, and temperature are controlled by the design of the Phototron. Pumps and fans are not needed. Vertical lights (6) inches apart mean that no plant is farther than three (3) inches from any of three (3) different light sources. Light reflecting from all interior panels of the Phototron super-saturates every leaf top and bottom, making each a photosynthetic factory. Plants do not have to stretch toward their light source because the light source is coming to the plants from all angles. This will reduce the distance between budding and fruiting locations.

If you do not know more about plant production than you have ever learned, we will pay you for the call. CAN YOU AFFORD NOT TO CALL US? Or send a \$5.00 money order for our brochure "THE STANDARD GROWING PLANTS PYRAPONIMETRICALLY '80".

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the steep gradient lessened, as they reached the top.

And went over.

There was nothing beyond. The two skis curved out and down and ended in air.

Colvin gripped the restraining bar as the car pitched forward and over. He opened his mouth to scream. The fall began.

"Hey, the worst part's over!" Colvin opened his eyes to see Bill Montgomery handing him a drink. The sound of the Gulfstream's jet engines was a dull rumble under the gentle hissing of air from the overhead ventilator nozzle. Colvin took the drink, turned down the flow of air, and glanced out the window. Logan International was already out of sight behind them, and Colvin could make out Nantuxet Beach below, a score of small white triangles of sail in the expanse of bay and ocean beyond. They were still climbing.

Damn, we'd gone you decided to come with us this time, Roger. Montgomery said to Colvin. "It's good having the whole team together again. Like the old days." Montgomery smiled. The three other men in the cabin raised their glasses. Colvin played with the calculator in his lap and sipped his vodka. He took a breath and closed his eyes. Afraid of heights. Always afraid. Six years old and in the barn, tumbling from the loft, the fall seemingly endless, time stretching out, the sharp tines of the pitchfork rising toward him. Landing, wind knocked out of him, cheek and right eye against the straw, three inches from the steel points of the pitchfork.

The company's ready to see better days," said Larry Miller. "Two and a half years of bad press is certainly enough. It will be good to see the launch tomorrow. Get things started again."

"Here, here!" said Tom Westcott. "It was not yet noon but Tom had already had too much to drink."

Colvin opened his eyes and smiled. Counting himself, there were four corporate vice presidents in the plane. Westcott was still a project manager. Colvin put his cheek to the window and watched Cape Cod Bay pass below. He guessed their altitude to be eleven or twelve thousand feet and climbing.

Colvin imagined a building nine miles high. From the hall of the top floor he would slip into the elevator. The floor of the elevator would be made of glass. The elevator shaft drops away forty-six hundred floors beneath him, each floor marked with halogen lights, the parallel lights drawing closer in the nine miles of black air beneath him until they merged in a blur below.

He would look up in time to see the cable snap, separate. He falls, clutched futilely at the inside walls of the elevator, walls which have grown as slippery as the clear glass floor. Lights rush by but already the concrete floor of the shaft is visible miles below—a tiny blue concrete square growing as the elevator car plummets. He knows that he has almost three minutes to watch that blue square come closer, see it up to

smash him. Colvin screams, and the split floats in the air in front of him, falling at the same velocity, hanging there. The lights rush past. The blue square grows.

Colvin took a drink, placed the glass in the crate set in the wide arm of his chair and tapped away at his calculator.

Falling objects in a gravity field follow precise mathematical rules as precise as the force vectors and burn rates of the shaped charges and solid fuels. Colvin had designed for twenty years, but just as oxygen affects combustion rates, so air cancels the speed of a falling body. Terminal velocity depends upon atmospheric pressure, mass distribution and surface area, as much as upon gravity.

Colvin lowered his eyelids as if to close and saw what he saw every night when he pretended to sleep: the billowing white cloud, expanding outward like a time-lapse film of a stinging, tilting stratumcumulus blossoming against a dark blue sky, the reddish-brown interior of nitrogen nitro-

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sic flame—and—just visible below the two emerging, mindless controls of the SRBs—the tumbling, fuzzy square of the forward fuselage light deck included. Even the most amplified images had not shown him the closer details—the intact pressure vessel that was the crew compartment, scorched on the right side where the runaway SRB had played its flame upon it, tumbling, falling free, trailing wires and cables and shreds of fuselage behind it like an umbilical and afterbirth. The earlier images had not shown these details, but Colvin had seen them, touched them, after the fracturing impact with the merciless blue sea. There were layers of tiny barnacles growing on the ruptured skin. Colvin imagined the darkness and cold waiting at the end of that fall, small fish feeding.

"Roger," said Steve Cahill, who said you get your fear of flying?

Colvin struggled, finished his vodka. "I don't know."

In Vietnam—not Nam, or In-country—a place Colvin still wanted to think of as a place rather than a condition, he had flown. Already an expert on shaped charges and propellants, Colvin was being

town out to Dong Son Valley near the coast to see why a shipment of standard C-4 plastic explosives was not detonating for an ARVN unit when the Jesus nut came off their Huey and the helicopter, fat, rattleless, two hundred eighty feet, into the jungle, tore through almost a hundred feet of thick vegetation, and came to a stop, upside down, in vines ten feet above the ground. The pilot had been neatly impaled by a limb that smashed up through the floor of the Huey. The copilot's skull had smashed through the windshield. The gunner was thrown out, beaking his neck and back, and died the next day. Colvin walked away with a sprained ankle.

Colvin looked down as they crossed Nantuxet. He estimated their altitude of eighteen thousand feet and climbing steadily. Their cruising altitude, he knew, was to be thirty-two thousand feet. Much lower than forty-six thousand, especially lacking the vertical thrust vector, but so much depended upon surface area.

When Colvin was a boy in the 1950's he saw a photograph in the "old" National Enquirer of a woman who had jumped off the Empire State Building and landed on the roof of a car. Her legs were crossed almost casually at the ankles; there was a hole in the toe of one of her nylon stockings. The roof of the car was flattened, laded inward, almost like a large goose-down mattress, making itself to the weight of a sleeping person; the woman's head looked as if it were sunk deep in a soft pillow.

Colvin tapped at his calculator. A woman stepping off the Empire State Building would fall for almost fourteen seconds before hitting the street. Scorpions falling in a metal box from forty-six thousand feet would fall for two minutes and forty-five seconds before hitting the water. What did he think about? What did they think about?

Most popular songs and rock videos are about three minutes long, thought Colvin. It is a good length of time, not so long one gets bored, long enough to tell a story.

"We're damned glad you're with us," Bill Montgomery said again.

"God damn it," Bill Montgomery had whispered to Colvin outside the teleconference room nearly seven months earlier. "We go with us or against us on this?"

A teleconference was much like a sentence. The group sat in semi-darkened rooms, hundreds or thousands of miles apart, and communed with words which came from nowhere.

"Well, that's the weather situation here, came the voice from KSC. "What's it to be?"

"We've seen your televised stuff," said the voice from Marshall, "but still don't understand why we should consider scrubbing based on an anomaly that small. You assured us that this stuff was so hot safe that you could kick it around the block if you wanted to."

Phil McGuire, the chief engineer on Colvin's project team, squirmed in his seat and spoke too loudly. The teleconference phones had speakers by each chair and

# SPLIT WORLD



JOHN PETRE

LITHOGRAPH

IMAGE SIZE: 21 1/2 x 28 1/2

In an age when the chasm between developed and underdeveloped nations of the world appears to be widening, "Split World", acclaimed as one of the finest examples of John Petre's work, depicts a timely dramatization of the ongoing conflict between the industrial world of high technology and its rural underdeveloped counterpart.

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could pick up the softest tones. "You don't understand, do you?" McGuire almost shouted. It's the combination of cold temperatures and the likelihood of electrical activity in that cloud layer that causes the problems. In the past few flights there've been three transient events in the loads that run from SRB linear-shaped charges to the Range Safety command antennas."

"Transient events," said the voice from KSC, "but they are within flight certification parameters?"

"Well, yes," said McGuire. He sounded closer to tears. But it's within parameters because we keep signing waivers and rewriting the goddamn parameters. We just don't know why the C-12B shaped range safety charges on the BRBs and ET record a transient current flow when no enable functions have been transmitted. Roger thinks that maybe the LSC enable leads or the C-12 compound itself can accidentally allow the static discharge to simulate a command signal. Oh, hell, tell them, Roger."

"Mr. Colvin?"

Colvin cleared his throat. "We've been watching that for some time. Preliminary data suggests temperatures below twenty-eight degrees Fahrenheit allow the zinc oxide residue in the C-12B stacks to conduct a false signal if there's enough static discharge, theoretically."

"But no solid database on this yet?" said the voice from Marshall.

"No," said Colvin.

"And you did sign the Criticality One water certifying flight readiness on the last three flights?"

"Yes," said Colvin.

"Well," said the voice from KSC, "we've heard from the engineers at Reuser HCS. What do you say we have recommendations from management here?"

Bill Montgomery had called a five-minute break, and the management team met in the hall. "God damn it, Roger, are you with us or against us on this one?"

Colvin had looked away.

"I'm serious," snapped Montgomery. "The LCS division has brought the company two hundred and fifteen million dollars in profit this year, and your work has been an important part of that success. Roger, now you seem ready to flush that away on some goddamn transient telemetry readings that don't mean anything when compared to the work we've done as a team. There's a vice presidency opening in a few months. Roger, don't screw your chances by losing your head like this. Let's see McGuire."

"Ready?" said the voice from KSC when two minutes had passed.

"Go," said Vice President Montgomery.

"Go," said Vice President Miller.

"Go," said Vice President Cahill.

"Go," said Project Manager Weiscott.

"Go," said Project Manager Colvin.

"Fine," said KSC. "I'll pass along the recommendation. Sorry you gentlemen won't be here to watch the liftoff tomorrow."

Colvin turned his head as Bill Montgomery called from his side of the cabin. "Hey [I think] see Long Island?"

"Bill," said Colvin, "approximately how much did the company make this year on the C-12B redesign?"

Montgomery took a drink and stretched his legs in the roomy interior of the Gulfstream. "About four hundred million, I think, Rog. Why?"

"And did the agency ever seriously consider going to someone else after that?"

"Shit," said Tom Weiscott, where else could they go? We got them by the short hairs. They thought about it for a few months and then came crawling back. You know you're the best designer of shaped range safety devices and solid hypogolics in the country, Rog."

Colvin nodded, worked with his calculator a minute and closed his eyes. The steel bar clasped down across his hip and the car he rode in clanked higher and higher. The air grew thin and cold, the screech of wheels on rail descending into a thin scream as the roller coaster lumbered above the six-mile mark.

In case of loss of cabin pressure, oxygen masks will descend from the ceiling. Please fasten them securely over your mouth and nose and breathe normally.

Colvin peeked ahead up the terrible incline of the roller coaster, sensing the summit of the climb ahead and the emptiness beyond that point.

The tiny air-tank-and-mask combinations were called PEAPs—Personal Egress Air Packs. PEAPs from four of the two crew members were recovered from the ocean bottom. All had been activated. Two minutes and forty-five seconds of each five-minute air supply had been used up.

Colvin watched the summit of the roller coaster a final hill arise.

There was a raw metallic noise and a lurch as the roller coaster went over the top and off the rails. People in the cars behind Colvin screamed and kept on screaming.

Colvin lurched forward and grabbed the restraining bar as the roller coaster plummeted into nine miles of nothingness. He opened his eyes. A single glimpse out the Gulfstream window told him that the thin lines of shaped charge he had placed there had removed all of the port wing cleanly surgically. The tumble rate suggested that enough of a stub of the starboard wing was left to provide the surface area needed to keep the terminal velocity a little lower than maximum. Two minutes and forty-five seconds, plus or minus four seconds.

Colvin reached for his calculator, but it had flown free in the cabin, colliding with hurling bottles, glasses, cushions, and bodies that had not been securely strapped in. The screaming rose very loud.

Two minutes and forty-five seconds. Time to think of many things. And perhaps just perhaps, after two and a half years of no sleep without dreams, perhaps it would be time enough for a short nap with no dreams at all. Colvin closed his eyes. ☐

# SPACE

CONTINUED FROM PAGE 15

ing pain—is usually stable over a lifetime. The Barabases agree that altered states of mind like hypnotizability, in wilderness environments might have some practical value. "The enhanced hypnosis capacity can be used in many ways to increase job performance, decrease stress, relax an enhanced imagination, go to sleep or increase vigilance at peak times—all without using drugs and at no cost," says Marianne Barabasz.

Having the right person along might be the perfect antidote to some of the stresses of long-term space travel. Supporting Florio-Ruane's complaints, psychologist Donna Oliver, a veteran of a long Antarctic stay, stresses the importance of having a psychological "buddy" in the wilderness, someone to whom one can confide deep fears and who can help a person stay on track mentally. In the Antarctic there was more honesty, more accountability, since our survival depended on assuming personal responsibility for the whole group.

Ultimately all these strange and worrisome mental states might never be a serious problem. Humans may once again prove themselves eminently adaptable to the role of the lonely voyager. This wilderness experience has to be seen in a larger frame of reference. These exposures to extreme and unusual environments are all just part of a total life experience," explains psychologist Peter Suedfeld, dean of graduate studies at the University of British Columbia. "People are different by them in different ways. Some prosper of war, for instance, suffer stress of almost psychotic severity; others find the experience strengthens them and gives their life meaning. Of the people who went to the moon, one subsequently became a missionary in search of Noah's ark, another became involved in ESP. If we look at space travel in terms of a total life experience, space may be a peak experience for some or for others it may be an anticlimax. ☐

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# STAR TECH

## ACCESSING THE FUTURE

### HIGH-TECH AFFAIR

Each January about 100,000 consumer electronics retailers gather in Las Vegas to check out the latest high-tech devices at the annual Winter Consumer Electronics Show (WCES). This month's Star Tech is devoted to some of the more novel products presented at the 1988 WCES, as reported by CESL contributor Marjorie Castello.



### POCKET PC

Palm's pocket-size Organizer II has all the features of a desktop personal computer. Offering up to 320K of onboard memory, the Organizer II also accepts plug-in program packs (see photo at left) for unlimited data storage. It performs a full range of math, scientific and address-book functions.

**Access:** Two models are available, the CM (\$179.99) and the XP (\$245.99).



### VIDEO JUKEBOX

CollectED (above) lets you catalog your favorite music videos electronically. Then you can access the video you want by pushing in the appropriate data.

**Access:** CollectED is available now for \$79.98 from Videosoft, Inc. It operates with a VCR, TV, and the Videosoft Directed system, which retails for \$499.



### SMART WHEEL

Keep the horn, dial the office, change radio stations with both hands on the wheel. Blaupunkt and Klipschell have developed the Intelligent Steering Wheel to control the functions of Blaupunkt audio products (such as the CD players shown below) and Blaupunkt's mobile phones.

**Access:** Available now from authorized Blaupunkt dealers. Suggested list price of \$995.



### TV PHONE

Mitsubishi's Vistel (left) is the first mass-market videophone. It sends and receives video pictures.

**Access:** Suggested retail price is \$399.



### DUCK HUMIDIFIER

Soundesign Corporation's Model 1866 ultrasonic humidifier features a night-light that illuminates a water tank with a family of ducks. The funf amuse youngsters and mark the humidifier's water level. There's also a push-button melody switch that plays "It's a Small World" for 60 minutes to help baby nod off.

**Access:** Available for \$55.



### DAT IN A CAR

The digital audiotape (DAT) machine is finally arriving in the United States, and already it's taking to the road. Clarion Corporation plans to have its digital tape players available for American drivers sometime this spring, with its first entry into the market being the DAC2000 model (above).

**Access:** Available now for \$1,745.95 at Clarion dealers. Rembrandt and Sony will also be offering DAT players for cars.

## PROTECT AND SAVE



### Automatic Motion-Sensitive SECURITY LIGHTS

**Outdoor Coverage!** Now when you enter your driveway, or walk the yard at night, an adjustable sensor detects movement of people or objects and turns floodlights on automatically. This advantage of the **LOW** liquidated price. Order today!

- Passive Controlled Sensor Detects Movement of Persons or Objects Near Home or Business. Helps Ward Off Intruders
- Solid State Circuit Activates Outdoor Floodlights to Turn on Automatically
- Lights Can be Adjusted to Stay on for 10 Sec. to 15 Min. with Auto Shutoff
- Adjustable Timing Capability Day/Night Sensor Assures Only Night Operation
- Minimum Range: 47' x 60'W Handles Two, 150W Floodlights (not included)
- Uses Existing Wiring U.L. Listed Size: 8 1/2" x 11" W x 10" D

One-Year Ltd. Vendor Warranty.

List ... \$99.00 **\$49**

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Item H-3485-7127-897 S/H: \$5.00 ea.

Set of 2 Flood Lights:

List ... \$198.00 **\$89**

Liquidation Priced At .....

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fees.....Set of 2 Security Lights Item H-3485-7286-586

at \$89 per set, plus \$6.50 per set for insured shipping

handling. I only check or money order is required (No checks in

processing orders and by check.)

PLEASE PRINT CLEARLY

Name .....

Address .....

City .....

State .....

Phone .....

3 or less

## GAMES

ANSWERS TO Q&A PAGE 130

1 **STRINGS** If you pull slowly, the upper part of the string will break first because it must support the weight of the rock in addition to your pull. When you yank the lower part suddenly, the inertia of the rock slows the force of your pull to act on the lower portion of string, which will break first.

2 **SOAP** Soap weakens the surface tension of the water inside the loop. Outside it, the surface tension remains strong and pulls the thread outward equally in all directions, to form a circle.

3 **WEIGH** Glass B goes down, raising glass A. When you put your finger in the water you increase the volume by an amount equal to the volume of your finger. It's as if you had added that much more water to the glass, so it becomes heavier.

4 **COMB** Take a plastic comb and charge it with static electricity by rubbing it with fur or wool. Then bring it close to the salt and pepper. The lighter bits of pepper will jump up to the comb, leaving only the salt behind.

5 **STORM** One mile. Sound travels a mile in approximately five seconds. The general rule is to count the seconds between seeing the lightning and hearing the thunder, then divide by five to determine the distance in miles.

6 **CUBE** Lay the wet string on top of the ice cube and sprinkle salt on it. Extracting heat from the string's water, the salt melts the surface of the ice. The string then freezes on the cube.

7 **STRAW** Bend the end of the straw and slip it into the bottle, wedging the end against the inside of the bottle. The straw is strong enough to withstand a push (on the shorter section inside the bottle) and a pull (on the longer section you're holding) so you can fit the bottle by the straw.



8 **LEVITATION**

Put glass number

two in the

center to support

the knives as you

arrange

them overlapping their tips. As you slip the fourth knife into position, raise the other three with your finger. The tips of all four knives end up slightly above the center glass, which you can then remove and place on top of the knives.

9 **RUBBIE** Your fingers will meet in the middle, at the 18-inch mark. When the yardstick is unbalanced, the longer end exerts more friction, so the finger under that end doesn't move while the finger of the other hand moves inward. When the friction is equal on both ends, the ends alter rate in sliding by small amounts until your fingers meet at the center.

For more science fun with everyday objects, see Mr. Wizard's 400 Experiments in Science (Book Lab, 1983) and Mr. Wizard's Supermarket Science (Random House, 1980) **DC**



### Introducing The Body Maker

For the first time, you can build a body that's as muscular as the body of a professional athlete! The Body Maker is an all-new, revolutionary fitness device. And it's a real fitness device! It's the only fitness device that's designed to be used with a person's own body. It's the only fitness device that's designed to be used with a person's own body. It's the only fitness device that's designed to be used with a person's own body.

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- Calorie-burner
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Off to see the Wizard:  
Making complicated science seem  
like common sense

# GAMES

By Scot Morris

For many of us who grew up in the Fifties and early Sixties, Don Herbert was the science teacher we wished we'd had. As television's avuncular, soft-spoken Mr. Wizard, Herbert brought science out of the classroom and into the kitchen.

The weekly *Watch Mr. Wizard* premiered on NBC in 1961, and for the next 10 years countless kids learned how to make vinegar and baking-soda-powered rockets, write secret messages in lemon juice, and rub a balloon in their hair and stick it to the wall.

Of course, with the show filmed live, kids shared the occasional mishaps as well. Once, for example, Herbert tried to use an electric coil to light a candle inside a bottle.

During show time the wick wouldn't light, and the coil just got hotter and hotter, producing a mixture of air and vaporized paraffin. The result was an explosion that rocketed the bottle out of the cleanup shot.

"Fortunately, no one was hurt," Herbert says. "But at that time we were doing the show live on tape, and it was the only time that the Mr. Wizard show was edited. It wasn't to remove the incident—I just explained that I must have inadvertently gotten the wick wet. What was edited out was the sound of the stage crew laughing after the explosion."

Today, with filmed retakes and editing, such incidents are never seen by his television audiences. His syndicated series of 90-second science updates for local TV owes



## WIZ QUIZ

Try these fun classic demonstration puzzles from Mr. Wizard's repertoire.

**1. TWO STRINGS** A rock hangs from the ceiling by a thin string, and another piece of the same string hangs below. Which section of string will break first if you pull the lower one: a) slowly or b) quickly? Explain.

**2. SOAP LOOP** Tie the ends of a six-inch thread to form a loop. Place the loop in a bowl of water. Touch the inside of the loop with a dipper of soap on a

toothpick. What will happen?

**3. SALT CRACKER** A glass of water rests on a table. On a saucer, glass A is full slightly above its rim, glass B is just below. What will happen when you put a finger in glass B? Explain.

**4. CUMBRICK** Some pepper is sprinkled on top of a pile of salt. How can you use a pocket comb to separate the pepper from the salt?

**5. STRAW HOIST** A you see a flash of lightning and five seconds later you hear a thunderclap. Approximately how far away in miles did the lightning bolt strike?

**6. CUBE LIFT** Try lifting an ice cube with a six-inch length of string. It's too short to knot around the cube. What kitchen supply do you need to accomplish the feat?

**7. STRAW HOIST** The challenge here is to pick up an empty soda bottle with a drinking straw without



touching the outside of the bottle. How would you do it?

**8. GLASS LEVITATION** Four knives are balanced on four glasses, and they support a fifth glass at their center as shown. How is it done?

**9. RULER SLIDE** Balance a yardstick on two fingers, as shown, with one finger under the two-inch mark and the other under the 22-inch mark. What will happen if you move your fingers toward each other? At what mark will your fingers touch?

Answers on page 118.

news programs. *How About* recently shared the prestigious Wessing house AAAS award for distinguished science reporting. And *Mr. Wizard's World*, featured on the cable channel Nickelodeon, repeats the old format of kids dropping by his kitchen.

Early *World* episodes included demonstrations of using holograms, computer and robots. Because technology changes so rapidly, however, many of

these segments quickly became dated. The best ones turned out to be the timeless old standards that used items easily found around the house.

Mr. Wizard's low-tech approach to science was born of necessity. We couldn't afford breakers and Bunsen burners, so we had to use jelly jars and candles, says Herbert, who at seventy has no plans to retire Mr. Wizard. The ordinary props made the lessons more

accessible because the audience didn't intimidate kids into thinking, "This is so nice, it's too hard for me. I can't do it."

## MLK BOTTLES AND HARD BOILED EGGS

Herbert has always been able to present just the right analogy or simple demonstration to make complicated science seem like common sense. In one demonstration of air pressure, Herbert used a pocket-hand

boiled egg and a milk bottle. The challenge: Get the egg into the bottle.

The solution was to drop a piece of burning paper into the bottle and then set the egg on top. The hot air expanded, pushing out past the egg, which served as a one-way valve.

When the fire went out, the air and gases inside the bottle cooled and contracted, making a partial vacuum. Atmospheric pressure then pushed the egg into the bottle with a loud pop.

The demise of the milk bottle endangered the classic demonstration. Some nursing bottles and apple juice bottles have the right-size openings—just smaller than the average egg—but they vary in size and aren't widely available. So Herbert came up with a substitute: egg a balloon filled with water. Because the balloon can be four or five times the size of the bottle's mouth, the demonstration is now much more dramatic.

#### DROPPERS AND STOPPERS

Herbert has also adapted the Cartesian diver demonstration of atmospheric pressure. In the original experiment, named after philosopher René Descartes, Herbert tied a medicine dropper with just enough water to make it float upright. Then he placed it in a glass bottle filled to the brim with water and covered the bottle's mouth with a rubber stopper. When he pressed down on the top, the dropper would sink to the bottom. When he let go, it would rise to the top again.

Pressing on the stopper increased the internal water pressure. The water level in the dropper rose, compressing the air above it. This decreased the dropper's buoyancy, making it sink.

"The minute I saw a half-gallon plastic soda bottle, I thought, 'My God, that would be perfect for the Cartesian diver demonstration,'" Herbert recalls. All you have to do is cap the bottle and squeeze it to get the effect. Now observers don't know what's making the dropper go up and down.

The plastic bottle makes the experiment less misleading as well as more mysterious. By pressing on a rubber stopper, you might think that the downward push on the water causes the reaction. In fact, it doesn't matter whether the pressure is exerted from the top, the bottom, or the sides.

#### ALUMINI WHIZZES

"It's so much fun watching kids get excited about science," says Herbert, who has kept in contact with a few of the Watch Mr. Wizard alumni. Former Mr. Wizard kids include the head of promotion and publicity for a television station, a playwright, a columnist for Parents magazine, a speech therapist, and several actresses.

As far as Herbert knows, none of the show's children became scientists. "They were chosen for the show because they weren't science buffs. To better represent the average child," he says.

We know of at least one exception, however: Phyllis Fox, a red-haired boy who first

appeared on the show in 1965, when he was only ten years old. He's now a senior investigator at the National Institutes of Health in Bethesda, Maryland. "I viewed Mr. Wizard more as a television personality than as a scientist, but watching him provided an excellent introduction to the scientific method," Dr. Fox says. He made it all understandable, interesting, and exciting.

Fox's younger brother, Steve, moreover, developed an interest in science journalism and is now managing editor of *Omni*.

#### PENN & TELLER'S LOW-DOWN PSEUDO-PSYCHOLOGICAL SCAM

Magicians Penn and Teller adapted the following trick for *Omni*, using the Visual Illusion Cards described on page 9 of this month's *Whole Universe Catalog*.

Set up the deck with the back designs of the cards all facing the same direction (for example, with the words at the rear end). Put them in the box.

Lie. Tell your victim that experiments in perception have demonstrated that people's eyes have different reactions to familiar and unfamiliar patterns.

Show him the box of playing cards and describe the contents. Tell him that you want him to look at only one of the patterns.

Take out the optical-pattern card. Have him stare at it. "Clear his field of vision." (This is bunk.)

Take the rest of the deck out of the box and spread the cards face-down. Then ask

him to select one.

Tell him to start off his selected optical illusion. Meanwhile, you scoop up the cards and secretly turn the pack around so that the words on the back pattern are now at the far end.

Have your victim return his card to the pack, sliding it in so that its back pattern is facing the opposite direction from the rest of the cards.

Shuffle the deck with an overhand shuffle. This will not disturb the way the ends of the back pattern are pointed. Call the maneuver "randomizing the designs."

Hold the deck as if dealing so you can clearly see the backs while your victim sees only the faces.

Show him the designs on the cards one at a time. Tell him there will be a noticeable change in the size of his pupils when he sees a familiar illusion design. Ask him to try to keep his eyes unchanged as you show him the different pictures.

As you show him each card, stare at his eyes. When you hold up the selected card, of course, you will instantly see that its back pattern is reversed. Stop suddenly, but continue staring at his eyes. Act uncertain. Tell your victim that by the change in his eyes you think this is the design he viewed.

He's amazed, offer to teach him everything he needs to know to do the stunt on his own—for a fee. Tell him the skill is not difficult and will also help him tell when someone is lying.

Take the victim's money. Teach him the trick. Run away. **OO**



## LAST WORD

By Joe Queenan

On the testimony of a portable space heater, three alarm clocks, and a coffee-cup warmer, the government was able to nail such underworld kingpins as Irish Mike "The Greek" Siemantowski.

From the moment that household appliances arrived on the scene in the Twenties, psychologists have contended that those strange-whining sounds made by refrigerators, toasters, and washing machines were not really responses to fluctuations in the level of electric current but were actually a second language by which appliances communicated with one another. Furthermore, investigations conducted at the Federal Bureau of Detachment recently established that when people were having arguments, their appliances invariably became very quiet—almost as if they were listening in.

Federal anthropologists were convinced that if man could learn to speak with his appliances, he could obtain a remarkably intimate oral history of the lives of our forebears' grand-forebears, and uncles. Thus it was a cause for jubilation when bureau commissioner Deakon Biggestall announced that his agency had cracked the secret language of appliances by establishing communication with a Mary Proctor toaster almost 90 years old and a 1937 Sears washer-dryer.

The Mary Proctor toaster had lived through the Great Crash and the Thirties, watching all 12 members of the family it belonged to die of malnutrition. The tragic yarn recounted by the remarkably articulate toaster was subsequently made into a best-selling book, *A Toaster's Oral History of the Depression*, which itself was made into a very popular television movie, *Burn Job*.

The washer-dryer wasn't nearly as crafty as the toaster's colleagues—the hub of American social life was, after all, the kitchen, not the basement, yet it had seen plenty. It had witnessed the miser man and Mrs. Dingle, the lady of the house, locked in frequent embrace. Ditto with the milkman, the milkster, and the gas man. It had heard the footsteps of the angered lord of the manor upstairs. It had heard the shouts and recriminations, witnessed the struggle in the rec room, seen the poker fix. And it knew where the body was buried—under the Ping-Pong table. On the basis of its testimony—plus what the police found in the apartment—Gerrison Dingle, who'd always claimed that his wife had run off with a bowling ball repairman, was condemned to the electric chair.

The case had a far-reaching impact on the American judicial system, with thousands of pocket calculators, transistor radios, and car stereos being rounded up, interrogated, and used to convict known mobsters. On the testimony of three alarm clocks, a portable space heater, and an electric coffee-cup warmer—the government was able to nail such underworld kingpins as Wio "The Chicken Man" (Castello), Sal "The Other Chicken Man" (Volpocetta), and Irish Mike "The Greek" Siemantowski.

And even there was the JFK case. For decades, historians had been attempting to find out who was really responsible

for the death of President Kennedy. Now, these many years later, an investigator revealed that right next to the window from which Lee Harvey Oswald fired the fatal shots was a little refrigerator where the killer stored his Coke. The refrigerator had been sold 40 years before for spare parts. But the bloodhounds were looted, and in one of the most relentless manhunts in history, federal agents scoured the continent to reassemble that refrigerator piece by piece.

The door was discovered as part of a conceptual artwork hanging in the Museum of Modern Art. The wiring was retrieved from an S&M club in Venice, California; the frozen pump, from an Al Pacino's 747. Eventually investigators had everything except the motor, which they believed to be somewhere in New York City. On Christmas Day they found it in the East River, caked with cement, smashed, and waterlogged beyond all repair. With it died the last hope of unravelling the mystery of JFK's assassination.

Frankly, not many people cared about the refrigerator's cruel fate because at the time an electronics settlement in the nation was coming to a boil. Unlucky spouses chucked their toasters into the river. Landlords began to do a booming business as people heaved their washers and dryers into hastily excavated abysses. Dishwashers suspected of being stockies were abducted and lynched by angry mobs. Transistor radios were flushed down toilets.

At this point social engineers stepped in with a number of suggestions: One was to strap appliances in thick crips to get their outputs; see anything (An Oak Park (Illinois) firm gave came out with a highly successful device—appliance blinders.) Another was to move all household appliances to the attic.

But it was the Japanese who saved the day when they introduced the Bizons, a line of household appliances whose microprocessing units had been programmed to behave like boozes. Because the testimony of mental defectors could not be used in court, the entire nation went out and bought \$206 billion of them over Saturday, further harming America's balance of trade.

Today a nation of proud, happy, secure Americans live in harmony with millions of unintelligent appliances in an unusual but mutually satisfying alliance. Only time can tell whether this is a good or bad, but one thing is certain: With Dumbo the dishwasher unable to make heads or tails of what anyone's saying, its testimony will never be used to send hubby to the slammer, Kimberly to the drug rehab center, or the attorney general to Las Vegas. And for this, if for nothing else, all Americans can say, "Now we can all have a nice day." □□

Joe Queenan covered the voice-activated food industry for *Barron's*.